

TOWARDS A THEORY OF AN ENTREPRENEURIAL
CURRICULUM: AN ANALYSIS OF CURRICULUM
RELEVANCY IN THE LIGHT OF BOTSWANA'S
ECONOMIC NEEDS

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DEDICATION

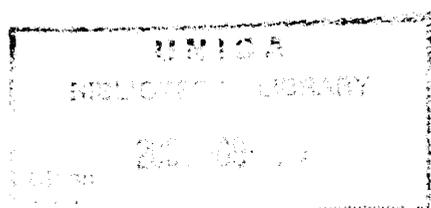
This work is dedicated to the loving memory of my late brothers,
Abraham, Sabelo and Johannes.

DECLARATION PAGE

I declare that "Towards a Theory of an Entrepreneurial Curriculum: An Analysis of Curriculum Relevancy in the Light of Botswana's Economic Needs" is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

Signed T. J. Mthunya (Candidate)

Date 30/11/2000



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ABSTRACT

The purpose of this study secondary schools and industries in Botswana support the inculcation and development of entrepreneurial attributes. Concurrently, it investigated consonance between the attributes fostered in senior secondary schools and those required by Botswana's manufacturing industries. Hence, it investigated images, perceptions and attitudes among students and teachers in senior secondary schools and industrialists towards entrepreneurial skills and attributes. It also investigated levels of social acceptance for entrepreneurial attributes, teaching/learning approaches in schools, classroom and industrial dynamism and the utility potential of entrepreneurial skills and attributes as perceived by students, teachers and industrialists.

The research design used was the investigative descriptive survey targeting students and teachers in senior secondary schools and industrialists in Botswana's manufacturing sector. A questionnaire was used for collecting data. Statistical analysis involved descriptive statistics, cross tabulation and correlation using the SPSS computer package.

The research findings indicated a correlation in the students' and teachers' perceptions of an entrepreneur relating an entrepreneur with psychological traits and an enterprise. The findings also indicated that teachers are more disposed towards entrepreneurial attributes than students and industrialists who are more disposed towards traditional conformist academic attributes. All the respondents indicated a dislike for autonomy and risk taking. The reward and progression systems seemed to favour the inculcation of traditional conformist attributes.

The study also revealed that industrialists in Botswana prefer conformist and self-management skills to entrepreneurial skills and attributes. Individual entrepreneurial attributes seemed to have a minimal influence on industrial dynamism. Entrepreneurial and incubator occupations were ranked least by teachers and students in the hierarchy of occupations. On implementation procedures, teachers preferred teaching methods and materials which enhance the acquisition of entrepreneurial attributes while students, preferred those enhancing traditional conformist attributes.

There is a disjunction between the skills and attributes inculcated in schools and those required in the manufacturing industries. A bi-perceptual composite entrepreneurial curriculum focusing on entrepreneurial psychological skills and attributes and enterprise as a physical phenomenon was recommended.

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CHAPTER 1

BACKGROUND AND ORIENTATION OF THE PROBLEM

1.1 Introduction

At independence in 1966, Botswana ranked among the poorest countries in Africa with an overwhelming rural population dependent mainly on subsistence agriculture (Hartland-Thunberg, 1978:6). Since the mid 1970s, Botswana's economy has undergone an almost total evolutionary structural transformation. Most notably, the economy has grown rapidly due to the discovery and exploitation of minerals, particularly diamonds at Orapa in 1971 and later, at Jwaneng in 1982 (Khama and Khan, 1988:1-3). Other minerals such as coal from Morupule, copper and nickel from Selebi Phikwe and soda ash from Sua Pans have greatly contributed to the transformation of Botswana's economic landscape.

Coincidentally, the same period met with an increase in the demand for Botswana's beef in the European Economic Market resulting in the expansion of the national herd. Between 1974/75 and 1990/91 Botswana's average economic growth was a healthy 11% per annum (Jefferies, 1994:A7 - 1). The favourable market prices for Botswana's beef and minerals translated into a rapid increase in both export earnings and government revenues. Many years of political stability, a sound public policy making machinery, thrifty economic management policies and a strong measure of national unity free of destructive tribal and cultural divisions enabled the country to amass large foreign exchange reserves (Jefferies, 1994:A7 - 1) and to increase her Gross Domestic Product (GDP). Between 1995 and 1996, Botswana's per capita Gross Domestic Product grew from P1 682 to P7 863 (expressed in 1993/94 prices) an average increase of about 6% (Presidential Task Group, 1999:11). Botswana, thus graduated out of the group of the poorest and least developed countries and moved into the group of lower middle-income countries (Presidential Task Group, 1999:11).

However, despite this seemingly rosy background, economic projections up to the year 2016 depict a steady decline in Botswana's economic development (Jefferies, 1994:A7-3). Of the principal economic sectors, agriculture and mining are forecast to grow "more slowly than the economy as a whole" and hence experience a marked reduction in their share of the economic output (Jefferies, 1994:A7-4). The dominance of minerals as a major source of export earnings and government revenues is expected to diminish and to be replaced by industries and services as the new economic leaders within the next 25 years (Jefferies, 1994:A7-4). The resultant structural change in the economy will place a larger premium on private enterprise, particularly the agro-pastoral and manufacturing industries to provide economic leadership and employment resulting in an increased demand for both the individual and corporate entrepreneurial skills and attributes to drive the new engine of growth and create new employment opportunities (Chinyoka, Ndaba and Mudariki, (1998: 7).

On the educational scenario, parallel progress has been made "with school enrolment rising from 52% in 1980 to about 70% of people aged between six and twenty three in 1998" (Presidential Task Group, 1999:12). The transition rate from the primary school to the secondary school in 1995 was pegged at 70% (Ministry of Education, 1997:5). In addition, the government of Botswana offers free tuition at both primary and secondary school levels. Although Botswana has achieved a marked improvement in the provision of education to its citizens, the pace of educational change has lagged behind the pace of development. According to the Presidential Task Group, (1999:17):

"This has led to failure to gear education to the needs of the country, and the job market. There seems to be insufficient emphasis on technical and practical subjects and business skills - the very skills that are most needed. As a result, the investment in education has not contributed as much as it should to the national capacity."

Botswana relies heavily on both skilled and non-skilled competitive expatriate labour imported mainly from neighbouring countries such as South Africa, Zambia and Zimbabwe as it continues to produce school leavers with seemingly low levels of entrepreneurial attributes and skills (Chinyoka, et.al.1998:7). In a recent study carried out by Chinyoka, et.al. (1998) experts were asked to rate the level of entrepreneurship

among small-scale businessmen /women in Botswana and their conclusion was that the level of entrepreneurship was low in Botswana. This has led to a gradual rise of dissatisfaction among Botswana citizens who feel cheated out of the jobs held by expatriates who seem to have a knack of identifying entrepreneurial gaps and exploiting them (Chinyoka, et.al.1998: 21). This has been further exacerbated by the large numbers of unemployed school leavers churned out by the school system every year. In response, the Ministry of Education in Botswana has taken tentative steps to make education relevant to the needs of the country's economy by introducing practical subjects in the secondary schools. For example, the National Development Plan (NDP, 6), (Republic of Botswana,1986:123) states that:

“There is need to make the contents of basic education more practical to enable the school leaver to adapt more easily to productive employment or self employment.”

There have been definitional problems in trying to make the school curriculum consonant with the country's socio-economic demands because the term “socio-economic demands” itself has at best, proved to be nebulous and its meaning largely contextual and hard to pin down; deriving its meaning as it does from the intent of the user. On many occasions, it has been taken to mean the demands of employers, industry, the country's economic trends and politicians (Wellington, 1993:18). The Ministry of education in Botswana interpreted “economic demands” as making the curriculum more practical (Republic of Botswana, 1994:9). However, making the curriculum practical has proved to be sheer rhetoric .

Rowell and Prophet, (1990) analysed the concept of “practical” from their classroom observations, using a critical schema developed from the work of Habermas and they suggested that the term “practical” as conceived in the junior secondary school curriculum in Botswana, had a very restricted meaning and that a number of important aspects such as interpretive and reflective were ignored in favour of the simplistic technicality that stresses the acquisition of elementary skills required for the production of particular products. Thus, an attempt at solving the problem of relevance through practical work would in fact, result in a restrictive myopic curriculum whose main

concerns would be superficial issues of no substance. It is in this light that this investigation deliberately digresses from the “Great Discussion” of the needs of the economy (Fiddy, in Wellington,1993:16) to the more specific relationship between secondary school curricular fostered attributes and skills and those that are needed by both entrepreneurs and intrapreneurs in small and large scale manufacturing industries.

Furthermore, any transition to a practically based entrepreneurially oriented curriculum meant to produce products who can generate economic growth and employment through venture creation as envisaged by Schumpeter, (1934); Kilby, (1971); Birley, (1987) and Reynolds, (1987) needs to be informed by extensive research; yet there is a paucity of literature relating to practical subjects, entrepreneurial skills and attributes and issues relating to curriculum relevancy in Botswana. Prophet, (in Burchfield, 1994:53) aptly observed that:

“Practical subjects in the curriculum have received little attention; this is surprising considering the large emphasis give to “practicality ”and “relevance” under the ten year basic education programme.”

The essence of the argument is that despite the call by Jefferies, (1994); Chinyoka, et.al. (1998) and the Presidential Task Group, (1999) of the need for educated people “who can understand better the importance of entrepreneurial skills” (Presidential Group, 1999:35), attempts at defining the problem of school curricular relevance in relation to the demands of the economy and preparing people with entrepreneurial skills have, at best, been feeble, generalised and lacking in supportive research. There is a need to systematically investigate the level of demand for entrepreneurial attributes and skills in both small and large scale manufacturing industries and to establish the capacity of the school curricula to deliver these attributes.

1.2 Awareness of the problem

This study is an outgrowth of the investigator's experiences in the secondary school system spanning a period of over twenty eight years; initially as a teacher, a school head and later, as an education officer responsible for the design, development and evaluation of secondary school social science curriculum in Zimbabwe and Botswana respectively. A major recurring concern through all the years has been the need for a curriculum whose products are employable, can generate employment and in the process, create wealth for themselves and others; in essence, a relevant entrepreneurial curriculum.

Attempts at solving the conundrum of a relevant curriculum have been carried out through a variety of approaches including epistemology, (Hirst, 1974; Adler, 1981 and Barrow, 1984 and Resnick and Klopfer, 1989), axiology (Peters, 1966 and Butts, 1973) cultural selection, (Bantock, 1975 and Lawton, 1986) and through vocationalisation (Dougherty, 1985; Lauglo and Lillis, 1988; Psacharopoulos, 1988; Jones, 1992 and Mudariki and Weeks, 1993), through linking education to the world of work (Van Rensburg, 1974; Fiddy, 1986, and Wellington, 1993). Out of all these attempts, no substantive consensus has been arrived at and a relevant curriculum remains, to a large extent, an illusion (Wright, 1988; Moorad, Dambe and Maravanyika, 1993). The past decade has witnessed a shift in the search away from vocationalisation and the link with the world of work models to the entrepreneurial landscape, which has, for centuries, been the sole domain of economics. Sher, (1977); De Largy, (1987); Shuttleworth (1996); Hills and Morris, (1998) and Bridge, O'Neil and Comie, (1998) have depicted entrepreneurial attributes as being multi-dimensional, all pervasive, transferable and therefore capable of being taken aboard in modern curricula which prepares the learners for a changing main stream economy. This study is therefore a modest attempt to contribute to the search for a curriculum that aims at preparing students for employment generation either through individual entrepreneurship or through corporate intrapreneurship.

The second aspect of concern that suggested the need for such a study is the increase in the number of complaints among the people of Botswana on the quality of the secondary school products. This common complaint is elaborated on below, somewhat tongue in cheek as it is a familiar outcry whenever there has been a discrepancy in the interface between the school curriculum and industry. Kushner, (in Fiddy, 1986) has presented a rigorous framework on how this inconsistency arises. This “falling of standards” allegation (Wellington, 1993:17) has a long history dating as far back as Plato’s complaints about the youth of Athens. Yet, it has invariably surfaced over the years and has not lost its centrality as a major cause for concern. In the early 1960s, Hemming, (1962), cited similar sentiments as those expressed in Botswana today. He described the school products as lacking fluency both in spoken and written word and an unacceptably low level of computation. Also citing a similar problem, the National Commission on Education, (in JSEI Project Management Committee Report, 1987, Annex B) reported that the performance of public secondary students was far from being satisfactory:

“The academic performance of secondary students is far from satisfactory. In the Husen Survey of achievement, Form III students with an average age of 17 had an average score of 31 percent on an international test of reading comprehension designed for 14 year olds. Form V students, a more select group, averaged only 50% on the same test.”

The Commission on Education (in Government of Botswana, 1977) also judged quality on the basis of the students’ attitude towards work, responsibility and commitment to the nation. On this aspect the Commission wrote:

“Students are poorly motivated towards work, that they have no commitment to the nation or local community and that they show little initiative or ability to solve practical problems.”

Thus, according to the findings of the Commission on Education, the students in Botswana lacked both knowledge and an entrepreneurial culture.

Concomitant to the cry of ‘falling standards’ is the allegation of curriculum relevance to the needs of industry, employers and the economy. This issue has been subject of

international debate since it was popularised by the labour Prime Minister, James Callaghan, in his speech at Ruskin College in 1976. In his speech Callaghan echoed many historical concerns: the dissatisfaction of employers with the educational standards of their recruits; criticism of the ways in which the schools foster an aversion to careers in industry and the failure of the education system to be more directly responsive to the national economic needs (Wellington, 1993:16). Recently, the argument has taken a twist to emphasise the lack of entrepreneurial attributes among school leavers. Motibatsela, (1999) the chairperson of Botswana Confederation of Commerce, Industry and Manpower (BOCCIM) has criticised schools for producing people who are only operative when employed by others and cannot accept entrepreneurship as a viable alternative. Alluding to the same problem, Lisindi, (in Memegi- The Reporter, 1999) a labour consultant in Botswana also recently made the following telling remarks:

“Our education system is so textbook- based that it has failed to train its beneficiaries for the work environment ... this has led to misfits between the school’s products and the country’s economic needs. We have educated people that we can not use.”

Of great concern is that despite these calls for the development of an entrepreneurial, practical oriented culture in schools, there is very little research which has been done relating to the relationship between practical education and entrepreneurship in Botswana (Prophet in Burchfield, 1994: 52-53). Furthermore, any serious attempt at transition to a practically based entrepreneurially oriented curriculum whose products can generate economic growth and employment through venture creation as envisaged by Schumpeter, (1934); Kilby, (1971); Birley, (1987) and Reynolds, (1987) needs to be informed by extensive research; yet there is a paucity of literature relating to practical subjects, entrepreneurial skills and attributes and issues relating to curriculum relevancy in Botswana. Prophet, (in Burchfield, 1994:53) neatly sums it up:

“Practical subjects in the curriculum have received little attention; this is surprising considering the large emphasis given to “practicality ”and “relevance” under the ten year basic education programme.”

It is sad that most educational investigators in Botswana, have tended to approach curriculum research from an eclectic perspective. The functional curriculum definition often assumed for research purposes is the rather simplistic one used by the World Bank, (1988) which views curriculum as “a set of courses in a field of study”; hence the researchers have concentrated on individual school subjects to the exclusion of what Tanner and Tanner, (1985:4) have described as :

”all the (other) planned and guided learning experiences and intended experience under the auspices of the school, for the learner’s continuous and will full growth in personal–social competence.”

This has resulted in a proliferation of individual subject focused research. For example, Davis, (1987, 1988), looked at reading comprehension, Rowell, (1991) and Prophet, (1991b) provided case reports on two schools involved in piloting new English programmes in the junior secondary schools while Clarkern and Omara, (1987) and Mautle, (1989) have looked at Social Studies. Reid and Hodson, (1987); Morgan, (1987); Kempa, (1988); Prophet and Rowell, (1990) and Chakaruba, (1991b) have all made studies related to the teaching of science subjects. A scan of the above literature reflects a subject centred approach to curricular investigation by most of Botswana’s scholars. To further exacerbate the situation, curriculum research in Botswana tends to be fragmented and no concerted effort has been made to produce a unidirectional systematic approach as clearly expressed by Nyathi and Prophet, (1994:A13-1):

“There is a lack of co-ordination between institutions involved in research activities in a number of areas: training, funding, consuming, depositing or actually carrying out educational research. This lack of co-ordination impedes the flow of information necessary to facilitate educational research in the country. It has also led to the lack of identification of research priorities consequently affecting theory building.”

Despite the rather haphazard nature of research in Botswana, some researchers such as Mwamenda and Mwamenda, (1987); Chilisa and Yodder, (1989a); Meyer and Nagel,

(1989) and have carried out research mainly on school effectiveness. Most of the research has tended to concentrate on either the primary school system or the junior secondary school system. Prophet, (in Burchfield,1994:44) concluded that research in “school effectiveness is still in its infancy in Botswana” and this underpins the need for further investigations in this field on a broader perspective than is currently obtaining.

It is in the light of the investigator’s personal experiences, the popular national demand for a school curriculum that is relevant and incorporates entrepreneurial attributes and the observed gaps and inconsistencies in the research pattern in Botswana’s educational field that this study has been undertaken.

1.3 Problem statement

Economies in Southern Africa face several problems, primary of which is unemployment. Mittner, (1995:30) estimated that up to 43% of the economically active population in the world are either jobless or are working in the informal sector. Gouws, (1997:2) discussing the unemployment situation in South Africa, described it as “one of the worst problems besetting South African Society.” The same situation observed in South Africa is obtaining in Botswana where the current unemployment rate is estimated at 20% (Jefferies, 1994: A7-2). If Botswana is to sustain an unemployment rate of about 10%, it needs to create a daunting figure of about 600 000 new jobs each year with the industries increasing their labour force from 26 000 to 88 000 and the service sector increasing its labour force from 77 000 to 261 000 (Jefferies,1994:A7-2-3). In addition to high unemployment, skills development has lagged behind and labour productivity has remained low in many sectors of Botswana’s economy (Presidential Task Group, 1999:14). Hence the importance of any project that aims at unravelling attributes and skills that may contribute to an increase in the potential for employment and for employment creation in Botswana.

In recent years, many countries have suffered from economic recession, high unemployment rates and fluctuations in the international trade cycles to a degree not experienced since World War II (Gouws 1997:3). This situation has tended to centralise and reflect entrepreneurship as a viable alternative to formal traditional employment. Furthermore, entrepreneurship has been seen to assist in reducing unemployment in the “Tiger” economies of Singapore, Taiwan, Hong Kong and South Korea (The Economist, 1991). In fact, according to Gouws, (1997:3):

“The history of most newly developed countries such as South Korea and Taiwan , indicates that the development of entrepreneurship is the most critical prerequisite for economic growth and development. Countries without the natural resources required for a manufacturing industry such as Japan, Taiwan and Malaysia, are pervaded by a spirit of entrepreneurship and small businesses and the small businessman plays a vital role in the economies of these countries.”

As a reflection of the same thought continuum, entrepreneurship has moved from the periphery to the centre of Botswana’s developmental strategy in the past decade and has been hailed as the new catalyst for economic growth, a renewal and a means of job creation (Republic of Botswana, 1998; Mothibatsela, 1999 and Presidential Task Group, 1999). Chittipeddi and Wallet, (1991) have also predicted that the organisational archetype of the future will reflect the strategies and structure of entrepreneurial thinking with indicator attributes such as flexibility, creativity, innovativeness, problem solving and action orientation. In the case of Botswana, the threat is the continued production of school leavers with seemingly obsolete skills suitable for the colonial era, lacking in technical and business management skills. These school products can neither be employed nor create employment on their own (Lisindi in Meggi, 1999). Botswana students, like their South African counterparts quoted by Van Aardt and Van Aardt, (1997:3) are not socialised or educated to become entrepreneurs, “but to enter the labour market as employees” (Gouws, 1997:3). Botswana secondary schools continue to spawn school leavers who are only suitable for menial office jobs which are also thin on the job market. All these considerations emphasise the problem which this study attempts to investigate: whether or not senior secondary schools in Botswana promote the

development of entrepreneurial attributes in consonance with the needs of the formal and informal employment sectors.

According to Gouws, (1997:3) entrepreneurship is important to the economy of any country (including Botswana) because of its potential to create employment opportunities and its capacity to initiate production processes, sustainable exploitation of resources and the acceleration of the generation of wealth with its concomitant resultant rise in the living standards. It is instructive to observe that despite the apparent centrality and significance of entrepreneurial activities in Botswana's economy and the public call for the introduction of an entrepreneurial curriculum into the school agenda, sound theories and models on entrepreneurs, their attributes and skills, as in the rest of the world's educational landscape, are sparse (Stewart, 1996:4). A similar situation led Wartmann, (1987) and Bygrave and Hofer, (1991) to the conclusion that the field of entrepreneurship lacks adequate theoretical grounding. This apparent insufficiency of theoretical grounding and information paucity has restricted progress in this rather nascent field. Nowhere is this more pronounced than in the area of school /industry entrepreneurial consonance. Timmons, (1989); Carland, Hoy, Boulton and Carland, (1984) and Gartner, (1985) have conceded that a consensual profile of an entrepreneur remains elusive and the same can probably be said for a consensus on attitudes and perceptions of entrepreneurial attributes as reflected by students and teachers. The study addresses this problem of paucity of information relating to entrepreneurial attributes in the school curriculum and their relationship to those identified within the industrial context.

From a theoretical perspective, the study attempts to provide useful information, clues, cues, explanations and correlates in the perceptions and attitudes of students, teachers and industrialists towards entrepreneurial skills and attributes. It also examines the nature of the relationship between the secondary school curriculum fostered entrepreneurial skills and attributes and those required for recruitment, social acceptance, promotion and progression in the industrial arena. Other investigators could, possibly, further use these to develop an entrepreneurial curriculum theory. Previous research on entrepreneurship in Botswana has not addressed the problem of school – industry consonance or disjunction

as research has been conducted mainly from an economics perspective. Botswana researchers such as Chinyoka and Ndzingo (1997) and Chinyoka, Iwisi, Moeti and Ronan (1996) have concentrated on the profile of successful small business owners; starting and sustaining small businesses and have not related them to the school curriculum. But, as Bridge, et.al. (1998) have argued, research on entrepreneurship should transcend the traditional economics realm of only profiling the entrepreneur within the confines of a business context if it is to “develop a generation of people who are more creative, innovative and risk taking” (Kao, 1990:16). It is probably true to posit that without investigating and aligning the relationships between the school produced entrepreneurial attributes and those needed in the industries, “there can be no reduction in unemployment, let alone economic development” (Chinyoka, et.al.1998:7).

This study assumes even greater significance as it is carried out at a time when Botswana is embroiled in a process of far reaching curriculum innovations. In line with the Revised National Policy on Education, (Republic of Botswana,1994), the two year junior certificate programme has been changed to three years entailing extensive curricular changes. In addition, the Ministry of Education is in the process of diversifying and localising the curriculum and new syllabuses are being designed to carry the education system into the next millennium. Thus, the study may contribute to the pool of information essential for informing future policy decisions in addition to the already existing findings of the National Commission on Education, (Republic of Botswana,1994).

The school curriculum, as reflected in the attitudes and perceptions of the school clientele, plays a major role in inculcating desirable entrepreneurial attributes (Oshagbeni, 1983 and Meredith, Nelson and Neck, 1982). In Botswana, in particular, there seems to be a serious paucity of research on entrepreneurial skills and attributes in schools and their relationship to those demanded by manufacturing industrial enterprise in the exception of Kann et. al, (1988) whose study focused on the relationship between education and training on the one hand and employment and students' aspirations on the other. The focus was mainly on the type of employment

students aspired for after completing their junior secondary school programme and the recruitment pre-requisites of the employers. Kann et. al. (1988) did not seek co-variations between the attributes nurtured by the school and those required by the industries and their research did not centralise entrepreneurial attributes.

The work of the National Commission on Education, (Republic of Botswana,1994) concentrated on the vocationalisation of the curriculum but it also failed to examine the role of the school curriculum in fostering or inhibiting the creation of a culture of entrepreneurship. It simply viewed a relevant curriculum as one that had a practical bias. There is an information gap on the school perceptions, images and attitudes towards entrepreneurial attributes and how these correlate with those of the industrialists who form the economic backbone of Botswana. Common wisdom seems to silently assume the existence of co-variations in perceptions and to support the unsubstantiated assumption that schools propagate entrepreneurial skills and attributes which are consistent with those required for formal and self employment purposes. The existing literature neither disputes nor corroborates this assumption. Yet, as Youngman, (in Burchfield,1994:222) has correctly observed, “the topic still remains one of great urgency as evidenced by the terms of the National Commission on Education established in 1992.”

This study also suggests a relevant entrepreneurial curriculum derived from examining the perceptions, attitudes and impressions of the curriculum implementers and clientele; the teachers and students in senior secondary schools towards entrepreneurial attributes and seeks consistency with the perceptions, impressions and attitudes of industrialists towards entrepreneurial attributes. In essence, the central problem addressed by this research study is consonance or disjunction between the school fostered skills and attributes and those demanded by the industries in Botswana. Thus, it investigates the interface between the school curriculum and entrepreneurial attributes, and attempts to find out if similar entrepreneurial attributes are required in Botswana’s industries.

In the context of the above statement, this study comprised a triad of underpinning questions:

- (a) Is the senior secondary school curriculum in Botswana supportive of the acquisition and the development of entrepreneurial skills and attributes?
- (b) Do industries in Botswana require and support individuals with entrepreneurial attributes?
- (c) Is there consonance or disjunction between the attributes fostered in schools and those required by the industries?

The basic predication here is that if the schools foster the acquisition of entrepreneurial attributes required by industries and the results indicate a correlation between the attitude in schools and industries, then the curriculum could be perceived as relatively relevant in terms of entrepreneurial orientation.

The study concerned itself with the following sub questions:

- What are the students' and teachers' perceptual images of an entrepreneur in Botswana secondary schools?
- What are the attitudes of senior secondary school teachers, students and industrialists towards entrepreneurial skills and attributes in Botswana?
- How well is the entrepreneurial oriented individual accepted among students, teachers and industrialists?
- Do schools and industries reward/penalise individuals for entrepreneurial orientation?
- How do teachers and students rate entrepreneurial learning/teaching methods in a classroom situation?
- Is there flexibility in the teaching/learning conditions in Botswana' classrooms?
- How do students and teachers profile an ideal students' instructional text?
- How do students, teachers and industrialists rate entrepreneurial skills and attributes as determinants for recruitment as employees in the formal sector?
- What is the frequency, intensity and source of entrepreneurial innovations in Botswana's industries?

- How do students, teachers and industrialists rate the possession of entrepreneurial attributes as factors for progression?
- What are the attitudes of students and teachers towards entrepreneurial occupations as alternative preferential occupations?
- How do students, teachers and industrialists profile a relevant entrepreneurial curriculum?
- Are the perceptions and attitudes of students, teachers and industrialists influenced by sex, age, subject orientation, location and type of institution?

1.4 Research questions

The research questions have been classified under interrelated subheadings for ease of analysis.

- 1) Students' and teachers' perceptual images of an entrepreneur
 - (a) What are the students' perceptual images of an entrepreneur?
 - (b) What are the teachers' perceptual images of an entrepreneur?
 - (c) Is there any correlation between the images reflected by students and teachers?
 - (d) Are there any observable differences related to age, sex, subject orientation, school location and status?

- 2) Attitudes towards entrepreneurial attributes in schools and industries
 - a) What are the attitudes of senior secondary school students, teachers and industrialists towards entrepreneurial attributes?
 - b) Are the attitudes towards these attributes related to age, sex, subject orientation and location of the institution?

- 3) Social acceptance for individuals who exhibit entrepreneurial attributes in schools and industries
 - a) Do senior secondary school students and teachers accept individuals with entrepreneurial traits?

- b) Do industrialists accept individuals exhibiting entrepreneurial attributes?
- c) Is there any observable relationship in the acceptance levels among the different groups?

4) Reward/penalty systems in schools and industries

- a) Do students believe that they are rewarded/penalised for entrepreneurial skills and attributes?
- b) Do teachers reward/penalise students for entrepreneurial skills and attributes?
- c) Do industrialists reward/penalise employees for exhibiting entrepreneurial skills and attributes ?
- d) Are there differences related to age, sex, subject orientation and school status?

5 Attitudes of students and teachers towards entrepreneurial oriented teaching/learning approaches in secondary schools in Botswana

- (a) How do teachers rate entrepreneurially oriented teaching /learning approaches?
- (b) How do students rate entrepreneurially oriented learning methods?
- (c) Are there any observable differences in ratings related to age, sex, subject orientation and school status?
- (d) Is classroom dynamism supportive of the acquisition of entrepreneurial attributes?

6 Entrepreneurial attributes as value determinants for instructional material

- (a) How do teachers profile a relevant school instructional text?
- (b) How do students profile a relevant school instructional text?
- (c) Are there any observable differences in profiles related to age, sex, subject orientation and school status?

7 Entrepreneurial attributes as determinants for recruitment

- (a) What skills and attributes do students perceive as prerequisites for recruitment into formal employment?

- (b) What skills and attributes do teachers perceive as important for recruiting school leavers for employment?
- (c) What skills and attributes do industrialists consider as important when recruiting for new employees?
- (d) Is there consonance or disjunction in the perceptions of students, teachers and industrialists regarding skills and attributes required for recruitment purposes?

8 Industrial Dynamism

- (a) How frequently do Botswana's industries introduce innovations?
- (b) Why do they introduce innovations?
- (c) What is the intensity of Botswana's innovations?
- (d) Who initiates innovations in Botswana's industries?
- (e) What role do individual employees with entrepreneurial attributes play in the innovation processes in industries?

9 Entrepreneurial attributes as factors for progression in schools and industries

- (a) Do students consider the possession of entrepreneurial attributes for selecting individuals for positions of leadership and responsibility in class?
- (b) Do teachers consider entrepreneurial skills and attributes when selecting students for positions of responsibility in class?
- (c) Do industrialists consider the possession of entrepreneurial skills and attributes for promotion purposes in the industries?

10 Attitudes of students and teachers towards entrepreneurship as an alternative preferential occupation

- (a) How do students rank professional, entrepreneurial and incubator occupations as preferred alternative occupations?
- (b) How do teachers rank professional, entrepreneurial and incubator occupations as preferred alternative occupations?
- (c) Are there observable differences related to the variables of age, sex, school status and subject orientation?

- (d) Are there observable differences between the teachers' and students' responses?

11 How schools and industries profile a relevant entrepreneurial curriculum

- (a) How do students profile a relevant entrepreneurial curriculum?
- (b) How do teachers profile a relevant entrepreneurial curriculum?
- (c) How do industrialists profile a relevant entrepreneurial curriculum?
- (d) Are there any observable differences in the profiles?

1.5 Aims

Primarily, the study aimed at investigating consonance or disjunction between the school curriculum and the industrial requisites. It therefore aimed at exploring perceptions and attitudes towards entrepreneurial attributes between those in the curricular domain – in schools, and those who utilise the products of the school curriculum – the industrialists in Botswana. On the same continuum, where relevant, it examined the influence of variables such as age, sex, subject orientation and the status of the institution on attitudes towards entrepreneurial attributes.

Another major aim was pedagogical in nature, investigating the teaching learning approaches consistent with the acquisition of entrepreneurial skills and attributes. It also aimed at identifying the type of instructional materials preferred by students and teachers in Botswana's secondary schools. These pedagogical strategies would be used, if identified, in the design and implementation of an entrepreneurial curriculum.

Furthermore, the study aimed at collecting information related to social acceptance of entrepreneurial personalities in schools and industries. It therefore, investigated issues related to social acceptance/rejection, reward/penalty system and progression both in schools and industries. A closely related aim was to investigate the role of entrepreneurial skills and attributes in finding employment either in the formal or

informal sector. Thus, the study investigated issues related to recruitment determinants in the industries and employment preferences in schools.

In addition, the study also aimed at creating profiles of an ideal relevant entrepreneurial curriculum. From the profiles, the study attempted to develop a theoretical framework of an entrepreneurial curriculum that took cognisance of the entrepreneurial attributes aspired for by both the schools and the industries.

Finally, a broader and more encompassing aim was to contribute to the general knowledge about the conceptual images, perceptions and attitudes towards entrepreneurial attributes and skills as viewed from the school and industries with Botswana as a case study. The knowledge gained from the broad exploratory study may assist in furthering knowledge about schools and industries as incubators for future entrepreneurs. Useful cues may also be gleaned which may provide indicators for further research studies on entrepreneurship in Botswana.

1.6 Definition of terms

Some of the terms used in this study have a multiplicity of definitions and are contextually specific. It is important therefore, that they be defined so as to build on from a common conceptual platform.

1.6.1 Entrepreneur

In the context of this study, an entrepreneur is taken to mean a person who is able to start and sustain an enterprise or business with the chance of making a profit (Chinyoka and Ndzingo, 1997:1). A prerequisite component of entrepreneurship in this study is the Schumpeterian ability to create employment through innovation, creativity and a high achievement motivation.

1.6.2 Entrepreneurial Attributes

Jennings, (1994) distinguishes psychological factors from personality factors but stops short of defining them. Chinyoka, et.al. (1998) classify need for achievement, locus of control, propensity for taking risk, tolerance for ambiguity as psychological factors while self-confidence, opportunism and ambition as personality traits. For the purposes of this study, differentiation of the two would serve no useful function and as a result, the two have been used interchangeably. Thus entrepreneurial attributes have been used in this study as meaning different images of creativity, innovativeness, internal locus of control, a high achievement motivation and a high propensity for taking risks.

1.6.3 Entrepreneurial skills

Entrepreneurial skills in this study refer to the competencies required to start and sustain a new venture irrespective of the nature of the venture. Thus they include the ability to spot and exploit a gap in production (creativity and innovativeness), flexibility, sound communication skills to sell ideas, ability to mobilise resources, to operate under uncertain conditions and to start and see a project through.

1.6.4 Traditional Conformist Attributes

These are attributes, which support convergence of thought and the maintenance of the status quo. They are seen here as the flip side of the entrepreneurial attributes. They include unquestioning obedience, external locus of control, a low n Ach, fear of taking risks and the ability to follow instructions.

1.6.5 Traditional conformist skills

These are antidotal attributes of entrepreneurial skills. As used in this context they include the traditionally accepted skills such as analysis, critical thinking, rote and regurgitation, numerical, verbal and writing skills.

1.6.6 Curriculum

This term has had a miscellany of definitions. This investigation adopts the definition of curriculum as “all planned and guided learning experiences and intended experience under the auspices of the school, for the learner’s continuous and wilful growth in personal- social competence” (Tanner and Tanner, 1985:4).

1.6.7 Curriculum Relevance

This applies to education where there is consonance between the attributes inculcated at school and those needed in the industries.

1.6.8 Basic Education

An education transmitting basic skills in numeracy, literacy and life skills to enable the individual to earn a living through employment or self-employment. It is generally provided in formal education, non-formal education and in post school craft centres and folk colleges (Republic of Botswana,1993:A 11-2).

1.6.9 Practical Subjects

These are subjects generally requiring students to use manual motor skills. The teaching and learning involves a demonstration of practical skills and assessment is practical based although it may also have a theory component.

1.6.10 Vocationalisation

Many researchers have offered different definitions of this term. This study adopts Lauglo and Lillis, (1988:3) definition that views vocationalisation as “change in a practical or vocational direction.”

1.6.11 Prevocational

It is used as meaning the orientation of students to practical skills with a view to preparing them for future training. These programmes are often broad based and are not intended to qualify trainees for direct employment.

1.6.12 Work preparation

Work preparation refers to advising students on formal job opportunities through guidance and counselling or participation in real work arrangements such as job shadowing..

1.6.13 Education With Production

This is a system, which attempts to integrate theory and practice in learning. Productive activities are seen as part and parcel of learning. Knowledge is regarded as based in both theory and practice.

1.6.14 Diversification

This occurs when a secondary school offers both practical and academic subjects with a view to alleviating unemployment problems.

1.6.15 Academic curriculum

A programme of school activities with a high abstract literary and computational content that demands verbal and quantitative skills as used in Psacharopoulos and Loxely, (1985).

1.6.16 Primary Education

The first level of education in which students follow a common curriculum over a period of seven years.

1.6.17 Secondary Education

It is the education attained after learners have completed seven years of primary education. In Botswana, it comprises three years at a junior level and two years at a senior level.

1.6. 18 Post secondary, tertiary Education

It is used as defined in the World Bank, (1988: X) to mean an education that requires, as a minimum condition of entry, the successful completion of education at the secondary level.

1.7 Demarcation, scope and limitations of the study

The study was concerned with entrepreneurial attributes and how they interface with the school curriculum and industry. The school curriculum comprises an infinite number of activities which the teachers and learners do under the auspices of the school (Tanner and Tanner 1985:4). Thus, the nature of the curriculum is so broad that it would not be possible, nor indeed desirable, to study the interface of entrepreneurial attributes against

the backdrop of all curricular facets. Consequently, the study has had to be selective, limiting itself mainly to the perceptions, images and attitudes of fifth form students and teachers in government and private international senior secondary schools in Botswana. The small business owners and managers of large manufacturing industries have all been classified as “industrialists” generally represented by human resource managers. The study compares and contrasts the profiles, images, attitudes and perceptions of industrialists with those of teachers and students in senior secondary schools in Botswana. Only where relevant, it examines the influence of sex, age, location and subject orientation.

Geographically, the industries involved in the study are those found within Greater Gaborone, Lobatse and Francistown. These cities have been selected because they have most of the nascent industries in Botswana. Most of Botswana is open land with small settlements void of industries and hence the delineation.

A major limitation to this study was the multi-faceted nature of the concepts being explored. The study investigates consonance between “entrepreneurial attributes” and those attributes “demanded by the economy” and those nurtured by the “school curriculum”. The three major concepts of concern to this study are all ambiguous and problematic. Entrepreneurial attributes for example, can be interpreted by employers to mean those personality traits that are required for the successful running of an enterprise or by progressives to mean those traits which encourage taking chances, solving problems and taking risks or, by politicians to mean the creation of employment (Wellington, 1993:18).

The demands of the economy have been interpreted by different people differently. For instance, when Kann et. Al. (1988) investigated the needs of the economy, their respondents were the employers; thus, their understanding of economic demands in this case was synonymous with the demands of the employers. In addition, is what the employers “need” the same as what they “want”? Similarly, the term curriculum is open to a variety of interpretations (Hawes, 1979; Barrow, 1984; Tanner and Tanner, 1985 and

World Bank, 1988). The implications of the rather nebulous nature of the concepts being explored are that the generalisation of the findings should be definition specific and done cautiously. However, this does not necessarily invalidate the information in and of itself provided that one takes into account the limitations.

Another limitation, which deserves mention, is the nature of personality traits such as creativity, initiative, tolerance and perseverance among many others. All these attributes are notoriously difficult to measure. In most cases their existence is determined through proxy indicators. These indicators necessarily tend to lean “towards oversimplification (Chapman, 1990:229). Personality traits change with time and circumstances and are therefore time relative and contextual in character. This implies that the findings of the study can be generalised within the given socio-economic parameters and are most likely to be country specific.

A practical limitation to this study was time and financial constraints. Since the study was not sponsored, the investigator had to limit the sample coverage to a number commensurate with acceptable standards for making generalisable inferences. These constraints also limited the methods used for collecting data to postal questionnaires. Despite these constraints, the findings of the study remain largely a representative microcosmic reflection of the universe under study.

1.8 Research method

According to Patton, (1987:8) the research method used in any investigation is largely determined by the nature of the study. This study does three things; explores, describes and seeks relationships among the major variables. The investigation therefore, adopted the descriptive, investigative survey research method. It was mainly quantitative as opposed to qualitative. It relied on students, teachers and industrialists to supply information on the images, perceptions, attitudes, role and importance of entrepreneurial attributes. Three questionnaires were constructed: one for students, one for teachers and the other for industrialists. The questionnaires were validated by two Botswana

University lecturers and a group of eight secondary school teachers and reliability was attained through the test and re-test method.

1.9 Programme of investigation

This investigation was presented in five broad sections. The first section gives an overview of the whole study and is covered by Chapter One. The second section comprises three chapters giving supportive, analytic and explanatory literature review on the main concepts; curriculum relevancy, entrepreneurship and industrial demands in Botswana. The third section is presented as one chapter describing the research method used. The fourth section presents the research findings and discussion. The last section presents a summary of findings, conclusions, implications, a proposed framework for an entrepreneurial curriculum, further suggestions for research and limitations of the study.

The investigation, on a single chapter basis comprises the following chapters:

Chapter One, “The Background and Orientation to the Problem” opens with an Introduction, followed by Awareness of the Problem, Statement of the Problem, Problem Statement, Aims, Definition of terms, Demarcation, Scope and Limitations of the Study, Research Method and the Programme of Investigation.

Chapter Two, “An Analysis of Curriculum Relevancy” presents an analysis of some of the arguments and curriculum models advanced in the existing literature on the search for a relevant curriculum prior to the present focus on the entrepreneurial curriculum. It includes the epistemological and axiological models, selection through culture, vocationalisation, the work imperative and entrepreneurial models.

Chapter Three, “Entrepreneurial Indices and the Interface with the School Curriculum” deals mainly with the images of entrepreneurship and the nature of entrepreneurial attributes and their interface with the school curriculum and presents assumptions and

predictions on what a relevant entrepreneurial curriculum would possibly incorporate if based on the entrepreneurial attributes understudy. It also elucidates on some of the assumptions and predictions appearing as research questions in the study.

Chapter Four, “Entrepreneurial Attributes in the Context of Botswana’s Economic Development” deals with the projected trends in Botswana’s economy and their implications on the demand for entrepreneurial attributes in the economic sector. It examines the strategies adopted by industries for development and evaluates the role of entrepreneurial attributes in the process.

Chapter Five, “Research Method and Procedures ” gives details of the method used in carrying out the study; the rationale, weaknesses and strength of the selected method, the population, sampling procedures, instruments, validity and reliability. The chapter also includes elicitation, explication and statistical analysis to be used.

Chapter Six, “Analysis and discussion of results” focuses on data presentation, interpretation and discussion. A comprehensive discussion on the findings is made against the backdrop of research questions and literature review.

Chapter Seven, “Summary and conclusions” presents a summary of findings and suggests a framework for an entrepreneurial curriculum consonant with Botswana’s economic needs based on the research findings and suggests a way forward for future research.

1.10 Conclusion

In essence, this chapter was an overview of the whole research programme. It highlighted the major beacons in the programme including the background to the problem, awareness of the problem, problem statement, research questions, delineation and limitations of the study. Terms, which were used in this investigation out of their normal context, were explained. The research methods and procedures were dealt with sparingly in this chapter

as there are further discussed in more detail in Chapter 5. Finally, a programme of investigation provided a synopsis of each chapter of the research project.

CHAPTER 2

A CONCEPTUAL ANALYSIS OF CURRICULUM RELEVANCY

2.1 Introduction

An investigation into the problem of school products who lack requisite psychological entrepreneurial attributes: high achievement motivation, confidence, flexibility, creativity, the ability to identify and solve problems through informed decision making should not be viewed in isolation, but should be seen in the context of a broader search for a relevant curriculum. The debate on curriculum relevancy has been a dominant feature on the educational landscape from the early times (Schubert, 1986:26 and Moorad, et.al.1993: A11 – 4). Consequently, an extensive literature has accumulated internationally, making it simply impossible to review the whole plethora of literature deposition accumulated over the centuries. Thus, the literature review in this study has been selective. It discusses attempts at attaining curriculum relevancy through epistemology, axiology, experiential and instrumentalist perspectives. These, necessarily, include the utilitarian models such as “needs,” “interests,” vocationalization and entrepreneurship.

A spiral approach has been adopted in discussing curriculum relevancy. The discourse tends to be broad and global in character, and yet citing comparative examples from Botswana, the locus of this study. Similarly, a chronological pattern has been adopted starting from the early attempts at curriculum relevancy of the Platonic Age to the introduction of entrepreneurial efforts of the late 1990s. The intention is to deliberately avoid a microscopic analysis of the existing, extensive literature, which may lead to an abstruse and esoteric controversy over the significance of each of the miscellaneous literary contributions. Instead, the review attempts to build a broad platform for the study based on the inherent merits and demerits of the different selected curriculum relevancy images.

2.2 Defining the curriculum

It is important that an initial attempt be made to describe the various impressions of the curriculum before attempting to define curriculum relevancy. The curriculum is perceived in many different ways; to many, it is viewed as controversial, complex, fluid, and ill defined. Salia- Bao, (1989:2), aptly describes the difficulty of attempting to define the term curriculum:

“In Africa, of all the school components, curriculum is probably the most ambiguous and difficult to define. This is partly because a curriculum, even in the West, reflects a complex society in which there is never perfect agreement on its own characteristics.”

Urebvu, (1985:2), among many other scholars, concurs with Salia-Bao on the difficulty of defining the term curriculum and on observing the many different interpretations, he wrote:

“we are literally bombarded with a multitude of competing and sometimes conflicting definitions which tempt us to choose from among them.”

The term curriculum, as Stenhouse, (1975:2); Urebvu, (1985:2) and Salia – Bao, (1989:2) point out has a multiplicity of impressions. In recent times, the curriculum has been described as “moribund” (Schwab, 1970), “stagnant” (Kliebard, 1982) and as “alive and well” (Klein, 1986). It is a term whose meaning is relative to a panorama of contexts in which it is used and hence the difficulty of arriving at a consensus on its definition.

The traditional conceptualisation of the curriculum “stems back to antiquity and the seven liberal arts usually divided into the trivium, and the quadrivium” (Schubert, 1986:26). In this perspective, the curriculum was equated to “a list of subjects on the timetable” (Salio-Bao, 1989:2). This conceptualisation of the curriculum as a collection of subjects

on the school timetable is closely related to that of the curriculum as “a course of study”, a collection of syllabuses (Beauchamp, 1981) and subject matter officially taught in schools (Smith, Stanley and Shores, 1957; Doll, 1965 and World Bank, 1988). Similarly, Botswana’s guiding document for the development of the curriculum, the Curriculum Blueprint for the Secondary School Programme, (Curriculum Development and Evaluation, 1997) gives the impression of a school curriculum as a list of subjects articulated in individual subjects’ syllabuses, centrally designed, developed and disseminated to schools for implementation. An attractive feature of this image is its seeming neatness, which is reflected by its simplicity suggesting ease and equity of implementation. However, this “technist approach” (Tabulawa in Mensah et.al.1998: 102) fails to take cognisance of the different educational terrain in which the pre-planned set of syllabuses and subjects eventually operate. It raises such pertinent questions as: “Whose values do the central planners articulate?” “How representative are these values in relation to the rest of the population?” “Is there consensus on the values articulated?”

Another major weakness of the impression of the curriculum as a list of subjects and syllabuses lies in its exclusivity of focus on subject matter, which fails to account for other planned or unplanned activities, which form a large part of the school activities. More so, it neglects such important dimensions as “cognitive development, creative expression and personal growth”(Schubert, 1986:27). The “time tabled subject” curriculum also excludes all the informal, social interaction, which occurs among students in class or anywhere else within and outside the vicinity of the school (Schubert, 1986:27).

Hawes, (1979:3) views the curriculum as “what is planned, provided, selected from the culture for individual learners in schools” while Kerr, (1968), largely concurring with Hawes, sees the curriculum as “all learning which is planned or guided by the school, whether it is carried on in groups or individually, inside or outside the school.” The adherents of this definition, Kerr, (1968); Hawes, (1979) and Saylor, Alexander and Lewis, (1981) uphold that the curriculum should pass on to the learners certain bodies of knowledge, which have been planned and approved and supported by the school.

However logical this definition may sound, it is too simplistic and it fails to take cognisance of all the varied unplanned activities, which are carried out under the auspices of the school. Furthermore, it naively presupposes that the learners will only concern themselves with the planned activities. This impression of the curriculum fails to acknowledge the existence of a multitude of overt and covert activities and messages conveyed by the school through various structures and organisational practices which Urebvu, (1985) and Fountain, (1991) have described as the “hidden curriculum”; those unintended responses to the planned official curriculum. This conceptualisation of the curriculum also places emphasis on the preparation for delivery at the expense of the delivery process itself. Planned activities become an end in and of themselves and the implementers fail to cope with any non-anticipated activities (Schubert, 1986:28). The curriculum in this case, is rigid and lacks flexibility and dynamism.

Johnson, (1977a) and Posner, (1982) have posited an impression of curriculum as intended outcomes rather than the activities. In this case, the activities become subservient to the outcomes. Botswana seems to have adopted this curriculum impression as reflected in all the localised curricular programmes which attempt to predetermine behavioural outcomes and skills the learners ought to have acquired at the end of each programme (Curriculum Development and Evaluation, 1997). The argument advanced in support of this conceptualisation is that intended outcomes draw students away from the unintended outcomes (Schubert, 1986:28). Yet, it must be pointed out that individual learners will interface and respond differently to different instructional environmental stimuli. Even similar stimuli will invoke different responses in individual learners. Thus, actual outcomes may not necessarily be the same as the intended outcomes.

Faced with this multiplicity of impressions, perhaps Lawton’s, (1975:6) definition of the curriculum as “a selection from the culture of a society” has certain parallels to the curriculum image adopted in this study compared to those advocated by Doll, (1965); Kerr, (1968); Hawes, (1979) and the World Bank, (1988) among many others. Lawton, (1975:6 -7) clarifies what he means by “a selection from the culture of society” as:

“Certain aspects of our way of life, certain kinds of knowledge, certain attitudes and values are regarded as so important that their transmission to the next generation is not left to chance in our society but is entrusted to specially trained professionals in elaborate and expensive institutions. Not everything in a culture is regarded as of such importance and in any case, time is limited, so selection has to be made.”

The definition of the curriculum as a selection and transmission of a part of culture has not gone without critiques. Apple, (1979); Anyon, (1980) and Giroux, (1983), among many others, have argued that such a curriculum predicated on existing culture presupposes goodness in the culture and is bound to enforce the maintenance of the status quo. Yet it must be pointed out that a selection from a culture need not be a replication of that culture but rather, a regeneration of culture comprising certain selected desirable attributes from the parent culture resulting in the creation of a new cultural entity similar but not identical to the mother culture. Selection and transmission of such cultural aspects therefore, do not mutually exclude innovation and flexibility to suit the new socio-economic environment. According to Lawton, (1975:71), each generation has the task of:

“efficiently learning the knowledge acquired by previous generations, adding to it or modifying the interpretations and finally passing this revised knowledge on to the next generation.”

Thus, in this study, despite the persuasive argument posited by Apple, (1979) and Giroux, (1983) the curriculum conceptualisation adopted includes, as in Lawton, (1975) “certain kinds of knowledge”, attitudes, skills and values inculcated overtly or covertly by the whole school system. Thus, the study will concern itself with the images, perceptions and attitudes of those operating within the parameters of the school; the students and teachers. It will not limit itself to the narrow impression of the curriculum as reflected in the Curriculum Development and Evaluation, (1997) in Botswana.

2.3 Images of curriculum relevancy

After looking at the different impressions captured by the concept curriculum, the underpinning question becomes; “What then is curriculum relevancy?” The concept of curriculum relevancy is loaded and therefore difficult to unpack. Mthunzi, (1992:19) referred to it as “ a rather elusive concept” whose “interpretation is relative to time, location and function.” Thus, curriculum relevancy is open to a myriad of wide ranging interpretations.

Thompson, (1981:5) viewed curriculum relevancy as designing curricula that embodies the transition of values and skills from a colonial to a postcolonial context. To him, the underpinning issues in a relevant curriculum included the incorporation of cultural topics and environmental issues. In the Thompsonian curriculum relevancy model, local values superseded western values. In Botswana, after independence the Government attempted to infuse Botswana’s philosophy of social harmony (Kagisano) based on the principles of democracy, self-reliance, unity and development (Tabulawa, in Mensah et.al.1998: 101) into the school curriculum. In this case, curriculum relevancy, in line with the Thompsinian model was concerned mainly with issues of change from a broad western base to a narrow inward focused, localised approach whose primary concern is to serve the interest of the immediate local clientele. Curriculum relevancy in this context, is seen as a tool for the localisation of the education system and the adoption of the societal outlook. Critics of this school of thought would argue that curriculum relevancy in this context does not necessarily exclude the maintenance of the status quo as it often fails to jump start a long lasting process of change. It must be admitted, however, that such inward focused curricula often takes aboard some of the new concepts which society may deem necessary at that time. This was amply demonstrated in the post independence curriculum in Botswana which embraced such new concepts as social justice, interdependence and mutual assistance in an endeavour “to nurture Botswana’s relatively nascent democracy” (Tabulawa, in Mensah et.al.1998: 10).

Thompson's, (1981) image of a relevant curriculum is closely linked to Mangan's, (1993:6) perception, which views a relevant curriculum as one that mirrors the distribution of power in society. Expressing similar sentiments Sarup, (1982:4) describes it as:

“a crucial mechanism for socialisation and social control, initiating people into those skills, attitudes and values, which are essential for effective role performance. It is thus involved in social selection and role allocation.”

In the definitional perspective proffered by Thompson, (1981); Sarup, (1982) and Mangan, (1993) a relevant curriculum is seen as a prescriptive instrument for role allocation within the society. The curriculum justifies the status quo and sustains the superior image of those wielding power, as was the case in the British colonies including Botswana. The image of curriculum relevancy in this case, is that of ascribing peripheral roles to subject societal strata while mystifying and enhancing the centrality of the roles of those wielding power (Mangan, 1993:6-7). Curriculum relevancy, thus assumes the instrumental role of a confirming and justifying mechanism for the low positions of the ruled and the elitist positions of the rulers.

A more useful image of curriculum relevancy for the purpose of this study would probably, be that advocated by Moorad, et.al.1993: A11-4) where a relevant curriculum is seen as “ education which helps students to apply classroom knowledge to real life problems that they will confront as adults.” In this instance, curriculum relevancy is concerned with making education utilitarian. It sets out to inculcate skills, values and attitudes, which can be used in solving real life problems. In the same thought continuum, Sinclair and Lillis, (1980: 21) view curriculum relevancy as “relating the design of basic schooling to the life and work of the wider community.” There are two discernible weaknesses emanating from this conceptualisation of a relevant curriculum. The first problem pointed out by Bacchus, (1988); Wilms, (1986) and Mudariki and Weeks, (1993) is that it implies a linear causal relationship between education, employment creation and employee productivity, which researchers such as Psacharopoulos, (1988); Mudariki and Weeks, (1993); Moorad, et.al. (1993) and Ashton

and Green, (1996) have strongly rejected. They have convincingly argued that the relationship between education, employment creativity and employee productivity is not linear as there are many other related, contributory variables such as the general socio-economic thrust within the society. It is important to heed Mannathoko 's (in Seisa and Youngman, 1993:57) timely warning to those who uphold this link:

“There is no direct link between education and employment. It is critical that Botswana society becomes aware of the fact that education and schooling no longer equal employment and that certificates, no matter the level, depreciate rapidly. Other factors such as economic recession, Aids, military spending and rising unemployment also impact on employment creation.”

The second problem is based on the argument posited by Scott, et.al. (1998:4) that a work related curriculum, although seemingly relevant, when left to its own devices does not “naturally produce innovative entrepreneurs in any number to instil enterprising or managerial competencies in students.” Consequently, a relevant curriculum based on mere work experience does not translate into employment creation nor does it lead to independent innovative thinkers in that workers are not necessarily innovators. In fact, according to Scott, Rosa and Klandt, (1998:4-5) workers tend to value their professional and occupational security and therefore tend to shun creativity, innovativeness and taking risks.

This study sees value in the perception of curriculum relevancy advanced by Moremi, (in Seisa and Youngman, 1993:63), as:

“ an education that helps in the development of the individual by developing the person's capabilities, enabling him/her to acquire new skills, knowledge, attitudes and behaviour that will give him / her a full, successful life and continued personal growth and equipping him/her to participate fully in a rapidly changing society.”

Thus, in essence, a relevant curriculum, for the purposes of this investigation, is one that nurtures those entrepreneurial attributes and skills which are required to enable an individual to adapt to the changing economic landscape: confidence, high achievement

motivation, creativity, ability to solve problems independently and flexibility. In this context, a relevant curriculum should be seen as inculcating entrepreneurial attitudes, values and competencies that make the learner consonant with his/her socio-economic environment. In the same thought continuum, the school curriculum must not end with the provision of knowledge and understanding as stated by the Curriculum Development and Evaluation, (1997:7) but must also produce “entrepreneurs who are capable of creating, competing and extracting value from a rapidly changing mainstream economy dominated by established and competing corporate interests”(Scott, et.al. 1998:3).

2.4 An overview of the contributions to the search for a relevant curriculum

Many attempts have been made globally to develop curricula that can be seen as relevant to the clientele: the students, parents, politicians, sociologists, economists and all other multitudes of stakeholders. This has resulted in a variety of approaches being presented throughout the centuries, each one reflecting a perceived image of curriculum relevancy. A review of all the massive global efforts at harnessing educational relevancy would not only be futile, but certainly, far beyond the scope and intention of this study. In this investigation, the writer has selected to discuss the contributions of the ancient civilisations, Plato and Aristotle, the nineteenth century attempts at curriculum relevancy by Pestalozzi, (1746 – 1827) and Spencer (1820 –1903) and the twentieth century efforts through epistemology, axiology, culture and utility models and their parallels in the current school curriculum in Botswana.

2.5 Some conceptions of curriculum relevancy in the Ancient World

The search for a relevant curriculum thought and practice dates as far back as antiquity (Schubert, 1986:26). Throughout the ages, human societies have attempted to identify, select, harness and redirect educational activities to be passed on as a heritage for their progeny. Frankfort et. al, (1946) portrayed the ancient Egyptians and Mesopotamians as

regarding a relevant curriculum as one that dwelt more on basic, practical activities than on abstract thought. The Egyptian and Mesopotamian curricula emphasised learning through observing the master at work. It was based on knowledge gained from socialisation and skills being passed from father to son. Apprenticeship therefore, played a pivotal role in the ancient curriculum (Schubert, 1986; 55). Their image of a relevant education had some notable similarities with traditional education among Tswana societies which emphasised functionalism and the socialisation of the child into the whole way of life of a community (Campbell, 1979:48 and Fafunwa, 1986:11). Townsend-Coles, (1985:1) vividly captures the practicality and totality of Tswana traditional education during initiation ceremonies of “bojale” and “bogwera”:

“The participants learnt about their physiological entry into adulthood and their responsibility in society, Tribal history was imparted through the learning of praise poems (leboko). Games in which riddles, puzzles and proverbs formed a part were used as a means of indicating socially desirable attitudes. Tswana cosmology was taught. Hunting and fighting were practised. And above all, the group became bound together as a community for life. All had rights and obligations to each other.”

In this context, a relevant curriculum was one, which directly addressed the needs of the individual in consonance with the needs of the community. It seems logical to infer a symbiotic relationship between the needs of the community and the needs of the individual and therefore there was no apparent disjunction between the interests of the individuals and those of the community in which he or she existed. An inherent weakness of the Egyptian and Mesopotamian image of a relevant curriculum at that time was its lack of “imaginative literature, philosophical thought and scientific enquiry”(Schubert, 1986:55). Thus, its basic mundane nature militated against its own growth and expansion as it consequently assumed an inferior social image to its counterpart - the academic curriculum.

A different, albeit contemporaneous picture of curriculum relevancy attributed to Lao – Tse found expression in ancient China as early as the 6th century B.C. Lao-Tse viewed a

relevant curriculum as one whose epicentre was spiritual enlightenment, which could only be attained through contemplation. Thus, according to the Lao-Tseist philosophical school of thought, a good, relevant curriculum was embodied in activities interwoven with the search for internal peace, self-actualisation and conjoining the recipient to the spiritual world through prayer, chants and meditation. A parallel can be drawn between the curriculum based on the Lao-Theist philosophy and the early colonial Livingstonian curriculum of Botswana (Bechuanaland), which was mainly concerned with “preparing evangelist teachers for their work bringing religious and educational enlightenment to the peoples of Bechuanaland,” (Tonwsend–Coles, 1985:2). Both curricula centralised religious enlightenment, which could be attained through prayer, obedience and faith.

This concept of curriculum relevancy is open to undesirable long lasting, recurrent repercussions; the development of a culture of a classroom ecology, which is dominated by a monological teacher “perceived as the sole narrator of knowledge which the learners are expected to memorise and retrieve when needed” (Maruatona, in Mensah et.al.1998:88). In fact, research by Prophet and Rowell, (1990) and Fuller and Snyder, (1991) show that teaching in Botswana schools has remained didactic and authoritarian “with little or no recognition of the learner’s potential to actively construct classroom knowledge” (Tabulawa, in Mensah, et.al.1998: 101) up till the present time.

On the other hand, Confucius (5th century) saw a relevant curriculum rather, as one with a societal skew instead of an individualistic skew. He held that what ever is passed on to the learners ought to inculcate and reflect the ideals, habits, customs and laws of the society. This is largely reminiscent of Lawton’s, (1986) modern argument of a good curriculum being a selection from the culture of a society. Thus, although the methods of searching have changed, the nature of the search, the arena and the indicative clues pointing to a relevant curriculum in some cases, have remained basically unchanged throughout the centuries.

2.6 The Greco-Roman ideals of curriculum relevancy

Accolades for classic torchbearers in the search for a relevant curriculum in the Greco-Roman times go to Plato and his student Aristotle. Plato's dialogues *Crito*, *Protagoras*, *Meno*, *Phaedro* and *The Apology* are replete with curricular innuendoes. In *The Republic*, Plato explicitly sets out his ideas of a relevant curriculum. "He saw education as essential to the development of the republic because citizens must be enlightened in order to provide maximum contribution to their particular station" (Schubert, 1986:56). Plato's relevant curriculum was "a dual curriculum model" (Mthunzi, 1992:21) providing an academic curriculum for "his men of gold" (the elite) and a vocational curriculum for "men of baser metals" silver and bronze (people of lower social strata). To Plato and his adherents, a relevant curriculum was one that increased the recipient's horizon without altering the social parameters within which the recipient operated. The Platonic curriculum was broad, comparing favourably with the modern curriculum in schools; "it extended from the age of six to eighteen" (Schubert, 1986:57) and included mathematics, music and gymnastics.

Plato's student Aristotle saw liberal education as leading to personal improvement, which brought dedication to the state. Thus to Aristotle, a relevant curriculum was that which brought personal satisfaction to the individual. These were the forerunners of child centred approaches which centuries later, became arenas for the search for relevant curricula. The Aristotlean curriculum had to be broad "but not vocational" (Schubert, 1986:57). The emphasis was on the classics, the pedagogical method was narration and the epistemological philosophy was that of knowledge as an independent phenomenon complete in its own isolation and totality. The learner was no more than a passive peripheral recipient whose role was to absorb the knowledge radiated from the halo of the instructor.

Many centuries down the lane, a similar curriculum still obtains in the schools in most Third World countries including Botswana. In Botswana, according to Maruatona, (in Mensah et.al. 1998:88) the teaching paradigm across the curriculum assumes students to

be manageable, manipulatable and adaptable to whatever situation the teacher has created. This approach poses an explicit contrast to a liberating praxis and removes students from participating and making decisions in the learning process. In this context the curriculum militates against the acquisition of entrepreneurial attributes and skills and fails to fall under the banner of a relevant curriculum.

2.7 Nineteenth and twentieth century initiatives at attaining curriculum relevancy

The period which Kliebard (1982a) refers to as “a crucible for curriculum change” was heralded by, among many other early European educational reformers, Pestalozzi, (1746 – 1827). It was at this time that the relevancy of the traditional curriculum comprising the classics, Greek and Latin was questioned. According to the educational historian Knight, (in Ornstein and Hunkins, 1993:75) Pestalozzi “probably more than any other educational reformer, laid the basis for modern school and helped reform elementary school practice.” Pestalozzi maintained that a relevant curriculum was based on “the natural development of the child and his or her sensory influences”. Children had to learn through their senses and not through the age-old delivery method of narration. Pestalozzi argued for a curriculum, which centralised the needs and aspirations of the child. To him, the universe of all relevant curricular activities was the child. He argued for a relevant utilitarian curriculum, which prepared pupils’ for “complete living” (Mthunzi, 1992:22). For Pestalozzi, (in Heinz and Aorden, 1951:35) it was:

‘Not art, not books, but life itself is the true basis of teaching and education. The contrast between knowing and doing is like that between heaven and earth. Whoever confines his trade to knowledge must indeed take care that he forget not the habit of action.’

Pestalozzi called for curriculum relevancy as advocated and defined by supporters of education with production and vocationalisation of the 1970s and 80s. He labelled rote learning as mindless and instead emphasised linking the curricular activities to children’s experiences in their homes and family lives. This is reminiscent of the 1900s’ cry of the

Dumbrellian curriculum in Botswana which sought curriculum relevancy in the child's interaction with the natural environment. To cite an example, at a meeting of the African Advisory Council in 1941, Dumbrell, (in African Advisory Board Minutes, 1941), a schools inspector in Botswana made this far sighted call:

“Modern day thought demands that we shall know something of scientific thought ...The one difficulty is that in the teaching of most of them, expensive apparatus is required. But there is one subject which is not expensive, the study of nature, the things closely connected to the study of nature. We can experiment, we can arrive at conclusions, we can test them and begin to learn from them.”

Pestalozzi's ideas were later incorporated by such reformers as Froebel in the development of the pre-school curriculum based on practical experiences relevant to the child's environment and these have filtered into Botswana's curriculum.

Another major beacon in the search for a relevant curriculum must be attributed to the work of Spencer, (1820 –1903). Spencer predicated his ideas of a relevant curriculum on the works of Darwin's theories of biological evolution and the survival of the fittest. He believed that traditional schools were impractical, ornamental and a luxury for the upper class that failed to meet the needs of the people living in a modern society. For him, the major purpose of education was to “prepare for complete living” (Ornstsein and Hunkins, 1993:77). Therefore, to him the curriculum existing at the time, which emphasised the disciplines, was irrelevant. In line with his beliefs on the development of societies his curriculum advocated a match with the demands of industry. Spencer, (in Apple, 1990), argued for the need to shift emphasis in the curriculum to science subjects. He argued that children must not be taught what to think but how to think (Apple, 1990). It is interesting to note that the ideas expressed by Spencer on curriculum relevancy made almost a hundred years ago form the basis of the Report of the National Commission on Education, (Republic of Botswana, 1993) handed to the government of Botswana in 1994 which emphasised that the curriculum must be child centred taking into consideration the interests of the child.

The major weakness in Spencer's contribution was that his curriculum, although steeped in science tended to incorporate racial connotations based on the theory of evolution; a spill over of his Darwinistic beliefs. However, his ideas influenced both the "Deweyite progressive educators and the later academic disciplinary educators" (Ornstein and Hunkins, 1993:77), of the twentieth century. Although it must be admitted that a broad scientific knowledge base is an important factor in any relevant curriculum, on its own, it does not have the capacity to comprehensively address the modern problems of job creation, the need for creativity, flexibility and productivity. As a result, the Spenserian curriculum cannot be seen as providing a single prolific image of curriculum relevancy in the modern day Botswana.

2.8 Determining curriculum relevancy through epistemology

In the twentieth century, the literature on curriculum relevancy has been largely influenced by philosopher scholars such as Cheney, Ravitch, Finn and Bennet (Resnick and Klopfer, 1989:VI). These scholars have argued for placing disciplinary knowledge at the core of all curricular activities. To them and their adherents, a relevant curriculum was one whose central ingredient was the delivery of "major concepts and understanding needed by citizens." The intellectual traditionalists (as Schubert, (1986) refers to them) believed in classics as accumulated wisdom which can develop the mind and the power to reason. Barrow, (1984:85) a firm supporter of this perspective had this to say:

"The notion that the school curriculum should develop the mind ...is surely substantially correct. As we have seen, education is cognitive development. Since a major function of school is to educate, the school curriculum must be concerned to develop the mind."

In order to place knowledge at the centre of the relevant curriculum, it is imperative that the nature of that knowledge be identified. Adler, (1981) viewed the kind of knowledge to be included in a relevant curriculum as one that is embodied in the "six great ideas"; truth, beauty, goodness, equality, freedom and justice. Ullitch, (1955:255) on the other hand, viewed that type of knowledge as "great events and mysteries of life." Sounding a

similar note, Hirst, (in Levit, 1971:344) contended that knowledge comprises seven forms viz: Mathematics, Physical and Human Sciences, History, Literature and Fine Arts, Morals, Religion and Philosophy. Thus, any relevant curriculum must, according to Ullitch, (1955); Hirst, (1971) and Adler, (1981) and their disciples include certain pre-selected discrete forms of knowledge.

It must be conceded that Hirst's, (1971) thesis offered a seemingly unambiguous solution to an otherwise complex problem of deciding what should form the core of a relevant curriculum. The strength of his argument lies in its tying into a common knot, a number of fundamentally different human activities. Yet, this solution can be described as overly simplistic and superficial. Pring, (1976:36) rightfully warns that "there is something *prima facie* absurd in reducing all such human activities and achievement to a very few basic categories." Too narrow a framework is being laid down for so large a field of human endeavours. Furthermore, there is an over emphasis on the cognitive aspects of human nature at the expense of other human attributes; the communal, cultural, creative, innovative and moral aspects. After all, the sum total of humanity is much more than "just a combination of cognitive elements" (Mthunzi, 1992:26).

One reason for the popularity of using discrete forms of knowledge as a determinant for curriculum relevancy is the sheer momentum of its history. In the context of Botswana, the discipline-based curriculum has produced the successful people in society and is therefore seen as good. Society wants its children to succeed and the road to success is seen to be a curriculum that hinges on discrete forms of knowledge that spawned the successful members of society. This form of curriculum has proved itself worth investing in history, and since education is, essentially, a social investment in the development of human resources its rate of return has been good and the continuation of this tried and proven system tends to be unquestioned except by "a few disgruntled upstart scholars or genuinely concerned educationists compelled by new insights that they have gained into the problems of learning and teaching, and are desirous to bring about a new deal for the learner or a more efficacious curriculum for achieving society's goals" (University of Zimbabwe, 1987:5). Kelly, (1976:143) makes a very relevant observation when he

points out that “the epistemology of the division of knowledge into logically discrete forms is far from being fully worked out.” If there is truth in Kelly’s argument, then, what Hirst, (1974) simply did was to propose a hypothesis. The proposal of a hypothesis does not translate into the validity of the proposed hypothesis. Thus, the proponents of using discrete forms of knowledge as criteria for curriculum relevancy have not been able to provide a desired panacea to the problem of finding a relevant curriculum.

A curriculum whose relevancy is determined by disciplines is characterised by its strong appeal to “a logical structure” but is singularly silent on how the learner fits into the picture, (University of Zimbabwe, 1987:5). This weakness of the subject design is an extremely important one. Its inadequate attention to the needs, experience and interests of the learners and its insistence on mastery of content alone leaves only those students whose experience and interests meshes with the subject as presented to profit meaningfully from the curriculum. Others either “play the game” for social approval or become deviants or problem students one-way or the other (University of Zimbabwe, 1987:6). The result is that students may find the school a “chore”, somewhat alien, and fail to achieve their optimum level of arousal to develop desirable usable attributes.

Another closely related weakness is that centralising disciplines in determining relevant curricula tends to ignore some of the fundamental problems of life such as poverty, gender imbalances, sex related and environmental problems because of the strong adherence to predetermined bodies of subject matter (University of Zimbabwe, 1987:3). In the case of Botswana, the curriculum, being based on these bodies of predetermined knowledge fails to include such emerging issues as sex education, HIV/Aids, family life, population and environmental studies. Curriculum Development and Evaluation, (1997) does mention infusing these issues into the school curriculum but is silent on the direction to be adopted for effective infusion and implementation. The design is also prone to a proliferation of subjects as this is the only way of responding to new demands in society. The Curriculum Blueprint For Secondary Schools Programme, (Curriculum Development and Evaluation, 1997) suggests a curriculum comprising thirty subjects! It is obvious that there are limits in which knowledge can be accommodated in this manner in the school

curriculum. It is important to note that a proliferation of “new knowledge” on its own cannot form the basis for a relevant curriculum, which can nurture entrepreneurial attributes and skills.

Clearly, placing discrete bodies of knowledge at the centre of a relevant curriculum has some obvious strength and weaknesses. The point that merits attention here is that placing bodies of knowledge at the centre of curriculum relevancy does not, on its own, provide the sought after relevant typology. It is important to salvage those strengths in the discipline designs and integrate them with other meritorious curriculum determinants to construct a relevant curriculum with a capacity to satisfy the greatest number of imperatives and predilections. Thus, despite the seeming weaknesses in making epistemology the mainstay for weaving a relevant curriculum, it is important for further studies to be carried out in this direction. It would also be instructive to consider Barrow’s, (1976:21) timely rebuke on the seriousness of the nature of the exercise:

“Education is not a game and children’s lives are not to be lightly played with. It is intolerable that a great deal of educational practice should be the outcome of the whims of individuals who have not even thought about, much less understood most of the serious research and argument relevant to the question of what should go on in schools. It is an outrage to our children and an offence to reason.”

2. 9 Curriculum relevancy through axiology

A survey of literature on the history of education (Ullich, 1955 and Butts, 1973) reveals that many attempts have been made by educationists to unpack the perennial problem of curriculum relevancy through the platform of axiology. The question; “What knowledge is most worth?” has occupied the minds of great educationist philosophers from Aristotle, Quintillion, Tolstoy, Montessori, Dewey, Spencer, right up to modern educationists such as Peters, Barrow and Schubert among many others. The premise here is that if “worthwhile knowledge” could be identified and isolated then the problem of curriculum relevancy would be laid to rest as it would imply weaving all educational activities

around that “worthwhile knowledge” for transmission to the future generations. The question of worthwhile knowledge defines the essence of the whole business of axiology as a basis for curriculum relevancy.

According to Schubert, (1986:213) intellectual traditionalists view worthwhile knowledge as that which is embodied by the classics in the western cultural heritage. It is implied that the classics consist of great works that “reveal insight and understanding that transcends western culture itself and cuts across barriers of race, ethnicity, place social and like.” Peters, (1966:159) in support of the intellectual traditionalists, contends that there are certain activities which have intrinsic worth embedded in themselves. He defines these as certain truth seeking activities such as the established disciplines of science, mathematics and history which are ‘serious’ in that “ they illuminate other areas of life and contribute much to the quality of living.” To support his argument, he cites works of art as having aesthetic intrinsic worth in their nature and requiring no empirical justification. Barrow, (1984:74) concurs with this view:

“Such subjects as history, the study of literature and science are more worthwhile in a number of specifiable ways; more illuminating, more mind stretching, more enduring, than a number of activities e.g. typing, playing football, collecting records etc.”

Thus, to Peters, (1966) and Barrow, (1984) curriculum relevancy should be sought in those activities which have intrinsic worth embedded in them. In the same thought continuum, Curriculum Development and Evaluation, (1997:8) differentiates subjects on the strength of their perceived worthy. For example the most “worthwhile” ones are those referred to as the core group, comprising mathematics and languages. The other lesser groups include the “optionals “ comprising humanities and sciences and the least worthwhile being the “enrichment group” which is not examinable and can be done by students “if they wish.”

The weakness of this line of argument is that it is based solely on philosophist and assumed conventional beliefs. Worthwhileness itself is a normative concept whose meaning is relative to the preceptor. In the same spirit, intrinsic worthwhileness becomes

a function of the preceptor and hence cannot be relied upon to provide an objective answer to the problem of determining curriculum relevancy. Individuals have different perceptions of what is worthwhile and they define reality differently. A history specialist, for example, tends to view his/her subject as intrinsically more worthwhile than any other subject in the school curriculum because there is no disjunction between the subject interests and those of the specialist. Thus, a symbiotic relationship exists between the subject and the specialist. Furthermore, knowing that a subject has value does not explain why that subject has value. Arguing, for example, that history has more intrinsic value than art is a speculative intuitive argument, which cannot be justified through empirical evidence. A comparison of worth can only be drawn from a purely utilitarian perspective. In fact, the term “intrinsically worth” itself is an ambiguous, evasive term aimed at fostering dogmatic acceptance of value leaving no room for explanations.

On the other hand, arguments have been put forward that what is worthwhile is what is socially acceptable. To state the obvious, there is often disparity between what has intrinsic value and what is socially desirable. An example would be sex education which has value because of its utilitarian nature particularly in the face of HIV/AIDS pandemic, yet the Botswana society does not advocate for its inclusion in the curriculum because it is probably not seen as worthwhile knowledge. Thus the problem of curriculum relevancy cannot be solved solely through axiology because there is no consensus on what is worthwhile knowledge and other more fruitful avenues must be explored including entrepreneurial approaches.

2.10 Using a “selection from culture” to determine curriculum relevancy

It sounds well enough to say that a relevant curriculum is the one which is a selection from culture for transmission to the next generation (Lawton, 1986). Yet, the notion of culture as a curriculum relevancy determinant is more problematic than might be envisaged when superficially viewed. The curriculum planner has to contend with

various complex questions such as; “What sense of culture are we concerned with?” “Is cultural content sufficient for a relevant school curriculum?” “Who should decide which aspects of culture to select?” In the context of Botswana, the structured nature of society with its multiplicity of divergent cultures and subcultures would add tremendously to the complexity of the problem of using culture as a determinant for a relevant curriculum. Cultural pluralism imposes a multitude of conflicting goals and aspirations. It poses problems of whose language, beliefs, norms and values are to be selected for transmission to the next generation. Maravanyika, (1989) and Sarup, (1982) argue that the content of “a selection of culture” based curriculum is often selected from the social strata that wields political, military and economic power. The culture of the rest of society maintains only a neglected peripheral presence. Some scholars have suggested selecting an integration of divergent cultures to avoid selecting the predominant group’s culture. Superficially viewed, the proposition sounds quite plausible; but in Botswana’s case, how does one integrate, Kalanga, Sinyai, Sesarwa, Sibirwa, Sitalauta and Siherero? Integration fails to address issues, which do not conform to the melting pot synthesis. Even if this were possible, would a reproduction of culture on its own lead to creativity, flexibility and a high achievement motivation? Would the recipients of such a curriculum acquire an entrepreneurial culture?

On the extreme end of the continuum, Bantock, (in Golby, 1975:2-3) has suggested a bipartite curriculum for the upper class and for ‘folk culture’. According to Bantock, the curriculum for the upper class must be liberal in nature while the selected folk culture emphasises practical and concrete concepts. Also concurring with Bantock, (in Golby, 1975) Claydon, (1977) suggests separate curriculum for high and low culture. The bipartite system is elitist and hence the one prescribed for the low culture is bound to meet tissue rejection as was the case with the Dumbrellian colonial curriculum which was rejected by Batswana chiefs such as Temaentle Selario of the Bangwaketse and Kgosi Tsheledi of the Bangwato in 1941, (in African Advisory Board Minutes, 1941). Commenting on the introduction of a bipartite curriculum for Bechuanaland, Kgosi Tsheledi of the Bangwato, (in African Advisory Board Minutes, 1941) captures the general feeling of most Batswana at that time:

“The principal thing is education... I would like to say openly that we would like our children to be given what is called general education, not a special education for the protectorate children.”

Thus, using bi-partism as a determinant of curriculum relevancy is inhumane and therefore, morally repugnant. Consequently, alternative models of a relevant curriculum have to be sought which encourage entrepreneurial attributes without having bi-partism and its subsequent segregationist branches as its mainstay.

2.11 Needs, Interests and utility as curriculum relevancy determinants

The children's needs have been proposed as a major determinant of curriculum relevancy. The proponents argue that the curriculum planner has to consider primarily the needs of the individual learner and the needs of society in order to produce a relevant curriculum. In Botswana, it is the official policy of the Ministry of Education that teaching and learning should emphasise the needs of the learners (Republic of Botswana, 1994) and should “utilise innovative learner centred approaches to teaching” (Curriculum Development and Evaluation, 1997:3). Viewed superficially, the “needs” rhetoric seems logical; yet, the concept of “needs” is fraught with problems. Dearden, (in Levit, 1971:91) put a persuasive argument that needs are normative and therefore vary according to individuals. In fact the youth have a wide range of individual differences. In line with this observation, the task of accommodating individual students' needs in order to produce a relevant curriculum would be a mammoth task which curriculum planners would be unequal to. The New Revised National Policy on Education (Republic of Botswana, 1994) does not define what the needs of the pupils ought to be and therefore, the need argument remains on the realm of rhetoric in Botswana.

In an effort to streamline the argument of “needs”, Pratt, (1980) categorises physiological needs based on Maslow's, (1970) classification; the need for meaning, aesthetic needs, survival needs, and needs for self actualisation. While it is true to admit that survival needs are vital, Pratt himself is the first one to admit that “water, safety and down

proofing, home safety, fire emergency ...can each be learned in a few hours" (Pratt, 1980:60). Barrow, (1984:81) emphatically claims that one does not need a school for learning such motor skills. Hence, "needs" are also elusive and cannot form a solid enough platform for building a relevant entrepreneurial curriculum which can prepare students for the new millennium with its prerequisites of creativity, innovativeness, problem solving, flexibility, risk taking and confidence.

Rousseau in his work *Emille* advocates strongly for the child's interest as the bases for a relevant curriculum. According to Kelly, (1976:46) "Rousseau urges us to start from the child." Rousseau advises a curriculum that allows the child to develop naturally. If the 'non-interference-with the child' curriculum is accepted as a relevant curriculum, it would literary mean that each individual child has to have his or her own curriculum catering for each individual's interest. Barrow, (1984:83) clearly rejects this argument of determining curriculum relevancy basing on individual children's interests:

"But what we are saying is that since students will sometimes be interested in trivial, immoral, counterproductive short term and otherwise puerile interests, we cannot sensibly take their interests whatever they may be as a criterion of curriculum selection."

It is instructive to observe that adults' perceptions of what is worthwhile and not trivial is not always the same as what children consider as important or trivial. The adults' preconceived perceptions and rigidity often leads to the neglect and in some instances, even suppression of the children's natural entrepreneurial orientation. In the same thought continuum, Gouws, (1997:8) advances a similar persuasive argument:

"Teachers are particularly inclined to dampen creativity responses in order to render children more manageable in the classroom. and to force children into stereotyped behavioural mould. The creative child's humour and playfulness is often at odds with the authoritarian classroom atmosphere and rigid personality of the teacher. Most children quickly learn to remain within the bounds of their educators' expectations."

Thus, children's needs and interests, although difficult to define, could be taken into account when considering a relevant entrepreneurial curriculum.

Utility and significance have also been proposed as curriculum determinants. According to the proponents, what must comprise the curriculum must be what is related to the world in which children live and has to be directly or indirectly useful, technically or aesthetically. Advocates of this school of thought, presuppose a utopian monothetic world where there is a standing universal consensus on what should be seen as useful and significant. In the real world, there is no consensus on what is useful and significant. Barrow (1984:76) raises pertinent issues when he points out that "we need to know to whom it should be useful, what purpose it should be useful for and in whose judgement it should be useful." A host of questions arise from Barrow's observations. Should a relevant curriculum be the one, which is useful to the pupils, teachers, parents or politicians? What is useful to one Motswana is not necessarily useful to the other! The fundamental problem becomes the establishment of a commonly accepted perception of usefulness. In the absence of a consensus, determinants such as usefulness and significance, despite having an honest air about them, remain mainly as rhetoric providing neither solutions nor indicators in the search for a relevant curriculum.

2.12 Attempts at attaining curriculum relevancy through vocationalisation and the work related curriculum

The search for curriculum relevancy in the 1980s and 90s has witnessed a shift in the general direction away from emphasising the rather sterile philosophical rhetoric to the more pragmatic moves towards the vocationalisation of the curriculum and the link with the world of work. Psacharopoulos and Loxely (1985); Dougherty, (1985); Lauglo and Lillis (1988); Jones, (1992) and Mudariki and Weeks, (1993) have reported extensively on different programmes involved in vocationalisation. Many definitions have been advanced on vocationalisation, however, this study tends to share Mudariki and Weeks', (1993:A-12) definition that views it as "the introduction of practical subjects into schools... a move away from purely academic subjects."

Vocationalisation is not a new concept coined in the 1980s; Greek philosophers such as Aristotle for example, distinguished between liberal subjects which were meant for free men and illiberal subjects such as crafts practised by slaves (Moorad, et.al.1993: A11- 4). From 1895 – 1928, the colonial education in Botswana was predicated primarily on vocational elementary industrial skills (Townsend - Coles, 1985:10-15). The curriculum was mundanely utilitarian and whatever skills were imparted to the learners had to have a direct bearing on vocations (Lewis, 1907 and Williams, 1907). This tradition influenced the colonial educational policies expounded by such British colonial administrators as Lord Lugard and Keigwin among many others. It ascribed inferior education to the colonised people as symbolised by the inclusion of practical subjects and a superior education to the colonisers as symbolised by the predominance of academic subjects in their curriculum.

After attaining independence, Botswana like many other African countries, tried to redirect the curriculum away from the colonial liberal model. The new moves resulted in what Moorad, et.al (1993: A11-4)) referred to as “new pragmatic utopian views of education and knowledge” which gave rise to such slogans as “Education with Production” in Zimbabwe and Botswana and “Education for Self reliance” in Tanzania.

Education with Production was premised on the philosophy of such educational reformers as North, (1970) who argued that the essence of education lies in its application. To the proponents of this school of thought, a relevant education was one that aimed at producing men who possessed “both culture and knowledge in some special direction.” In Botswana, Education with Production translated into Brigades founded by Patrick Van Rensburg in 1965. According to Van Rensburg, (1999:1) the Brigades were meant to provide vocational skills for post primary school students who found it difficult to be admitted in conventional secondary schools. Brigades were meant to combine training with enterprise. Students were supposed to gain skills as well as knowledge and benefit from the proceeds of their Brigade. Brigades ran into financial and administrative problems and the government was forced to intervene in 1980 and had

to incorporate them into the National Development Plan 6 (NDP 6) (Moorad, et.al.1993: A11–13). The Brigades also failed because of poor attitude towards vocational training which was seen as inferior to conventional academic curriculum and was an alternative for those who had failed at junior secondary level. In an investigation carried out by Moorad, et.al. (1993:A11 -13) what “came out clearly is that Batswana wanted more academic oriented courses that would guarantee white collar jobs in South Africa and in Botswana”.

Thus, to the proponents of Education with Production, a relevant curriculum was one in which theory was related to practical activity, mental to manual activity, academic to technical training (Van Rensburg, 1999:1-2). Education with Production failed to take root as an alternative relevant curriculum mainly because of its lowly social status compared to the existing conventional academic curriculum.

The call for vocationalisation, again, resurfaced strongly in the 1980s and 90s as “new vocationalisation” (Dale, 1985; Fiddy, 1986 and Maravanyika, 1989) or, the “work related curriculum” (Wellington, 1993). The new vocationalisation was born out of the reality “of high and rising levels of youth unemployment ...creating intensity of concern regarding the place of vocational education in the secondary curriculum” (Fiddy, 1986:86), lack of economic relevance, anti-industrial attitudes of graduates and failure of schools to provide young school leavers with basic skills required by industry (Wellington, 1993:16). Politicians and their governments, particularly in developing countries of Africa and Latin America, under pressure to solve problems of unemployment, turned to schools to provide solutions and hence the cry for new vocationalisation as a panacea for curriculum relevancy towards the end of the century (Lillis and Hogan, 1983 and Bacchus, 1988). Moorad, et.al. (1993:A11-5) have summed up the argument for curriculum diversification as:

- To equip school leavers with knowledge and mechanical and vocational skills necessary in an age of increasing technology.
- To transmit knowledge, attitudes and skills useful in employment situations.

- To re-orient students' attitudes towards rural society and thereby stem or halt the tide towards urban migration.
- To alleviate unemployment through self-employment, forming co-operatives or using the acquired skills to seek jobs in the formal sector.
- To link the school to the world of work.

In Botswana, the earliest attempts at making the curriculum more consonant with the world of work were made as early as the 1930s by Motsete in the Tati area. The curriculum comprised a combination of industrial, vocational, agricultural and academic courses at primary and secondary school level (Dixon, 1965:100). The early attempts failed due to a negative attitude towards practical work. Other similar attempts were made by Tshekedi Khama at Moeng and Forest Hill in Gaborone (Benson, 1960:167). According to Thema, (1947:14) the schools had to close down because of lack of support. He quotes the director of education at the time as reporting that:

“the schools had been fighting a losing battle against prejudice and the cash value conception of education that is still prevalent among Africans.”

Other unsuccessful approaches were made at Matsha Community College and Tutume McConell College in 1970 using the World Bank loan. The two colleges also failed because of poor administration and financial problems.

It is almost twenty years now after the introduction of vocationalisation programmes as an alternative relevant curriculum and the “promises of vocationalisation appear to be largely unfulfilled. Indeed, it now seems that vocationalisation might after all, be simply an illusion” (Wright, 1988:116). Psacharopoulos and Loxely, (1985:9-10) and Lauglo, (1985:20) have argued convincingly that vocationalisation has failed because of the low societal status ascribed to it particularly in the developing countries of Africa and Latin America. Foster, (1965) carried out aspirational studies among students in Ghana and observed that both parents and pupils rejected vocational education in favour of the academic model. In Sri Lanka, Dore, (1976) and Little, (1992) recorded that parents and

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children subverted attempts at introducing practical subjects. Wellington, (1989b: 251) argues that parents and students prefer the academic route because it has what he refers to as “deferred vocationalism”. He argues that it has become clear that academic subjects have “a high currency or exchange value either in securing a place in higher education or in some cases, in impressing employers” (Wellington, 1993:80) compared to vocationalisation which prepares students for low status work. Copa and Copa, (1992: 1509) justify the preference of academic graduates by employers because:

“The disparity between incoming vocational students’ abilities and expectations of employers is often substantial and appears to indicate a need for long term comprehensive education as well as specific training.”

Studies by Eckstein and Noah, (1987) and Dreesbach, (1992) indicate that employers prefer school products that have a potential to learn and have a mastery of communication skills. Thus, although useful, vocationalisation offers an inferior option to the academic curriculum and those who pursue the vocational option, often regress to formal academic institutions (Coombe, 1988:8 and Jones, 1992:203-204).

Coombe, (1988:24) ascribes the failure of the vocational option to financial constraints in the countries implementing it. It has been observed that vocational curricular requires costly equipment, which in most cases is either non-existent or hard to come by. Coombe, (1988) cites many examples from Malawi, Gambia, Mauritius, Trinidad and Tobago and sums up the problems of implementation as failure to get qualified personnel, breakdown in equipment, redundancy of equipment and the costly nature of acquiring and maintaining the requisite equipment. King, (1988:9) cites inadequate buildings as a contributory factor to the failure of the vocational option while Chisman, (1987:40–42) emphasises the costly nature of technical education compared to the academic education.

The vocational curriculum is informed by the theory of articulation whereby there is an assumed linear relationship between secondary and tertiary education and the world of work. It is based on the premise that on completion of a course emphasising certain practical subjects the student will progress to do further studies or look for a job that is

related to the technical subject studied at secondary school level. This, it is hoped, would translate into cost effective education. Contrary to conventional wisdom, tracer studies have revealed that graduates of technical subjects tend to move into academic skewed training courses after completing secondary education (Psacharopoulos and Loxely, 1985; Chisman, 1987; Lauglo and Lillis, 1988 and Jones, 1992). There is no evidence of a linear positive correlation between the skills acquired and utilisation and neither is there any evidence of a clear advantage in terms of earnings and productivity between the two groups (Coombe, 1988 and Copa and Copa, 1992).

Another major factor, which has militated against curriculum diversification as a viable alternative, relevant curriculum, has been the problem of administration. Coombe, (1988); Castro and Alftan, (1992) and Mudariki and Weeks, (1993) contend that vocationalisation of schools require high levels of managerial skills to achieve effective co-ordination of schools. The planning of the timetable becomes more complex as each subject needs a lot of time and in most cases, a specialist room, and the composition of the teachers become a more complex mix than in a purely academic institution. The school administrator is required to solve problems of ordering, supplying and maintenance of the equipment resulting in problems of accountability. Thus, the traditional familiar profile of a curriculum specialist head changes to one of a suave diplomat. Unfortunately, most school administrators in developing countries, including Botswana, are hand picked from the classroom on the strength of their teaching ability and not for their managerial expertise and hence the problem of failure to manage vocational schools in developing countries.

Despite the multiplicity of problems militating against the implementation of a work related curriculum, it is important perhaps, to positively identify with Lauglo, (1992:235) in pointing out that “there are no easy answers to curriculum relevance for practical work, but it is important to keep the search alive”.

2.12 The Entrepreneurial curriculum: An alternative?

From the various curricular models discussed so far, there seems to be no consensus on a single typological model which can be taken as forming the essence of a relevant curriculum. The majority of them have fallen by the wayside with time and those, which have slogged on, have failed to meet the problems of the school leaver. It is in this light that educationists are gradually shifting from the traditionalist models to the entrepreneurial plain in the search for a relevant curriculum.

The Curriculum Development and Evaluation, (1997:2-3) views a relevant education for Botswana as:

“ a vehicle towards attaining economic growth and development and ensuring that the people of Botswana are a major national resource. It should pay attention to the development and acquisition of attitudes, values and skills required for economic development in a rapidly changing society ...and should seek links with industry and the private sector to prepare learners for the world of work”.

The policy as stated above begs such questions as “What is the nature of the attitudes, values and skills necessary for a rapidly changing economic scenario in Botswana?”

“What attitudes, values and skills are the schools currently fostering?” “Are these values and attributes the same as those required by a changing industrial scenario?” Furthermore, Curriculum Development and Evaluation, (1997), calls for a curriculum that utilises “innovative learner centred approaches” to develop confidence, problem solving, creativity, team working, flexibility and adaptability to changing socio-economic and technological environments. In essence, the Botswana policy on education as translated by the Curriculum Development and Evaluation, (1997:1) calls for a relevant curriculum that captures entrepreneurial values, attributes and skills.

In order to shade more light on the essence of an alternative curriculum, there is need to identify what the previous curriculum models failed to provide for the school leavers. According to Gouws, (1997:6-7) the previous traditional curriculum models focused on

preparing the children for jobs, which, paradoxically, are not readily available in the market. The education system has overemphasised conformity at the expense of dynamic and positive thinking. In the same spirit, schools, the community and industrialists have emphasised and overrated the efficiency of academic learning and its inherent subsequent provision of paper qualifications to the exclusion of useful skills (Lindhardt and Dlamini, 1990:158). According to Gouws, (1997:6) children are taught from the beginning of their school career to give the “right answer” and there is little room for children to think differently and innovatively. Concurring with this school of thought Havens, (in Mensah et al.1998: 83) argued that in the current curricular models, “as the child grows older, spontaneous creativity and confidence diminishes.”

What seems to be absent in the traditional curricular models is a thriving entrepreneurial culture manifested by such indices as creativity, innovation, individualism, a high achievement potential and the ability to take risks. In essence, what is required is more opportunity to be given for the development of an entrepreneurial culture both at school and within the society. Thus, an alternative curriculum must attempt to inculcate an entrepreneurial culture among children.

Teachers are pivotal in the inculcation of entrepreneurial culture. The perceptions and attitudes of teachers are crucial in the development of a culture of creativity in schools (Miel, 1961:3). Furthermore, they are constantly in contact with the students. This way, the teachers are pivotal determinants in shaping and developing the students’ skills and attributes as they inculcate and pass on their perceptions, images and attitudes. Miel, (1961:5) sums up the role of the teachers in fostering particularly entrepreneurial attributes and skills in schools as:

- Structuring and restructuring settings to make opportunities for the adoption or rejection of personality attributes of creativity, innovation and other entrepreneurial attributes.
- Pointing to possible entrepreneurial experiences to be had in the settings created and to invite learners to avail themselves of opportunities for experiences.

- Participating in clarifying or improving guidelines for selecting opportunities for entrepreneurial experiences.
- Serving as role models in interpersonal transactions or otherwise fostering educative entrepreneurial interaction among peers and people of other age groups.
- Helping individuals or groups to use time, space, equipment, and materials to develop skills.
- Playing a mediating function through communicating verbally and non-verbally, offering explanations, reinforcing and raising questions, which allow for a broad field of experiences for creativity and the development of an internal locus of control.
- Formulating and passing on their perceptions of values and attitudes to the learners under their charge.

An entrepreneurial curriculum requires a flexible dynamic classroom environment. In fact, according to Havens, (in Mensah et. al, 1998:83) rigid static school traditions are responsible for the destruction of innate entrepreneurial attributes in children:

“Rigid or static traditions lead to problems in the development of creative children due to their questioning and the want and need to be different. These children have a desire to experiment, yet these traditions do not allow for flexibility and lead to certain prescribed sets of behaviours, creativity and individuality are lost in the process.”

The development of an entrepreneurial curriculum could possibly be woven around the guidelines offered by Rabor, (in Kent, 1990: 56 – 65); Gouws, (1997:10 –11) and Havens, (in Mensah et al.1998: 84):

- an acceptance of the fact that there is a multiplicity of answers besides the one given by the teacher.
- a willingness to experiment and take risks.
- room for intuition, stimulation of imagination, originality and self feeling.
- room for divergence of thought, flexibility, creativity and innovativeness.
- frequent feedback and teamwork.

- a variety of teaching styles and approaches.
- rewarding individuals for entrepreneurial activities.
- considering entrepreneurial attributes for positional mobility.
- making school and industries incubators for entrepreneurs.

Thus, an alternative relevant entrepreneurial curriculum should be one that promotes entrepreneurial culture and its prerequisites; creativity and innovation. It should prepare children not only to be employees but also to be employment creators. The school products must be flexible, adaptable and capable of taking adequate informed risks for them to be able to fit into the rapid socio-technical changes of the twenty first century.

2.14 Conclusion

This chapter has attempted to depict an entrepreneurial curriculum as an inherent part of a sequel to the search for a relevant curriculum throughout the ages. In the process, it has attempted to place the entrepreneurial curriculum within its broader context. A key issue emerging from the discussion in this chapter is that the traditional curricular models do not have the capacity to contain the problems of unemployment, self-employment, employment creation and rapid technological changes. A possible direction of search for curriculum relevancy indicated seems to be through the development of an entrepreneurial culture, inculcating in children the desired attributes of creativity, innovativeness, flexibility and a propensity for taking risks.

At the centre of the suggested curriculum should be positive attitudes towards entrepreneurial attributes on the part of the curriculum implementers- the teachers; the curriculum recipients - the students and the clientele of the school products - the industrialists. Any subsequent, substantive adoption of this entrepreneurial culture will, to a large extent, depend on the attitudes towards entrepreneurial attributes of those operating within the schools and industries. To facilitate the growth of the desired entrepreneurial culture, it is important for research studies to focus on attitudes, perceptions and images of entrepreneurial attributes as obtaining in the current school

situation. This study must therefore, be seen as part of an exploratory investigation in an attempt to map out existing perceptions and attitudes towards entrepreneurial attributes in schools and industries in Botswana as a prelude to an entrepreneurial curriculum. In Chapter 3, the discussion is broadened to include various perceptions of entrepreneurship, entrepreneurial indices and the interplay between entrepreneurship and education.

CHAPTER 3

ENTREPRENEURSHIP: A REVIEW OF PERCEPTIONS, INDICES AND INTERPLAY WITH THE CURRICULUM

3.1 Introduction

The turn of the century has experienced a proliferation of the use of the words entrepreneur and enterprise in the economic and political fields and have been associated with “getting things done”, “having an independent spirit” and “introducing new things” (Scott, et.al.1998: 1). The education field has not been spared either; there has been a shift in the paradigm from vocationalisation to enterprise learning (Wellington, 1993:32) as discussed in the previous chapter. The entrepreneurial field, a long standing preserve of the lexicology of economics, has also been engulfed in the field of search for a relevant curriculum and has become a microcosm of the broader plateau for the search for curriculum relevancy.

The literature review in this study has been deliberately tailored to avoid a microscopic combing of the literature deposition on the entrepreneurial landscape and has concentrated on the identification of gaps in the study of the interface between entrepreneurship and the school curriculum. It is therefore necessarily selective; concerning itself mainly with selected milestones in the evolution of entrepreneurship, the concept of enterprise, psychological entrepreneurial indices: creativity, innovativeness, achievement motivation, risk taking, flexibility, locus of control and the implications of taking them aboard in the school curriculum. This review is intended to provide a pedestal and a comparative context for the subsequent findings on the images, perceptions and attitudes towards entrepreneurial attributes in schools and industries in Botswana. It therefore, specifically discusses entrepreneurial psychological correlates and competencies and their interface with education as part of a broader search for an entrepreneurial approach to a relevant curriculum in Botswana.

3.2 An overview of the evolution of entrepreneurship

There has never been a consensus on what enterprise or an entrepreneur is, (Low and MacMillan in Jennings, 1994:15) the words have been used interchangeably and have been attached to a plethora of initiatives more for the cachet of their seemingly desirable label than for their appropriateness of usage (Bridge, et.al.1998: 35). Entrepreneurship, as a field of study with its own canons, axioms and disciplinary parameters is a relatively new phenomenon in the educational landscape. Hills and Morris, (1998:39) point out that researchers have only begun to “generate new knowledge and to seek confirmation of its validity ... and have only begun to create concepts, the building blocks of theory”. As an independent field of study, it has received a relatively lukewarm reception in many universities and less acceptance in developing countries of Africa and Latin America (Chusimir, 1988:71-74). In South Africa, “ quite a number of schools ... are actively engaged in entrepreneurship education” (Gouws, 1997:9) whilst in Botswana, it has received a passing mention in Vision 2016 (Presidential Task Group, 1997:3). As a result, there is a paucity of literature focused on a broad conceptualisation of enterprise and even less on the interface between the school curriculum and entrepreneurship. In fact, there is no standing consensus on what entrepreneurial education should legitimately consist of (Rosa, et.al.1997: 1). Raising a similar concern, Bridge, et.al. (1998:XV) observed that:

“ Comprehensive overviews of the subject have not been available however, there has been considerable research done but it has of necessity been rather specialised, often not very widely published and of a piecemeal nature on how to start a small business, a useful subject for those who are doing just that, but not for those who seek a wider insight into enterprise and its associated concepts.”

To be able to attain a wider insight into entrepreneurship, it is important to place the concept within its evolutionary, developmental context before attempting to present its current interpretations, images and interplay with the school curriculum. Jennings, (1994:11) and Gouws, (1997:4), trace the word entrepreneur to the French verb ‘entreprendre’ which means to “undertake.” Jennings, (1994:11), contends that it

originated from the French military expeditions of the seventeenth century which were characterised by insecurity and uncertainty. Thus, at this early stage, the word entrepreneur reflected a rather appealing masochist element of adventure and wantonness about it. Wellington, (1993:47) explained the appeal of the word enterprise as emanating from bringing together different notions which invoke a spirit of independence, autonomy, self monitoring, risk taking and creativity which, in a way symbolises the universal ideals of humanity. Richard Cantillon introduced it into the field of economics in his essay “*Essai sur la nature de commerce en general*” written in 1734 and published in 1755 (in Casson, 1990:6-17). In his essay, Cantillon differentiated between a person who owned and supplied merchandise from the person who took risks either to secure or to supply the merchandise that he referred to as the entrepreneur (Hisrich, 1986:96). The image of the Cantillonian entrepreneur was that of a person in charge of a large-scale project endowed with foresight and confidence to operate under uncertain conditions. Thus, the primary Cantillonian entrepreneurial psychological index was confidence and the ability to do well under uncertain conditions.

Jean Baptiste Say further extended the parameters in the developmental plain of the entrepreneurial concept in his work “*A Treatise on Political Economy*” published in 1803. Say viewed the entrepreneur as a person who manipulates knowledge and labour to produce goods to satisfy an observed demand. To him, an entrepreneur was the principal agent of production; knowledge, labour and capital were subservient to the organising force – the entrepreneur. It was the entrepreneur who galvanised these otherwise static forces; resources, capital and labour into products of value (Koolman, 1983: 269-89). Say’s entrepreneurs also took calculated risks in their effort to satisfy the market demands (Jennings, 1994: 47). Thus, central to the Sayirian indices for entrepreneurship was the ability to identify a need, translate labour and resources into objects of value and plug an observed opening in the market. Infused within this interaction process, was the risk factor imposed by the possibility of failure.

Using the advantage of hindsight, it can be said now that Jean Baptiste Say’s (in Jennings, 1994:44) entrepreneur had weaknesses. According to Koolman, (1983: 269 - 286) the central pre-occupation of Say’s entrepreneur was with the inert role of organising

resources in order to sustain the balance between the market forces of demand and supply. This had the effect of reducing entrepreneurship to a static non-dynamic activity revolving around the sustenance of the arrived at equilibrium. Viewed from this perspective, entrepreneurship was seen not as a proactive, but rather, as a reactive phenomenon. Jennings, (1994:44) correctly pointed out that, in this context, Say's entrepreneur was only responsive to exogenous variables such as land, capital and human industry but was neither an innovator nor a creator. In other words, after seeing an economic opportunity Say's entrepreneur had to estimate demand and then supply that demand. Consequently, in his perception of entrepreneurship Say excludes the index of innovation and creativity as pivotal prerequisite psychological traits.

The tenet of innovation as a psychological index of entrepreneurship was introduced onto the developmental plain of the concept of entrepreneurship by Schumpeter, (1934). Schumpeter, (in Casson, 1990:114) believed that innovation was the underpinning force in creating demand and new wealth. Consequently, entrepreneurs were seen as people who exploited invention and created wealth for themselves and others through their own drive and ability leading to economic growth (Bridge, et.al.1998). According to Schumpeter, (1934) the creation of new markets and new wealth came as a product of innovation and not the reproduction of existing goods. Barreto, (1989:52) aptly summarised Schumpeter's image of the entrepreneur:

"The entrepreneur is the functional agent who carries out new combinations. He breaks out of established patterns thereby disrupting the circular flow. This process of creative destruction is the means by which an economy develops. The key lies, not in decision making per se, but in decision-making that results in new combinations... At the core of Schumpeter's explanation lies the entrepreneur –inducing change and reactions from imitators."

In this image, the resources are subservient to creativity and innovation which jump-start the process of entrepreneurship. In this way, Schumpeter, (1934) redefined the image of the entrepreneur differently from that of passivity and reactivity painted by Say to a new one of a dynamic, proactive process continuously regenerating itself through the process of innovation. With the development of large-scale production units, the Schumpeterian entrepreneurship was excluded from the new economic theories of development. The

modern theories emphasised the production function, the logic of rational choices and access to perfect information systems (Baretto, 1989:131 –136). Thus, it was not until the last decade that entrepreneurship witnessed a re-awakening claiming a central position in the economic theories, penetrating the school curriculum and subsequently claiming attention to itself as a fully-fledged field of study with its own disciplinary parameters.

A cause for this re-awakening can be interpreted within the context of the evolutionary changes in the global economic ecology. The period from 1970 to 1980 witnessed an evolutionary restructuring of the industrial processes from the macro manufacturing industries to micro service based industries of the post industrial era (Handy, 1984:16 – 17). An inherent part of this industrial evolutionary package were the phenomena of redundancy, retrenchment and long term unemployment. The problem for many was, however, not the change to new jobs per se, but that the generation of the new jobs did not seem to be keeping pace with the reduction in the old ones (Bridge, et.al.1998: 6). Handy, (1984:16 – 17) observed that between 1970 and 1980 many of the large industries seemed to be shedding instead of creating jobs. Making a similar observation, Northduft, (1989:2) amply captured the unemployment scenario internationally:

“They are young people who have dropped out of school and cannot find work. They are experienced workers whose skills are no longer in demand. They are single mothers with young children and a few resources to care for them.”

Handy, (1984:16-17) explained the new phenomenon as a result of change in the industrial structure leading to a decline of large industries and the growth of the service sector which demands new approaches such as computerisation resulting in the loss of employment and he called for entrepreneurship to resuscitate employment creation. Herein, therefore, lies the greatest attraction of entrepreneurship; its perceived ability to create wealth and employment. This call for entrepreneurship was further supported by evidence from the research on employment carried out by Birch, (1982) in the United States. His findings confirmed the importance of the role of entrepreneurship in modern economic development; the conclusion showed that over 80% of the net new jobs were created by entrepreneurs whose firms employed less than 100 people in the early 70s. The explicit implication was that “it was the small firms which were responsible for much of the

economic growth and were the prime source of employment creation in the USA” (Bridge, et.al.1998: 6). In the light of Birch’s, (1982) findings, an analogous inferred articulation would be that an increase in entrepreneurial activities results in a proportional increase in the number of employment opportunities created. Following the same thought continuum, in order to increase the number of entrepreneurs, it becomes imperative that there be interplay between entrepreneurship and the school the “only place of learning for the majority of the population”(Cronje, 1996:17).

The contention of a positive correlation between entrepreneurship and employment creation has received support from recent empirical studies by Clawson, (1980); Hopson and Scally, (1981); Handy (1990) and Peters (1994) who have looked at the structure of the future industrial scenario and have brought to the forefront the need to investigate and develop the entrepreneurial thought. In their study, Hopson and Scally, (1981:17) have catalogued a convincing list of changes emphasising the need for the rebirth of innovative entrepreneurial thinking:

“The development of automated and cybernated production methods, the movement from cash based economy to one based on credit transfer, the shift from a national to a transitional economic system, the development of computer and interactive data retrieval system... the growth of new technology and ideas is now exponential instead of linear, it means one thing: that there is greater dependence on innovation than ever before.”

Such calls have increased the attraction to the entrepreneurial landscape both as a field of study and as a potential problem shooter of socio-economic and political problems. In recent years, countries suffering from high unemployment rates and fluctuations in the international trade cycles, Botswana included, have tended to highlight the potential role of entrepreneurship as a possible solution to rising socio-economic ills such as unemployment, lack of competition among long standing industrialists, boosting fledgling GDP through instigating new innovative industries, the creation of a flexible pool of workers, for the alleviation of poverty and “a recipe for economic prosperity” (Garavan and O’Cinneide, 1994:3). On the same thought continuum in Botswana, the Government Paper No.1 of 1998, (Republic of Botswana, 1999:1) has hailed entrepreneurship as the

new “engine of development” and employment creation, the development of rural areas, for expanding tourism and creating small feeder industries.

On the global educational field, entrepreneurial research has recently come to the forefront on the basic premise that “the skills of entrepreneurship and business management can be taught” (Scott, et.al.1998: 1). Proponents of this premise argue that entrepreneurial education can increase the supply of entrepreneurs in the economy who have the potential to exploit opportunities in new knowledge based industries (Scott, et.al.1998: 4). If the entrepreneurial attributes and skills can be taught, then “entrepreneurial education should be extended as broadly as possible throughout the educational curriculum ... to catch potential entrepreneurs in the educational net which the school provides” (Cronje, 1996:17–18). On the other hand, Timmons, (1989); Johannison, (1991) and Stevenson, (1993) have indicated that there may be limits to teaching entrepreneurial competencies as there are certain special innate qualities displayed by some entrepreneurs which cannot be transmitted through the school curriculum. Brokhaus, (1980) gives a convincing explanation on the need for entrepreneurial education in schools by citing art, which at times demands innate artistic qualities but still allows learners to make gains when taught in schools. Gouws, (1997:11) sums up the argument as:

“the results of intensive research indicate that although entrepreneurs are born with typical entrepreneurial personality traits, entrepreneurial behaviour can in fact be acquired. It may be justifiable to conclude from a consideration of the personality traits of typical entrepreneurs that pupils cannot and will not invariably become entrepreneurs, but it is equally justifiable to argue that everybody can benefit from entrepreneurship education. By assessing and being aware of one’s strength and weaknesses, one will be able to develop realistic and achievable goals.”

3.3 Entrepreneurial images

The shift to the centre stage of the concept of entrepreneurship in the socio-economic and educational arena demand that an attempt be made to capture its typological image; a feat which if accomplished, could provide the mainstay in the creation of an alternative relevant entrepreneurial curriculum. The conventional image evoked by the concept of enterprise or entrepreneur is that of individuals who are “movers and shakers and have independence of spirit and somehow introduce new things to our lives” (Scott, et.al.1998: 1). Investigations by early researchers such as Collins, Moore and Unwala, (1965) portrayed an oedipal scenario, akin to Greek mythology where the entrepreneur was seen as an individual who experiences difficult relations with authority, is unable to perform well under the employment of others, is comfortable only when in charge and does not work well with others. However, subsequent investigations have revealed entrepreneurship as a broad spectrum of images belonging to the same generic continuum; not distinct nor discrete in themselves but each occupying its own nook within the same broad continuum. Each of the images “merge with those close to it but are perceptibly different from those far from it” (Bridge, et.al.1998: 34). In this kaleidoscopic continuum, there seems to be two clearly discernible conceptual images of entrepreneurship; the unidimensional image and the multi-vectoral image. Bridge, et.al. (1998:22 - 32) have referred to these as the narrow and broad meanings of enterprise.

3.3.1 The unidimensional image of an entrepreneur

The unidimensional image portrays an entrepreneur as a person “who undertakes an enterprise or business with the chance of making a profit,” (Ndzingo and Chinyoka, 1997:1). This image revolves around a business and captures a myriad of sub-images within itself. It may relate, for example, to starting and sustaining a business (Brockhaus, 1980; Mescon and Montanari, 1981 and Birch, 1982) or it may refer to owners or managers of businesses (Cooper and Dunkelberg, 1981 and Carland, et.al.1984). Still within this linear dimensional image falls Schumpeter’s, (1934) entrepreneurial image whose epicentre is innovation as a primary psychological construct prerequisite for

entrepreneurship. The image has been discussed and elaborated on by Drucker, (1985) to include the dynamically new change process involving either new products, marketing or new organisations. It is interesting to note that Bull, Thomas and Willard,(1995:4) rather dogmatically argue that Schumpeter's image of the entrepreneur is "acceptably precise" and "it is unlikely that an entirely new definition would be acceptable."

The unidimensional image of the entrepreneur has attracted a lot of research mainly on starting and developing a business. Typical examples, among many others, would be Luo, (1995) who carried out a study of small businesses in Taiwan and concluded that entrepreneurial networking must be fostered in order to raise finance and encourage development among small business entrepreneurs; Osirim, (1991) who studied small scale entrepreneurs in Nigeria and found that it was difficult for women to start small businesses because they lacked adequate entrepreneurial networking and Johnson, (1990) who studied small business owner-managers using the Miner Sentence Completion Scale Form – T (MSCS Form - T) and concluded that confidence increases the growth of small businesses. In the unidimensional image, business forms the epicentre of all entrepreneurial activities whether it be starting, developing, sustaining it or creating new goods, the business owner or even the development of an old business. In essence, "it is used to refer to the various elements that contribute directly to economic development and to job creation"(Brigde, et.al.1998: 25). Researchers into the unidimensional image of the entrepreneur such as Howell, (1972) and Gomolka, (1977) have broadened their field of investigation to include the context of enterprise using demographic characteristics such as age, gender, family background, and race to create a generic profile of the entrepreneur. Unfortunately as Jennings, (1994:19) pointed out:

" Demographic studies of entrepreneurship suffer from some of the same problems as the psychological/personality literature. Most of the empirical work that examines the demographic characteristics of entrepreneurs suffers from small sample sizes, non-comparability of samples and static term of reference."

This rather narrow focus on the development of small businesses has more value as informing to those who seek to start and develop their own businesses than to those who

seek what Bridge, et.al. (1998:XV) have described as “a wider insight into enterprise and its associated concepts in order to better promote or support it”. However, it must be pointed out that observations made in the various studies can be utilised in the formulation of a broad entrepreneurial curriculum as most of them have articulated the contextual network in which entrepreneurship flourishes.

3.3.2 The multi-vectoral image of the entrepreneur

The second clearly discernible image of the entrepreneur is the multi- vectoral image advanced by OECD, (1989:6-7). It portrays entrepreneurship as:

“A group of qualities and competencies that enable individuals, organisations, communities societies and cultures to be flexible, creative and adaptable in the face of, and as contributors to rapid social and economic change.”

Many researchers in the multi-vectoral paradigm have sought to discover personality traits and psychological characteristics, which can be used to differentiate individuals with entrepreneurial attributes from those who do not. As a result, extensive, albeit inconclusive research on personality attributes has been carried out by McClelland, (1961); Palmer, (1971); Brockhaus and Howitz, (1986); Wartman, (1987) and Gartner, Mitchell and Vesper, (1989) in an attempt to identify and catalogue the various attributes of an entrepreneur. Recently, Stewart, (1996) has produced comprehensive work on the interrelations within the psychological correlates basing his research on the premise that entrepreneurs embody distinctive personality characteristics, which can be identified.

Studies on the multi-vectoral entrepreneurial image based on personality traits have attempted to answer the question “Who is an entrepreneur?” In their attempt to answer the question, researchers have met with a miscellany of problems including definitional and methodological problems, difficulties in sampling, non – comparability of samples, and bias towards successful entrepreneurs. In the face of these miscellaneous problems, some researchers have sought answers from culture. This approach is predicated on the premise that an entrepreneur, in the multi-vectoral perspective, is a product of the cultural environment, which determines its existence and defines the scope and character of its

demands. Pursuing the same argument, it follows that certain cultures, through the norms and values they ascribe to, are inherently more fertile as grounds for entrepreneurial breeding than others existing in different cultural climates. A typical example is Weber's, (1930) classic work where he argues that protestant culture encouraged hard work, thrift and striving for material advancement. In this case, culture was viewed as a determinant of entrepreneurship. Gouws, (1997:7) cites Greek, Jewish, Portuguese and Indian communities as having pronounced entrepreneurial cultures. According to her, children in these communities are exposed from an early age to a business environment and are brought up with a business orientation and are therefore more biased towards acquiring an entrepreneurial culture. In the case of Botswana, cultural theories and practices are "based on conformity and convergent thinking" (Havens in Mensah et al.1998: 83). In such cases, culture could be seen as militating against the nurturing of entrepreneurial skills and attributes. In such instances, the social environment portrays poor attitudes towards entrepreneurial skills and attributes. In fact, history has shown that entrepreneurship emerges more readily in the presence of strong entrepreneurial role models (Gouws1997: 7).

Some of the proponents of the cultural approach have viewed entrepreneurship as a liberating mechanism from the ills of poverty and economic oppression and as a means of altering an otherwise disadvantageous status quo. Examples, which are often cited as having adopted entrepreneurial cultural strategies in order to alter unfavourable socio-economic status quo, include, among many others, the Protestants in France, Samurai in Japan and the Jews throughout the world.

An enlightening study on culture as determining multi-vectoral psychological entrepreneurial correlates was the one carried out by Glade, (1967). He showed the entrepreneur as "operating within a specific social and cultural setting" (Jennings, 1994:21). The essence of his argument was that culture influences the nature of entrepreneurial attributes attained. Models based on his ideas of various cultural and social interactions have been developed by Shapero and Sokol, (1982) which attempt to capture the range of factors contributing to the rise and development of entrepreneurial attributes as reflected in the multi-vectoral image.

A new dimension in the entrepreneurial research landscape has been the change in focus from the individual and his business to the networks within which the entrepreneur operates in an attempt to view the psychological entrepreneurial correlates within their context. This is an explicit attempt at placing the entrepreneur within a social context. In an extensive study, Birley, (1985) identified what he referred to as “informal” and “formal networks.” His formal networks included professionals in institutions such as banks, law firms and government officials and the informal network as the family, friends and other business associates. The findings emphasise the importance of networks in the development of entrepreneurs. In the same vein Gartner, (1985) and Carsrud, Olm and Eddy, (1986) have emphasised the importance of contextual research when investigating entrepreneurial attributes.

It is perhaps instructive to note that the multi-vectoral image captures some aspects of the unidimensional image within its maze. When closely examined, the unidimensional image can be seen as a subset of the multi-vectoral image, which focuses on psychological constructs and competencies which profile the entrepreneur and can, be transferred and applied in heterogeneous situations. Unlike the rather concrete unidimensional image, the multi-vectoral image, by its broadness allows for fluidity and does not limit itself solely to the business context but is concerned with entrepreneurial attributes and competencies usable in all spheres of life. Bridge, et.al. (1998:32) see this image as a set of attributes and competencies that allow an individual or groups of individuals to be flexible, creative and adaptable to change. They argue that:

“It is not possible to develop attributes only for application in a business context. If someone has these attributes, then he or she is liable to use them wherever they appear to be appropriate; whether it be for an economic, a social, political and environmental or other purpose.”

Viewed from this perspective, it seems reasonable to assume that some individuals may use enterprising attributes to start a business venture while others would probably use the same attributes in different fields of endeavour. Thus, in this view, the unidimensional image is seen as one example of the application of entrepreneurial attributes and

competencies. Timmons, (1989:1) neatly sums up the pre-requisite competencies captured in the multi-vectoral image as:

“the ability to create something from practically nothing. It is initiating...sensing opportunities where others see chaos, contradiction and confusion. It is the ability to build a founding team to complement your own skills and talents. It is the know-how to find and control resources... Finally, it is the willingness to take calculated risks.”

A major weakness of the multi-vectoral image is its broadness. The image has the danger of including everything and ending up meaning nothing. For example, Gibb, (1987:6) mentions in excess of fifteen personal characteristics which are prerequisites for entrepreneurs while Coffield, (in Bridge, et.al.1998: 34) laments that one cannot build a single psychological profile of the entrepreneur as “we are not dealing with a tightly defined agreed and unitary concept but with a farrago of hurrah words such as creativity, initiative and leadership.” Low and MacMillan, (1988:148) after an extensive review of literature involving psychological theories about the entrepreneur, concluded that:

“Being innovators and idiosyncratic, entrepreneurs tend to defy aggregation. They tend to reside at the tails of population distributions, and though they may be expected to differ from the mean, the nature of these differences are not predictable. It seems that any attempt to profile the typical entrepreneur is inherently futile.”

Despite the inherent problems of creating a typology, this should not detract from the fact that there are certain characteristics and personality traits that can be identified and used as indices for potential entrepreneurs, (Gibb, 1987:6) and subsequently, as beacons for an entrepreneurial curriculum. It is for this lack of a standing agreement on the profile of entrepreneurial attributes that this study has been limited to the perceptions and attitudes towards entrepreneurial attributes of creativity and innovativeness, achievement motivation, confidence, locus of control, autonomy, problem solving and propensity for taking risks.

3.4 Creativity and innovativeness

Out of the host of psychological constructs to have been studied, in relation to the entrepreneur, innovativeness and creativity seem to have been the most frequently cited functional characteristics of the entrepreneur. Their presence in the economic literature is often traced to Schumpeter's (1934) economic theory where he emphasised the pivotal role of the entrepreneur in the process of wealth creation. The tenet of innovation as a central characteristic of entrepreneurship has been a subject of intensive study by Carland et. al. (1984) and Drucker, (1985). A glean through the literature seems to converge on the consensus that innovativeness is a central tenet to the nature of the entrepreneur (Stuart, 1996:48).

Creativity and innovativeness are often confused or used interchangeably, (Stewart, 1996:45) and at times given a variety of interpretations (Coffield in Bridge, et.al.1998: 34). Jennings, (1994:287) defines creativity as "bringing into existence something that has never existed before" while Miel, (1961:6) described it as a "deliberate process of making a new combination or patterning of materials, movements, words, symbols or ideas and somehow making the product available to others." Havens, (in Mensah et. al.1998: 81) one of the few researchers in Botswana who have attempted to explore the concept of creativity, defines it as the "ability to see concepts in a new or different way while innovation is the implementation of the new idea". Havens, further contends that a creative person is one that can let his or her imagination run free and can think laterally, visually and intuitively. Bridge, et.al. (1998:40) differentiate creativity from innovation as follows:

"creativity is having the idea and innovation is its application. Creativity is not itself enterprising, because it does not generate change; that does not happen until the innovator takes the idea and does something about it."

According to Havens, (in Mensah et al. 1998:84) creativity and innovativeness can be enhanced through learning; hence the need to study these characteristics with a view to enhancing their proliferation among learners. Ochse, (1994:64) sums up the argument as:

“Normal functioning of an individual can go a long way, given the appropriate stimulation and exercise. Experiments on ordinary subjects have shown that apparently miraculous levels of creative skills which one would imagine impossible for normal people to acquire can in fact be developed through intensive training and practice.”

Jennings, (1994:285 – 291) divides innovative entrepreneurs into two categories; those whom he terms as creative activists and those he terms creative thinkers. According to Jennings, (1994:286):

“The activist is a doer. He has an innate understanding of what it takes to run, expand, re-conceptualise or create business. This person’s thought process – the steady, incremental way of thinking, doing, communicating, fit into and naturally complement the core of organisational life.”

The creative thinker is one who is concerned with the act of thinking; “he derives pleasure from the act of thinking” (Jennings, 1994: 286). Achievement comes from translating abstract ideas into reality. Therefore, he /she is absorbed in investigation, experimentation and innovation. According to Jennings, (1994:287) and Havens, (in Mensah et.al.1998: 83 – 84) the creative thinkers thrive well when there is freedom of decision making, freedom to ask novel questions or disturbing questions and the freedom to come up with unusual solutions. In essence, the creative thinkers need room in the school and in the classroom for experimentation, making mistakes, organising and re-organising thought to come up with novel solutions. Therefore, in a classroom situation, a creative child would be the one who is independent, a non conformist, outspoken, impulsive, challenging and questioning; in essence, a child who tests the limit of the teacher (Havens in Mensah et. al.1998: 82). In schools in Botswana, emphasis is placed on academics “with less concern about spending classroom time on creativity”(Havens in Mensah et al.1998: 83).

Studies have shown that creativity is not hereditary: Ochse, (1994:5), on the other hand suggests the acquisition of an entrepreneurial culture through learning by interaction and mutual injection of enthusiasm within groups:

“We have no assurance that the transmission of creative genius from

one generation to another is simply genetic. It is possible that several members of the same family are creative because they learn something from one another or because they become injected by one another with enthusiasm.”

The curriculum implications for a creative thinker would entail a curriculum design that centralises creativity, insight and active understanding of issues. The learner would have to manipulate both ideas and events and interact with problems and identify opportunities. The central pedagogical method becomes one of experimentation and the class and school system becomes non-bureaucratic and flexible. In this situation, the school facilitates “the development of and consideration of novel situations and problem solving” (Forehand, 1963:206 – 13).

According to Forehand, (1963: 206 – 13) people who are most likely to be innovators are those who are self reliant, inquiring, flexible and original. Kanter, (1991:54 – 61) considers that innovators must develop a vision of something new, generate a power base to develop the idea and build a system to sustain the new endeavour. Innovators must therefore be people who can transcend unidirectional thinking and enter the realm of kaleidoscopic thinking to arrive at new combinations. They must be able to be pro-active and seek opportunities where possible and take bold steps to initiate and develop the new ideas (Bridge, et.al.1998: 46). In order to sustain the new endeavour, innovators must be adaptable and be willing to challenge the status quo (Millar, 1987:10). In the light of this discussion, a suitable entrepreneurial school curriculum becomes one that is broad enough to accommodate the twin psychological correlates of innovation and creativity. More opportunity must be given to the development of creativity in schools which, on its own, is not very easy as creativity is a way of life, not an academic paradigm (Gouws, 1997:11). For creativity to thrive in schools, it is imperative that the whole school system exudes positive attitudes and tendencies towards entrepreneurialism. These positive images should not only be restricted to the school parameters but must also be seen to be reflected in industries and other work places.

3.5 Achievement motivation

Stewart, (1996:18) attributes the introduction of achievement motivation into the literary world to the study of James, (1890) where he discussed how the achievement of self determined goals result in improved self regard and a sense of well being. It was further developed by Murray, (1938) who identified it as one of the personality needs. It was later popularised by the useful, albeit most criticised works of McClelland, (1961; 1965) and McClelland and Winter, (1969).

In 1961, McClelland carried out a study of managers from different countries using the Thematic Apperception Test (TAT) and concluded that all entrepreneurs had a high achievement motivation than other staff specialists. McClelland's study has been heavily criticised for its definition of the term entrepreneur, the use of the TAT test and the nature of the sample used. Similar TAT tests have been carried out by McClelland, (1965); Schrage, (1965) and Nandy, (1973). All their findings, in the exception of Schrage, confirmed the validity of McClelland's findings that a high achievement motivation forms an integral part of entrepreneurship. Using different instruments, Hornaday and Aboud, (1971) arrived at the same conclusion. Such measures as the Gordon's Survey of Personal Values, Lynn's Achievement Motive Questionnaire used by Ahmed, (1984) all confirmed that entrepreneurs have a high achievement motivation compared to the norm of the populace.

The need for achievement motivation has been described by Murray, (1938) as a desire or tendency to accomplish tasks expeditiously and as well as possible (Stewart, 1996:18). McClelland, (1961) profiled a person with a high achievement motivation as one who takes personal responsibility for finding solutions to problems, who sets moderate achievement goals, takes calculated risks and desires concrete feedback regarding performance. Kuriloff, Hemphill and Cloud. (1993:24) concur with MacClelland's conclusions that entrepreneurs tend to want immediate feedback:

“Entrepreneurs seek immediate feedback on their performance. They want prompt, accurate data on the results they are getting...It doesn't seem to make any difference whether the information they get is good or bad.”

McClelland and Winter, (1969) in their study, concluded that people who have a high achievement motivation are optimistic and want responsibility, take challenges and moderate risks. In addition, people with a high achievement motivation value excellency and demand high performance of themselves (Kuriloff, et.al.1993: 22). Furthermore, persons with a high achievement motivation show high determination and persistence and they explore different avenues and make their plans work (Bridge, et.al.1998: 46). On persistence, Kuriloff, et.al. (1993:23) aptly summed it as:

“Once committed to a course of action, high n Ach persons become absorbed in it. They do not let go... They dig in for the long haul and stay with a project until it is successfully completed.”

Of importance here is that a high achievement motivation is not an innate need like food; it is learned (Bridge, et.al.1998: 43). If it can be learned, the implication is that it can be taken aboard in the search for a relevant curriculum. Thus, a curriculum designed to develop high achievement motivation among the learners would have teaching objectives that identify and stimulate entrepreneurial drive, talent and skill to undo the traditional risk - averse biases. The curriculum must also encourage an action and result orientation and “discourage over emphasis on planning and analysis” (Hills and Morris, 1998:45). The tasks allocated to learners should be such that they allow for independent decision-making. The curriculum must also emphasise topical depth rather than lateral breadth, (Havens in Mensah et al.1998: 82). There would be a need for a flexible time table that allows the learner to select priorities. A rich, dynamic learning environment would be required to give learners room for trying out alternative solutions and excellence of performance would be emphasised over the reproduction of facts. An ideal curriculum would encourage multi-level thinking instead of the linear single level thinking. An adequate knowledge base has to be created to develop a base for trying out new combinations. Perhaps pivotal to the take off of a curriculum that centralises high

achievement potential is the attitude of the students, teachers and prospective employers towards the exhibition of this entrepreneurial index.

3.6 Propensity for taking risks

Stewart, (1996:36) contends that risk taking is probably one of the earliest psychological constructs attributed to entrepreneurs. In their studies, Kilby, (1971) and Palmer, (1971) posited that the most typological feature which differentiated a manager from an entrepreneur was the latter's propensity for taking risks. This is reminiscent of the Cantillonian argument, which viewed the major difference between a capitalist, and an entrepreneur as that the entrepreneur operated under conditions characterised by uncertainty. The belief in the propensity for taking risks seems to be informed mainly by conventional wisdom, which correlated an individual's decision-making orientation towards risk taking. There has been a lack of consistence in the research findings on the entrepreneur's propensity for taking risks. Early studies suggested that individuals who had high achievement motivation tended to take moderate risks (McClelland, 1961 and Meyer, Walker and Litwin, 1983). Critiques saw this as unreliable because the studies had equated managers to entrepreneurs and yet not all managers are entrepreneurs. Later studies by Sexton and Bowman, (1983); Ahmed, (1985) and Sexton and Bowmen, (1986) concluded that entrepreneurs had a higher propensity for taking risks compared to non-entrepreneurs. However, it must be pointed out that even in this recent crop of studies, there has been apparent divergence of thought as research by Brockhaus, (1980) found no significant differences in the propensity for risk taking between entrepreneurs and the rest of the population. On the other hand, Bridge, et.al. (1998:44) convincingly argue that entrepreneurs are proactive thinkers who break new ground and therefore cannot avoid taking risks. Outcomes of new enterprises are by their nature bound to be less certain than those of the established conservative ones and therefore, entrepreneurs are most likely to have higher propensity for risk taking. It must be clearly pointed out that entrepreneurs, although able to take calculated risks, are not wild speculative gamblers (Kuriloff et.al. 1993:23). They tend to take moderate risks because they assess the situation thoroughly before deciding on a course of action.

Stewart, (1996:35) further explains that an individual's risk orientation is all pervasive affecting perceptions and behaviours while Homaday and Vidmar, (1972) have concluded that risk taking is pre-dispositional and not a situational variable and therefore, can be developed. The curricular implication is that schools which purport to encourage the development of entrepreneurs should be able to create conditions, which are favourable to the development of the trait of risk taking. Experimentation becomes central to a curriculum, which nurtures risk taking. Perhaps, it is important to heed Kuriloff, et.al. (1993:23) in their timely remark that the propensity for risk taking must not be equated to unreasoned gambling. In the same vein, the curriculum must encourage a moderate propensity for taking calculated risks. To develop a culture, which allows for risk taking, it is imperative for the teachers who implement the curriculum to have positive attitudes and perceptions towards risk taking. Teaching should comprise a variety of approaches and focus on activities that enhance self-confidence, identification of pitfalls threatening the success of the learning ventures and allow for the application of pupils' knowledge and skills (Rabbior in Kent, 1990:56 – 65).

In the light of the above argument, it is important, therefore, that the study investigates the attitudes of teachers towards creativity, risk taking and the nature of classroom dynamism in Botswana's senior secondary schools if conclusions are to be drawn regarding the existence or absence of an entrepreneurial culture in Botswana's secondary schools.

3.7 Flexibility and adaptability

Entrepreneurial personality traits, which are closely related to risk taking, are adaptability and flexibility. The observation on the importance of flexibility and adaptability made by Hopson and Scally, (1981:14) is probably applicable in Botswana today:

“We live in a transient society where the only constant phenomena is change, where the only security is knowledge that tomorrow is going to be different from today.”

The tenet of flexibility can be viewed from an economics perspective as the ability to adjust to new markets and knowledge without previous knowledge (Davies and Gibb,

1991:6). Yet, on the other hand, the educational concept of flexibility can be classified into three categories namely: flexibility in levels, in operation and in “vehicles” (McKena, 1987). The first one, flexibility in levels refers to positive possibilities and insights a person may get without conscious thought while the second one, flexibility in operations, refers to different thinking strategies such as analysis, synthesis, deductive and inductive thought, intuition and logic. The third one, flexibility in vehicles refers to different modes of thinking such as visual, mathematical, tactile and linguistic. Having these characteristics of flexibility, entrepreneurs “are quick to adopt other people’s good ideas and champion them as theirs” (Ndzingo and Chinyoka, 1997:6).

Studies by Sexton and Bowman, (1986) and Hills and Welsch, (1986) have produced evidence showing that entrepreneurship students develop characteristics that reflect flexibility. The implications of these characteristics on the curriculum would be a need for the infusion of flexibility indexes into the school curriculum. Thus, a school curriculum purporting to nurture the traits of flexibility and adaptability would have to deliberately teach such competencies as analysis, synthesis, deductive and inductive thought. Learners would have to acquire skills in communication, and competency in mathematical computation. The school curriculum should have room for hypothesising, experimentation, the adoption and modification of what works and the rejection of what does not work. On a rather extreme note, Ronstadt, (1985) and Sexton and Bowman, (1986) have cited the need to experiment with an unstructured approach to teaching; much like a doctoral seminar. In this situation, the curriculum would emphasise selection, choice and individual shouldering of responsibilities for the outcomes of the selections and decisions made. The delivery system would see the teacher more as a promoter than a central delivery agent; a coach focusing on developing not only the student’s mastery of concepts but also the student himself or herself. In this case, the teacher’s responsibility becomes the creation of a conducive experimental and experiential environment. The pupils become masters of competencies, which enable them to generate and interact with knowledge to make them adaptable. Transferability of knowledge and competencies become central to the process of learning. Flexibility in schools would probably manifest itself in loose timetables, changeable working arenas, interclass and inter-subject movements and a flexible administration. For such a curriculum to take root, it is essential

for students, teachers and administrators to show an accommodating attitude towards a state of flux within the whole school environment. In the same continuum, the study investigates the prevalence of flexibility in Botswana senior secondary schools.

3.8 Locus of control and the concept of self

Bridge, et.al. (1998:45) have explained locus of control as “being in control of events” while Jennings, (1994:162) sees locus of control as “a complex individual phenomenon which is concerned with determining the effects of an individual’s perception of control.” Rotter, (1966) classified individuals into internals and externals. The internals to him, were those who believe that they are in charge of their own fate and can “make things happen” (Bridge, et.al.1998: 45) and the externals were seen as those who seek and identify with exogenous direction; decisions and acts are not of their own making since they are but respondents to the whims of fate.

Rotter ‘s work, (1966) although useful, has received extensive criticism mainly on the I-E Concept Scale, which he used for differentiating externals from internals. Jennings, (1994) has posited that locus of control is multidimensional and therefore, must be measured through a multidimensional scale as opposed to Rotter’s unidimensional scale. Despite the obvious weaknesses, Strickland, (1973) used the Rotter’s scale in his studies with similar results to those who used different instruments such as the Levenson Construct, the Ickes and Langden Construct and the Ziegler Construct. According to Jennings, (1994:163) the common characteristics of internals seem to be:

“That in many different situations involving life stress events, life cycle changes, psychological adjustment, cognitive ability, achievement performance and health, they tend to adjust faster, to achieve more and to do well in creative problem solving situations.”

Phares, (in Jennings, 1994), identified the major characteristics of the internals as having greater confidence, self control, ability to acquire and retain information, ask questions, and

a higher environmental consciousness. Internals are responsible for their own behaviour and are realistic with failure. Ndzingo and Chinyoka, (1997:5) further postulate that internals:

“Want to do their own thing in their own way and at their own pace. They relish their freedom more than any other group of persons and also relish the right to be different and unique.”

The locus of control is closely related to self-esteem and autonomy which according to Bridge, et.al. (1998:45) refers to the independence from other people, of being in control of one's destiny. Gibbs, (in Bridge, et.al.1998: 47) believes that entrepreneurs have high self esteem which is built on success as self confidence seems to be indispensable for enterprise. Buchanan and Boddy, (1992) explain this confidence exuded by the entrepreneurs as a result of their ability to communicate, listen and negotiate. According to them, entrepreneurs are able to sell their plans by creating a desirable challenging visions. In their study, Watterberg and Clifford, (1972) concluded that there was a clear correlation between self-esteem and academic performance. Thus an internal locus of control seems to be embodied in desirable personality attributes.

An interesting observation for curriculum developers would most probable be that the locus of control can be “deliberately altered” (Jennings, 1994:163). This implies that the curriculum could be designed such that it facilitates the acquisition of the characteristics of the internals who react better under stress, exhibit task oriented behaviours, are less irksome, make reliable decisions and tend to be more innovative (Jennings, 1994:168). The consequent assumption is that a school curriculum that facilitates the development of internals allows for flexibility in decision-making, timetabling, and subject selection. It offers a broader curriculum, which is not restricted to required examinable, and non-examinable subjects. The pedagogical approach would be one that centralises presentations, reports, debates drama, art, and music as part of the school curriculum. In essence, it is a school curriculum that encourages all the other entrepreneurial attributes and sound student centred learning.

3.9 Images of entrepreneurial interface with the school curriculum

Scott, et.al. (1998:1) have portrayed the interface of education with enterprise as a triple faceted phenomenon. They view education as being about enterprise, education through enterprise and education for enterprise. According to them, the first image of education about enterprise is raising awareness of enterprise as a key change agent in the economic process. The second image of education through enterprise means different ways in which the education process can be enhanced by using pedagogue styles, which create and exploit enterprising situations including student centred and real world projects. The third image, education for enterprise is education, which is concerned with developing business. The three interface images capture mainly the unidimensional meaning of enterprise. They are based on the premise of an entrepreneur as a business and not as a set of characteristics, which can be passed on to the learners. The weakness of predicating the educational entrepreneurial interface on the unidimensional image has been well argued by Bridge, et.al. (1998:32) when they explain the difficult of restricting learnt traits to a particular activity.

In their works, Sher, (1977) and De Largy, (1987) viewed the interface of education and enterprise as creating a business enterprise run by students. Their argument was that students who are exposed to running an enterprise in school would, on completion of their studies go back to the rural areas and start their own businesses. This is virtually a similar argument, which was advanced in the creation of Brigades in Botswana (Van Rensburg, 1974). The intention was to give students experience in running school based enterprise with the view of making the participants implement the skills learnt in their rural areas (Van Rensburg, 1999:1). In this entrepreneurial interface school of thought, the school provides learners with experience in running an enterprise under the assumption that this will encourage them to later go back to the rural areas with the acquired expertise and develop the rural areas, create new jobs and strengthen ties with their former communities. The weakness of this argument lies in its naivety in that it presupposes the graduates of these entrepreneurial programmes defying the rural urban attraction and returning to the rural areas. The other fact is that it is predicated on the premise that exposure and

experience in a small business context invariably translates the participant into an entrepreneur; a fallacy that has been debunked by some entrepreneurial researchers such as Timmons, (1989) and Stevenson, (1993) of Harvard Business School faculty. It must be pointed out that earlier 'incubator' studies by Smilor and Gill, (1986) and Cooper, (1985) had shown that the pre- entrepreneurial place of work, for example, tends to influence the nature of the enterprise which potential entrepreneurs later create. Yet, regardless of these findings, it would be well to take a leaf from the Zambian experience where agricultural enterprises were introduced in schools and students did not show any significant, resultant observable leaning towards entrepreneurship (Achola and Kaluba, 1989). In their study of the Zambian school based enterprise the "presidential experiment," Achola and Kaluba, (1989:177) concluded that:

"Schools, though expected to impart useful occupational skills through production unit experience, are in fact, the wrong forum for such training."

In the light of the Zambian experience it would be wise perhaps to look for a broader interface between the school and entrepreneurship. As in the case of vocationalisation, cited by Psacharopoulos and Loxely, (1985); Chisman, (1987); Lauglo and Lillis, (1988); Coombe, (1988) and Jones, (1992) there is clearly no linear correlation between skills acquired in a school based enterprise and subsequent utilisation. In this case, it seems perhaps more profitable to lean towards the infusion entrepreneurial curricular models than the school based enterprise models.

Hills and Morris, (1998:1) have suggested that an entrepreneurial curriculum should comprise specific courses, which could be designated as areas of focus for entrepreneurial thinking. In the United States, over 400 universities have introduced entrepreneurial studies as a postgraduate course (Hills and Morris, 1998:38). The major weakness of the courses offered is that they give short shrift to small enterprise and concentrate on large multimillion-dollar ventures. Most teaching materials and case studies tend to be based on large company experiences and models to the exclusion of small businesses (Gibb, Kirkwood, Parkinson and Scott, 1984 and Scott, 1986). The courses tend to emphasise

functional disciplines such as finance, organisational behaviour, marketing and operational methods. These are typical disciplines, which are functionaries of large-scale 19th and 20th century companies. In fact, Drucker, (1985:32) has actually forecast that such businesses will be obsolete unless if they incorporate entrepreneurial competencies to cope with change and innovations. University courses must, therefore, focus on more pressing needs such as managing cash flow, participatory leadership, crisis management and continuous learning which are central to entrepreneurship.

In Botswana a similar model was introduced at junior secondary school level in 1994 called the Junior Achievement Botswana. According to the Junior Achievement Botswana, (1998:1) its primary aim is:

“empowering young Batswana to succeed in the world-of-work through a dynamic business education programme and thereby cultivate and energise the spirit of free enterprise and self reliance.”

The Junior Achievement Botswana attempts to develop in young people an understanding of the basic concepts of business and economics. It also aims at developing life skills such as decision making, problem solving, team work, leadership, initiative and creativity whilst inculcating positive attitudes towards entrepreneurship and self reliance (Junior Achievement Botswana, 1998:1). The interesting feature of Junior Achievement Botswana is that it is an awareness programme, which helps to lay the foundation for development of entrepreneurial skills within the youth in and outside formal school. The organisation also attempts to bring the world of work to young people through business advisors who are business experts who volunteer their time to act as business role models for the youth while guiding them in the operation of their small businesses. Members of the community are also involved through giving talks on their business experiences. The Junior Achievement Botswana programmes are practical and hands-on to enhance learning by doing. The programmes are offered as a supplement to the regular school curriculum. Perhaps of paramount importance, is that Junior Achievement Botswana prepares the youth for self-employment by providing life skills and entrepreneurial attributes such as

creative problem solving, self-confidence, self management, communication and risk taking.

The Junior Achievement Botswana personnel is trained by Junior Achievement staff to teach the Junior Achievement Botswana programmes. After training, they provide assistance and consultancy to the teachers in schools and act as advisors to the nascent businessmen and women. This is important in that the people who propagate the entrepreneurial culture in this case have a positive accommodating attitude towards entrepreneurial skills and attributes. In that case, the chances of an entrepreneurial culture-taking root are enhanced. Furthermore, the speakers invited from the community act as role models for the young entrepreneurs.

An interesting feature of the Junior Achievement Botswana is the company programme, which provides young people with the opportunity to develop entrepreneurial skills by running their own mini-manufacturing or service company. They raise capital to start the company, elect the officers, do market research and market their products and manage financial records. In the process, they learn how to handle human resource issues, and face the day-to-day problems, challenges and joys of taking responsibility of running their own business, (Junior Achievement Botswana, 1998:2). At the end of the process, they liquidate the company and return the original capital to the investors. The participants are given certificates. The exercise certainly gives the participants a hands on experience of running a company. However, the numbers who can be reached in this way remains insignificant in relation to the number of students in schools.

While the contribution of Junior Achievement Botswana to the development of an entrepreneurial culture in Botswana is acknowledged, it must be pointed out that on its own, it is inadequate. Its major weakness is that it currently targets only an insignificant portion of the student population mainly in the junior secondary schools. Another militating factor is that it does not form a regular part of the curriculum since it is done on a voluntary basis or as an extra mural activity. In this sense, it lacks the appeal to attract a high student population. There is also a real danger of its being seen as a skill to be utilised only in the event of the students failing to qualify for the aspired for Form 4 and

Form 5 academic courses which are currently seen as the rungs for progression towards office work which has a high social ranking in Botswana. As a result, the programme is likely to be seen as a viable alternative for those who are not academically inclined and may suffer from the low status problems already cited by Psacharopoulos and Loxely, (1985); Lauglo, (1985) and Copa and Copa, (1992) in the vocationalisation programmes.

Another implicit weakness of the Junior Achievement Botswana Programme is the age group targeted. After leaving school at the age of 16, the participants cannot, because of their youthful ages, access funds from banks or government lending schemes and therefore cannot raise the starting capital even if they were to acquire the prerequisite entrepreneurial skills. Bank managers and potential sponsors perceive them as high risk because of their inexperience and lack of collateral. In fact, research findings in Botswana have shown that young people who pursue a business idea most frequently identified financial difficulties and lack of confidence as the major reasons for abandoning the idea (Republic of Botswana, 1999). Thus, young people have limited capital or collateral and need to obtain finance if they are to be effective entrepreneurs. In the context of this argument, the idea of entrepreneurship courses as an appendage to the school curriculum, while admittedly a good start, seem to lack the capacity to address large student populations. It is also acknowledged that not all students can be entrepreneurs but there is clearly a major role and need for entrepreneurship education and training (Gouws, 1997:11).

A broader and probably more attractive perspective is that offered by Shuttleworth, (1996) and Bridge, et.al. (1998) who suggest that entrepreneurship should not be seen as a subject or courses but rather as desired attributes, which should permeate the whole school curriculum. Hills and Morris, (in Scott, et.al 1998:49) sum up the challenge of infusing entrepreneurial attributes into the whole school curriculum as:

“Our challenge for the 1990s is to identify and develop mechanisms for successfully integrating an entrepreneurial orientation throughout the educational experience of students. Beyond trying to teach students to be entrepreneurs, nurturing positive attitudes toward entrepreneurial activity is also necessary and possible.”

This study, seeks to build a framework for an entrepreneurial curriculum relevant to Botswana's economic situation. It must be pointed out though, in concurrence with Scott, et.al (1998:1) that consensus is still lacking on what entrepreneurial education should legitimately consist of. An investigative survey carried out by Gouws, (1997), posed the question "how should entrepreneurial education be implemented?" In response, 68.7% of the respondents said it should be a subject in the school curriculum, 12.5% said it should be implemented across the curriculum and 18.8% said it should form part of guidance and counselling. Whatever implementation strategy is adopted, accommodating attitudes on the part of the students, teachers and employers remain central to the subsequent development of any entrepreneurial curriculum.

3.10 Conclusion

This chapter discussed the contextual and the developmental ecology of the entrepreneurial concept from its introduction into the economics ecology to the catchword which it has become. In summation, what emerges strongest is that entrepreneurship has two basic images, the unidimensional and multi-vectoral images. The unidimensional image is concerned with the starting and sustaining business. The essence of this image is the ability to exploit situations in order to create employment. On the other hand, the multi-vectoral image portrays entrepreneurship as comprising behavioural traits such as creativity, innovativeness, flexibility, internal locus of control and the propensity for taking risks, which can be developed through the school curriculum and are transferable to different life situations. The identification of these attributes raises a series of unanswered questions such as: How well developed are these attributes in senior secondary schools and industries in Botswana? How supportive are these institutions to the acquisition of these attributes? What are the perceptions and attitudes of the educationists and the learners towards these attributes? How do the employers view individuals with these attributes? Is the possession of these attributes assets or liabilities in school and at work? What is the best way of inculcating an entrepreneurial culture in schools and industries? These are some of the questions, which are of central concern to this study. The next chapter looks at the relationship between entrepreneurial attributes and the clientele of the

school products, the industrialists. It examines the entrepreneurial attributes in the context of Botswana's projected economic trends.

CHAPTER 4

ENTREPRENEURIAL ATTRIBUTES IN THE CONTEXT OF BOTSWANA'S PROJECTED ECONOMIC TRENDS

4.1 Introduction

The previous chapter discussed entrepreneurial psychological constructs in relation to the school curriculum and raised various implications and assumptions on requisite pedagogic and learning agenda, which make up a school curriculum, that purports to foster such entrepreneurial attributes as creativity, innovativeness, a high achievement motivation and an internal locus of control. This chapter broadens the locus of discussion to include the nature, role and demand for entrepreneurial attributes and skills in the manufacturing industries in Botswana. It attempts to create a pedestal from which to make predictions on entrepreneurial attributes and skills demanded by Botswana's industries.

This chapter also presents Botswana's main economic sectors of agriculture, mining and manufacturing, their projected developmental trends and discusses the role of entrepreneurial attributes and skills within the context of each of these major economic sectors. The discussion is grounded on the interplay between the entrepreneurial attributes and the predominant micro and macro economic structures in Botswana. It raises questions and assumptions on the pull and push effects of manufacturing industries on entrepreneurial skills and attributes. It also makes tentative assumptions on whether Botswana industrialists have positive attitudes towards entrepreneurial attributes at the right level to develop an entrepreneurial culture. It is these assumptions, attitudes and questions, which this study attempts to investigate.

4.2 The agricultural sector

Traditionally, the people of Botswana have always depended on agriculture despite the unreliable rainfall pattern in the country. Campbell, (1979:307) describes the pre-colonial economy as depending on:

“growing millet, sorghum, beans, groundnuts and melons; hunting, both individually and by regiment; collecting wild food, plants, honey, insects, small mammals and milk. The chief had massive land cultivated by the tribe as a whole, the grain being stored and used in time of necessity.”

The traditional socio-economic life of Botswana, as described by Campbell, did not change much in the colonial era and in the first years after independence in 1966; as a result, in the years leading to the 70s, Botswana's economy was largely dominated by the agro-pastoral sector. “Most wealth and income was derived from traditional agriculture particularly cattle farming” (Presidential Task Group, 1999:10). The position of agriculture as the leading sector of the economy remained unchanged until the discovery and exploitation of diamonds in 1971. Agriculture continued to provide income and subsistence for large numbers of people in Botswana. However, its contribution to the economy gradually declined over the years and its potential for growth as a major contributor to the Gross Domestic Product (GDP) was largely restricted by climatic conditions characterised by erratic rains and a succession of long drought spells. The decline in agriculture was further exacerbated by poor, sandy soils which militated against the growth potential of the agricultural sector and subsequently, many crops could only be produced at high cost. Initially, there seemed to be a potential for developing the agricultural sector through irrigation schemes but government pilot schemes at Selebi Phikwe and the Tuli Block have “produced disappointing results creating a few badly paid jobs” (Jeffries, 1994:A7 – 13). Water shortages, inadequate markets, poor management skills and transport problems have also further fuelled the lack of growth in the agricultural sector. In fact, Botswana has not been sufficiently innovative in making use of modern farming techniques such as improved irrigation to raise productivity in the agricultural sector to create employment (Presidential Task Group, 1997:17).

Against this backdrop of apparent setbacks in crop cultivation, Botswana on the other hand, has witnessed a rapid expansion of the national herd and beef export which also contributed to the rapid economic growth of the 1980s. This expansion can be attributed to the lucrative beef prices offered by the European Economic Community during that period. All things being equal, the development of the national herd and the related beef industry depicts a potential for boosting household incomes and at the same time, creating jobs. However, in the past five years, Botswana's cattle rearing industry has been subject to a miscellany of inhibitive problematic incidences such as cattle lung diseases, poor quality national herd, poor management skills for farmers in the communal areas and an underdeveloped agro-industry to support beef production (Presidential Task Group, 1997:38).

4.3 Entrepreneurial skills and attributes in the context of the agro-pastoral industries

In response to the various problems existing in the agro-pastoral sector, the government of Botswana adopted a policy emphasising off-farm entrepreneurial activities. This change in the developmental strategy reflects an envisaged limited potential for traditional agro-pastoral growth in Botswana in the 21st century. In the place of the traditional growing of crops and rearing of cattle, the government encouraged the development of micro and small-scale enterprises such as bakeries, tanning of hides, retail centres and village sorghum mills which had already been introduced in 1980 and were providing hundreds of jobs in the rural areas (Republic of Botswana, 1999: 2). Micro enterprises comprise less than six workers including the owner and have an annual turnover of less than P60 000 (Republic of Botswana, 1999:2). These are "one man show owner managers" who personally conduct their business: buying, selling, procuring capital, hiring employees, and dealing with other community agencies. According to the Government Paper No.1 of 1999, (Republic of Botswana, 1999:3) there are approximately 50 300 small-scale enterprises currently operating in Botswana and 75% of them are located in rural areas. While the idea of encouraging small-scale industries in rural areas is worthwhile in terms of rural development, the problem with the established enterprise in rural areas is that they lack formal registration and operate from residential areas. This scenario has resulted in poor performance of the various enterprises. The limited success of

these small-scale entrepreneurs has illustrated the latent potential for micro scale entrepreneurial activities in the creation of jobs in rural areas in Botswana.

Having identified agro-pastoral micro scale enterprise as one of the economic activities with a potential for job creation and viability for developing rural areas in Botswana, it becomes imperative to seek answers to such pertinent questions as: “Do Botswana small-scale industries promote the development of entrepreneurial attributes and skills?” “Does the school curriculum support similar attributes?”

Since the pioneering work of McClelland, (1961) achievement motivation has been taken as a hallmark for small-scale entrepreneurial behaviour. The need for high achievement potential for successful entrepreneurial activities has been substantiated by the findings of researchers such as Hourmaday and Aboud, (1971) and De Carlo and Lyons, (1979) among many others. On an economic environment almost replicating that of Botswana, Wainaina and Bunjun, (1988) carried out a consultancy study on entrepreneurial attributes required by entrepreneurs in agro-pastoral micro-scale activities in rural areas in Kenya and they concluded that a high achievement potential, high self confidence and good client relations were crucial for the success of micro scale entrepreneurs. Gibb, (1987:14) also made a similar observation on entrepreneurial attributes required by small-scale entrepreneurs. He emphasised that micro scale entrepreneurs need to have layers of purposive support networks such as commercial contacts, customers, suppliers, professional advisors, trusted business acquaintances, friends, relatives and family and, therefore, they need to “sell themselves” and to have high motivation levels and communication skills. This is especially true for women entrepreneurs who are more likely to face many obstacles in their efforts to start or to sustain businesses. It is instructive to note that approximately 75% of the micro scale enterprises in Botswana are owned by women (Republic of Botswana, 1999:2). According to Bridge, et.al (1998:140) small business owners tend to rely on their own experience and seek advice from a personal network of contacts in the management of their businesses. This leads to poor performance of the businesses in that the proprietors lack confidence in their abilities to manage, are reluctant to delegate and are fearful of expansion of the enterprise.

In Botswana, Chinyoka, et.al (1998:21) observed that Batswana businessmen/women lacked entrepreneurial drive and as a result “a major concern” of many citizens was that expatriates, particularly Asian businessmen had a more entrepreneurial outlook and were able to take up business opportunities that were not exploited by Batswana entrepreneurs (Republic of Botswana, 1999:4). It is important to note that the acquisition and the subsequent establishment of entrepreneurial values should not be seen as independent from a people’s culture. It should also be acknowledged that traditional values are transmitted to individuals by the communities to which they belong (Gouws, 1997:7). In the Tswana society, community convergence is valued more than divergence and this, obviously, retards the acquisition of an entrepreneurial culture which emphasises individualism, divergent, innovative and creative thinking. It is because of the nature of their culture that Batswana entrepreneurs fail to compete with the Asians in identifying and exploiting gaps in the economic arena.

Available literature on small scale enterprise seem to point preponderously at innovation and creativity as characteristics of paramount importance for the successful take off of a new enterprise (Schumpeter, 1934 and Miller and Friessen, 1982). In fact, Chinyoka, et.al (1998:20) have posited that “innovativeness and creativity is the heart of entrepreneurship. Without this skill, there is no basis for calling a person an entrepreneur.” Chinyoka, et.al (1998) carried out a study to establish whether Batswana small-scale business entrepreneurs possessed these requisite psychological constructs and at the right level to be successful entrepreneurs. Batswana entrepreneurs scored very high on optimism and scored poorly on innovativeness, creativity and perseverance (Chinyoka, et.al1998: 10). Ronan, (1996) also concluded that the majority of Batswana Business Studies students tended to be reflector learners and not “activist” or pragmatist learners and they also lacked creativity and innovativeness. From these studies one can tentatively predict that Batswana entrepreneurs engaged in micro and small-scale enterprises are not supportive of creativity and innovativeness.

McClelland, (1961) observed that entrepreneurs exhibit a moderate propensity for taking risks. Subsequent studies have substantiated this tendency in entrepreneurs (Sexton and Bowman, 1983). On the other hand, Todaro, (1990:315) argued that subsistence farmers in rural areas have a strong aversion to risk taking:

“When risk and uncertainty are high, a small farmer may be very reluctant to shift from a traditional technology and crop pattern that over the years he has come to know and understand to a new one that promises higher yields but may entail greater risks.”

Chinyoka, et.al (1998:11) also observed that Botswana small-scale businessmen have a low tolerance for uncertainty. They interpreted this aversion for taking risks as an integral part of Botswana culture. Among Botswana entrepreneurs, for example, failure is not seen as a chance for learning lessons but as a stigma which may result in their ego and respect from the public being tarnished. According to Chinyoka, et.al (1998:14) this is further exacerbated by the small size of the population as the fall of an enterprise no matter how small, or the reasons for its failure, is bound to be known throughout the country. Again, this aversion to risk taking should be seen against the backdrop of a high failure rate among enterprises. According to the Government Paper No.1 (Republic of Botswana, 1999:4):

“Experience shows a high failure rate among start up businesses. As high as 80 – 85% of enterprise will disappear within five years of start up. Although there is a lack of data on business failures in Botswana it is most probable that small and medium-sized firms in this country are no exception to this situation.”

A study by the Southern African Community Development (SADC) Secretariat, (1997) also confirmed that half of the newly established small and medium-scale enterprises in all SADC countries go out of business before the end of their third year in operation, and of those that survive, most of them do not expand. The assumption drawn from this discussion is that micro scale agro-pastoral enterprise need an element of risk taking and Botswana who are engaged in micro and small enterprises seem to have a low propensity for risk taking and are unlikely to support it in their industries.

In a study of rural women entrepreneurs in Kenya, Bunjun and Wainaina, (1988) concluded that entrepreneurial skills were central to the success of micro scale enterprise in rural areas. According to Wainaina and Bunjun, (1988:17) entrepreneurs must have skills in a particular enterprise combined with business ingenuity, and the ability to ensure and safeguard profits.

They also cited idea formulation, feasibility study, business planning, setting up, maintaining and monitoring the enterprise and technical and advisory support as necessary at all stages. Yet in the case of Botswana, Chinyoka, et.al. (1998:17) contended that:

“The current generation of people involved in micro scale business in Botswana possess low business skills which can partly be attributed to low standards of education. Historically, the indigenous Batswana have been farmers who have depended for their living on cattle rearing and crop production. These were not done for profit but for subsistence and living. Business ownership is a new development. The majority of Batswana who get into business do not have the necessary entrepreneurial capabilities.”

In addition to lack of business skills, Government Paper No.1 of 1999, (Republic of Botswana, 1999:4) cited finance as a major problem facing micro-scale entrepreneurs in Botswana. Other finance related problems include lack of information on sources of finance, poor networking, inadequate risk capital, lack of collateral and complicated lending procedures (Republic of Botswana, 1999:5). From the above discussion, it would be reasonable to assume that Botswana businessmen/women lack entrepreneurial skills related to starting up and sustaining small businesses. What remains questionable is whether they themselves are supportive of an entrepreneurial culture or not.

In essence therefore, it seems reasonable to posit that the new agro-based industries suggested by the government demand people with a reasonably high propensity for taking risks, high achievement motivation, are creative, innovative and can persevere until the business is successful. An analysis of the few studies carried out on the micro-scale entrepreneurs in Botswana by Chinyoka, et.al (1998); Chinyoka, (1997); Chinyoka, et.al (1996) reveal that Botswana small scale entrepreneurs lack a propensity for taking risks, are not creative, have low achievement motivation and lack entrepreneurial skills. A pertinent issue is whether these conclusions and predictions are obtaining in secondary schools and industries in Botswana.

4.4 Mining and manufacturing industries

The discovery and the subsequent exploitation of minerals, particularly diamonds, in the 1970s resulted in unprecedented, substantial structural transformation of Botswana's economy (Tsikata and Hitchcock, 1987:172). The hitherto agro-pastoral dominated economy was transformed into a mineral dominated one. This had a direct link to the timely opening of Orapa Mine in 1971 and later on, the Jwaneng Mine in 1982, which coincided with an upturn in the world market demand for diamonds for both domestic and commercial use. This coincidence of production and demand translated into an increase in the volume of output in terms of carats which rose at an average rate of 15% per annum while the value of exports rose at an even higher rate (Jefferies, 1993:A7 – 1). Botswana further benefited from the diamond market upturn of the 80s resulting in export earnings spiralling from P137million in 1981 to P2941million in 1991. This increased Botswana's economic growth to an average of about 11% between 1974/5 and 1990/91, thus making Botswana one of the world's fastest growing economies exceeding even the popular "Tiger" economies of South Korea, Taiwan and Thailand (Jefferies, 1993:A7 – 1).

The diamond sales, coupled with sound governance and political stability, transformed Botswana's financial position resulting in her graduating out of the group of poorest and least developed countries and moving up into the group of lower middle income countries (Presidential Task Group, 1999:15). In the last three decades, Botswana has exhibited relatively sound public sector management resulting in an enviable position of revenues exceeding expenditure which have created substantial foreign reserves and removed the potential problem of deficits and debts (Todaro, 1989:411 – 413). Table 4.1 shows a steady increase in Botswana's foreign reserves from 1993 to 1997.

Table 4.1

Botswana's Foreign Reserves (US \$m; Year End) 1993 – 1997

Year	1993	1994	1995	1996	1997
Total Reserves	4 153.1	4 462 .4	4 764.2	5 097.6	5 593.9

(Source: IMF, International Financial Statistics.)

Jefferies, (1994:A7-2) amply confirms Botswana's position as a country boasting of a clean slate of debts and a clean bill of payments:

“Botswana has enjoyed current account surpluses since 1982 which, combined with capital account surpluses in most years, have led to the accumulation of substantial foreign reserves and little use of overseas borrowing. Botswana therefore, has been fortunate to avoid the debt crisis which afflicted many developing countries during the 1980s.”

On a comparatively smaller scale, Botswana has also benefited from the proceeds of the exploitation of other minerals ranging from copper, nickel, coal to soda ash. For example, recent prospecting has shown that the Kgaswe coalfield near Morupule colliery has coal reserves far in excess of 800 million tonnes (Kgoroba, in Ministry of Commerce and Industry, 1998:135). In addition, downstream opportunities exist in such areas as diamond cutting and polishing and new products from soda ash. The government has been the principal recipient of the benefits from the mineral sales. Botswana government strategy for development is to achieve large returns from intensive capital investment in mining and to re-invest those returns so as to improve the living standards of those who do not benefit directly from the mining sector expansion (Government of Botswana, 1980:62). The government also adopted the strategy of improving the physical, social and economic infrastructure of the country. This has brought about major improvements in the delivery of government services to the population and in the conditions for investment, productive activities and employment creation (Presidential Task Group, 1999:10-11). Rapid growth as measured by the real Gross Domestic Product (GDP) bears ample testimony to the successful implementation of the first part of the

strategy. Table 4.2 shows the cumulative increase in Gross Domestic Product from 1991/92 to 1995/6.

Table 4.2

Botswana's Gross Domestic Product From 1991/92 – 1995/6

Foreign Trade by Value (P'000)					
	1993	1994	1995	1996	1997
Meat and meat products	160 556	181 760	179 189	207 117	192 984
Live animals	682	2 302	2 133	1 521	1 953
Hides and skins	20 356	28 294	36 575	28 707	26 665
Diamonds	3 339 464	3 717 797	3 983 684	5 721 880	5 642 714
Copper and nickel	219 829	258 787	328 449	446 535	344 403
Textiles	94 983	177 351	146 286	195 141	182 149
Soda ash	50 366	36 779	21 800	69 351	85 789
Vehicles and parts	91 037	300 645	957 144	1 147 625	868 005
Other goods	293 666	261 284	286 211	323 955	327 627
Total	4 270 938	4 964 998	5 941 470	8 141 832	7 670 290

(Source: Official SADC Trade, Industry and Investment Review, 1999)

Despite the seemingly rosy backdrop in the mineral sector, predictions seem to show the mining sector losing its position as the leader of the economy in the turn of the century (Republic of Botswana, 1998). In 1992, De Beers imposed sales quotas on diamond producers indicating the possibility of a slump in the demand for diamonds in the international market. The quota system introduced also inhibited further expected expansion at Jwaneng mine (Jefferies, 1994: A7 – 4). The excess of diamond supply is likely to be exacerbated by the recent discoveries of large diamond fields in Canada and the increased Russian input into the already saturated market. Furthermore, there has been a marked increase of illicit diamonds

entering the international market. According to Jefferies, (1994: A7-5), there is little likelihood of an early upturn in the diamond market and quotas are likely to be in place for several years.

The implications of the predictions are that the mineral sector is unlikely to continue being the engine of development in Botswana's economy and emphasises the need for a search for alternative sources of growth. The quota system will impact on the net earnings from the mining sector resulting in slower growth in export earnings and hence the need for export diversification to generate new sources of revenue. A resultant feature of reduced diamond earnings is the reduced returns in government revenues and limitations on the government's ability to increase spending and the financing of new job creation ventures directly in the civil service or indirectly through the construction industry (Jefferies, 1994: A7 – 5) resulting in a greater dependency on entrepreneurs to create employment.

Against the backdrop of an expected reduction in the contributions of the mining sector, the government of Botswana has committed itself to an industrial led economic diversification (SADC Review, 1999:152) and accordingly, the industrial sector is expected to play an important role in job creation over the next 25 years if conducted in a labour intensive form (Jeffries, 1994:A7 – 6). Another reason for selecting the model of industrialisation through the manufacturing sector is that most of today's fast developing industrialised countries such as the "tiger" economies of Singapore, Taiwan, Hong Kong and South Korea have adopted it successfully. Other Asian countries such as the Philippines, Malaysia and Indonesia are now emulating it. According to Gouws, (1997:3):

"The history of most newly developed countries ... indicates that the development of entrepreneurship is the most critical prerequisite for economic growth and development. Countries without the natural resources required for a manufacturing industry ... are pervaded by a spirit of entrepreneurship and small businesses and the small businessman plays a vital role in the economies of these countries."

Jefferies, (1994:A7 – 6) argues that it is easier to develop exports of manufactured goods than of services and the industrial sector provides the basis for export growth. Manufacturing development also tends to improve the general skill level of the population and eventually their

income earning capacity. Skills development also provides the potential for a gradual progression from less to more skill intensive types of manufacturing activity as was the case in the Eastern countries (The Economist, 1991). Finally, because of its potential with regard to exports and linkages, the manufacturing industry has a crucial role to play as a leading sector in Botswana's economy once mining becomes less able to play its role.

Currently, the industrial sector accounts for only 16% of GDP. Its performance has been inhibited by Botswana's small population (1.6 million), which directly translates into a small market, lack of local managerial personnel, high rents, high utility and transport costs and low productivity (SADC Review, 1999:153). However, predictions forecast that the manufacturing industry will grow by 7.5% per annum over the next 25 years, and that exports will grow by 10% a year (Jefferies, 1994:A7 – 6). This would result in almost a doubling of its share of the overall economic activity, from 11.6% to 21%. There seems to be a steady rise in the value of exports as presented in Table 4.3 and the trend is expected to continue.

Table 4.3

Botswana's Foreign Trade by Value (P'000)

1993	1994	1995	1996	1997
4 270 938	4 964 998	5 941 470	8 141 832	7 670 290

Source: Central Statistics Office, Statistical Bulletin.

According to Jefferies, (1994) manufacturing diversification and growth can come from three sources: an expansion of the domestic market, substitution for imports in the domestic market and exports. Between 1975 and 1985, over 50% of growth in the manufacturing sector came from the expansion of the domestic market with the remainder coming from both import substitution and exports. This pattern is not likely to be perpetuated into the next millennium as lower overall rates of economic growth mean that the domestic market will not be expanding as rapidly. This will effectively reduce import substitution. If rapid growth and diversification is to be achieved it will need to be based on exports and the National Development Plan 8 (Republic of Botswana, 1997) envisages 10% export growth in the manufacturing industry. If these growth rates are achieved, the sector stands to be a major contributor to both economic

and export diversification and would steadily increase its importance in the economy. If the manufacturing industry is to be Botswana's engine for development, in the next century, there is need to inject a spirit of entrepreneurship to transform the current traditional bureaucratic industrial structures to innovative, globally competitive corporations. Perhaps, central to any change and diversity within the manufacturing industries would be positive perceptions and attitudes towards entrepreneurialism and intrapreneurialism.

4.5 Entrepreneurial skills and attributes in the context of mining and manufacturing industries

At this juncture, it is imperative to pause and ask the question: "How can Botswana achieve the aspired for industrial growth and diversification?" There seems to be a convergence towards a consensus on the importance of the development of the human resources as a prerequisite for industrial growth (Todaro, 1989:330-340). Harbison, (1973:3) summarises the argument as follows:

"Human resources ... constitute the ultimate basis for wealth of nations. Capital and natural resources are passive factors of production, human beings are the active factors who accumulate capital, exploit natural resources, build social, economic and political organisations and carry forward national development. Clearly, a country which is unable to develop the skills and knowledge of its people and to utilise them effectively in the national economy will be unable to develop anything else."

For instance, it is argued that in order to improve Botswana's internal market competitiveness in services, tourism and the financial sector, the country requires "higher levels of skilled human resources" (Republic of Botswana, 1993:21) which will be achieved through "higher levels of education and training" (Republic of Botswana, 1993:19). Within this broad perspective, there has emerged statements about skilling for the national interest and the skill demands of the new technology which undoubtedly form part of the base on which Botswana's policy is grounded. The language of skill has assumed different formulations in different times and has largely been translated into educational policy usually without any clarification. This has given the Botswana government the impetus to restructure tertiary education, post-secondary training, secondary school organisation as well as the curriculum and assessment

reforms. In an attempt to link education more closely to the economy and labour market, the re-organisation of school and work has often been expressed in terms of 'equity and fairness', such as "the national commitment to democracy and social justice" (Republic of Botswana, 1993:20). Skilling therefore, has been viewed as the way forward to attaining eco-educational consonance in Botswana.

Consequently, in the past decade, Botswana has invested heavily in skilling through education and training in line with the "human capital theory". The human capital theory argues that education is an investment both for the individual who invests in it and the society, which allocates considerable scarce resources to it. Since it is an investment, the individual benefits accruing from education are in the form of higher wages, better standard of living and better upward socio-economic mobility. The society is said to benefit through the enhanced productive contribution from those who have received education.

The human capital theory was diffused mainly through the works of Becker (1964), Mincer (1974) and Schultz (1980). They perceived education as a vital instrument that should lead to an efficient, productive and more usefully employable person which clearly is indicative of an investment. According to their perception, the main objective is to stimulate future economic growth, which should take the form of additional goods, and services, which should lead to the raising of peoples' standards of living. This objective was to be pursued through what later became known as the liberal theory in which emphasis was placed on a sound general education predicated on the notion of a flexible labour force. This belief led to the conventional wisdom, which saw the acquisition of a broad based education as an economic investment. Ashton and Green, (1996) approaching this theme from an interdisciplinary perspective have argued strongly against the unproblematic nature accorded to the relationship between education and economic development by both scholars and academics. In their perspectives, such views as those expressed above do not rest on empirical evidence. They contended that scholars have spent enormous time popularising the theory and have ignored any attempt to gather empirical evidence to verify the concept. They have posited that an examination of other factors that underpin the interaction of education and economic nexus remained extremely vital in aiding a closer analysis of this relationship. The human capital theory has received supporters from both the educational policy makers and their advisors. It is in this spirit that the

Botswana government appointed the Commission on the Revised National Policy on Education (Republic of Botswana, 1993) to appraise it on the relevant strategy of educational development. The Commission on the Revised National Policy on Education (Republic of Botswana, 1993:37) proclaimed the potential economic benefits of education to Botswana's national development in the 21st century as follows:

“the education system envisaged by the commission aims to produce well educated and all round people. The products of education will be able to clarify their values, exercise higher-order thinking and apply information and knowledge in the search for solutions to home, workplace, community and international problems. .. they will be ready to participate productively in the world of work.”

The National Development Plan 8 (NDP 8) (Republic of Botswana, 1997) in mapping out the future economic growth of Botswana emphasised the crucial function of the highly skilled labour force with a technical ability which would enable the country to successfully compete in the global economy. This was to be achieved through a strong emphasis on human capital, which reiterated the merits of a general education as “laying a strong base of trainable human resources as an important pre-condition for economic development,” (Republic of Botswana, 1997:357).

When superficially viewed, these claims appear to be plausible and reasonable. Furthermore, the arguments about the benefits of human capital have been strengthened by reference to the countries of Europe, Japan and the USA. Proponents of this school of thought have argued that these countries have, in the past decade, experienced persistent economic growth due mainly to the utilisation of scientific and technological innovations, which invariably stimulated labour productivity and generated other inputs in production.

When examining the economic growth of such countries as Japan, West Germany (before unification) and some European countries, a study by Psachoropoulos (1986) showed the contribution of Japanese education to be 3.3% while that of Germany to be 2.0%. Similar findings on the study by Wolff (1993) in the developed countries failed to reveal significant contributions of education to their economic growth. There is an obvious lack of consistency

in the studies based on the human capital theory that lend some of its elements to incredibility. This lack of consistency of the explanatory power of growth accounting studies in some of these developed countries has led to more debates, which have called for a thorough re-examination of the earlier studies. Some economists have argued that the original study by Denison (1979) was based on flawed methodological approach. These contradictions, which could be explained by the problem of attempting to compare economies of these countries and the problem of the type of data used, have persuaded some critics to abandon growth accounting studies as a reliable instrument for validating the merits of human capital. In fact, productivity studies have initiated strong debates starting from the USA in which critics have argued that the American economy during the 1970s received the highest share of the educated labour force and yet the productivity level remained low (Thurow, 1992). Maglen, (1990) has also argued that Australia between 1968 - 1969 to 1985 - 1986 witnessed an unprecedented level of well educated labour force and yet its economic growth rate fell below expectations. These arguments are vital because they highlight the potential pitfalls that are associated with human capital and perhaps more fundamentally, they call for more than just a broad education. The issue is that education, as a purely academic exercise, does not translate into economic wealth.

Perhaps recognising the futility of investing in an education system that can not produce wealth nor create employment, the government of Botswana has suggested that education should “emphasise science and technology in the education system” and at the school level, “the curriculum would emphasise prevocational orientation in preparation for a strengthened post school technical and vocational education and training by increasing the number of practical subjects offered” (Republic of Botswana, 1994:5-6). While it is admitted that a sound education system is an imperative for industrial diversification and development (Moorad, et.al1994: A11-34), it is questionable whether the mere predominance of practical subjects and science in the school curriculum can translate into industrial diversification. It is a seemingly over simplistic postulant and too neat a solution to such a complex issue. However, in a recent survey examining reasons for the success of the “Gang of Four” Asian Newly Industrialised Countries (NICs), the Economist, (1991) identified investment in education as the single most important reason for the countries’ success and also identified scientific and technical education as paramount determinants for success. Similarly, Blomstrom and Mellor, (1991)

comparing industrialisation and growth in Latin America, concluded that technical and scientific education were crucial for rapid industrial development and thus lending credence to the argument of centralising science and technology in the school curriculum. While the centrality of technical education needs to be acknowledged, it must not be exalted to such heights that it assumes the position of a sole determining imperative for the development of the manufacturing industry, but rather, it must be viewed as one of the contributory imperatives.

Chapman, (1991:49 -71); Millar, (1996:7) and Middleton, (1998:154) while acknowledging the benefits of a sound techno-mathematical education system for industrial development, warn against the exaggerated role of science and mathematics in the development of manufacturing industries and their subsequent crucial position in the school curriculum. They argue that the importance given to these subjects by politicians and industrialists is part of a confidence trick played by the academic scientific community and contend that there is an accumulation of evidence from throughout the developed world showing that most students in those countries assimilate little scientific understanding. Surveys among adults also show low levels of scientific understandings and that there are many serious misunderstandings of basic scientific ideas among adults in developed countries (Millar, 1996:7-8). Chapman, (1991:49 - 71) in particular, argues that many modern technological improvements tend to nullify the need for in-depth scientific knowledge for the majority of the population as the user does not need to know the scientific ramifications involved in the creation of the product and its use is such that it needs a bare minimum of scientific knowledge. Consequently, there is less need for scientific knowledge for the general populace as the country progressively develops its manufacturing industries. The argument posited by Chapman, (1991:49-71); Jenkins (1996:137-150) and Middleton, (1998:154) holds true only if it refers to the user recipients of the finished products and not the manufacturers and industrialists. For example, it would certainly defy logic to assume that a person whose scientific knowledge is thin, can make improvements on electronic equipment. Bull, et.al (1995:8) offer a very persuasive argument:

“Arguably, a new combination that causes discontinuity does not occur by chance. A mere discovery can occur as a result of observation of the expert but a new combination is a result of deliberate actions... A child does not program a computer without knowledge of both programming and computers. An accountant without golfing or manufacturing skills would not substitute steel for hickory or graphite for steel in the shaft of a golf.”

Aiken and Hage, (1971:33) and Miller and Friesen, (1982:4) concur that for industries to develop, a high concentration of technocrats is essential as science and technology give birth to technocrats. Thus, unless one starts with the development of infrastructure, entrepreneurship won't take off and investment in the country to fuel entrepreneurship will not happen. Instead, investment will go (and is going) to other countries where technological infrastructure is being developed so that markets, in fact, can be exploited to capacity (Gouws, 1997:8).

It must be made explicit here that technological and scientific knowledge produces technocrats who are capable of performing scientific and technological tasks. This expertise on its own does not necessarily lead to the creation of new products, at best, the expertise can only sustain and reproduce an already existing production line within an industry. Thus expertise on its own can only be a reactive process and not a proactive process. Miller and Freisen, (in Livesay, 1995:277) have argued that momentum is a pervasive force in organisations: past practices, trends and strategies tend to keep evolving in the same direction eventually reaching a dysfunctional extreme. Using the same thought continuum, an industrial economy based solely on scientific and technological expertise would most probably drift towards stagnation unless if it is attenuated by the infusion of an entrepreneurial act. Thus, to change a static inert process from gradually evolving towards dysfunction into a proactive generative process, there is an imperative to inject what Bozeat, (1998:125) refers to as the “missing link” – the entrepreneurial dimension of innovation and creativity. The entrepreneur then newly combines some technical knowledge with market opportunities to gain economic rewards. In fact, Yasumuro, (1993:77) further suggests that a society that has technological expertise and lacks entrepreneurial attributes such as motivation to achieve and has an aversion for taking risks cannot start up and sustain large-scale industries. In the light of this argument, it would be logical to assume that the centralisation of practical subjects, technical and science subjects in the school curriculum as advocated for by the New Revised National Policy on Education in Botswana, (Republic of Botswana, 1994:8) on its own, without the infusion of entrepreneurial

skills and attributes, is inadequate for rapid industrial growth and diversification in the mining and manufacturing industries.

Botswana can either choose to develop her manufacturing industries through import substitution or through export orientation. Import substitution is inherently interwoven with protectionist tariffs and a subsequent lack of competition and a gradual diminishing of entrepreneurial creativity and innovation. In contrast, the latter, aims at developing a competitive creative presence in the world market and it therefore demands entrepreneurial activities. The competitive market forces the export-oriented manufacturers to be creative and innovative, it demands flexibility and certain doses of risk taking. Botswana cannot follow the import substitution route because of its small population (1.5 million) and the resultant small domestic market. The only viable option to industrial development open for Botswana seems to be through export orientation with its entrepreneurial imperatives. Thus for Botswana to achieve its projected manufacturing developmental output and to compete regionally and globally, there is an absolute need for an increased internal capacity to innovate, create and take risks.

Barmash, (1971) and Kanter, (1989) in their studies observed that large organisations are aware that internal entrepreneurs are necessary to achieve growth. Internal entrepreneurs enact opportunities for new combinations and re-combinations. According to Pinchot, (1985:46):

“the entrepreneurs are the dreamers who do ... Those who take hands on responsibility for creating innovation of any kind within an organisation. The intrapreneur may be the creator or inventor but it is always the dreamer who figures out how to turn an idea into a profitable reality.”

Quinn, (1982) and Van de Ven, (1986) have argued strongly that entrepreneurs are crucial for the growth of large companies. More recently, Kuratko and Hodgetts, (1995:95) have argued that “the major thrust of intrapreneuring is to develop the entrepreneurial spirit within organisational boundaries, thus allowing an atmosphere of innovation to prosper.” According to Jenks, (1995:111) the type of entrepreneur needed in large manufacturing companies comprises a plurality of individuals to perform a variety of entrepreneurial activities. Pinchot,

(1985) referred to these as intrapreneurs concerned with designing products and implementing them. Spengler, (1948:345) referred to them as multi person entrepreneurs. The intrapreneurs, unlike the small-scale entrepreneur, have no ownership functions, share decision-making and delegate responsibilities to others (Jenks, 1995:111). The intrapreneur operates under a corporate accounting system with no inherent personal risks or capital gains and losses. Yet, there are still entrepreneurial functions within large corporations as the element of risk and uncertainty, for example, is all pervasive in any manufacturing venture. Uncertainty abounds in resource allocation, in co-ordinating the flow of resources and in anticipating the retail market for the finished product. The situation is worsened where the environment is unstable, heterogeneous and complex, (Miller and Friesen in Livesay, 1995:281). Intrapreneurs are part of a broad hierarchical structure and are responsible to their superiors in the bureaucratic ladder. As a result, their behaviour differs from that of small-scale entrepreneurs because of differences in their perceptions of risk, resource availability, autonomy, decision-making network and communication.

The level of entrepreneurial attributes and skills is largely determined by the developmental strategy adopted by the individual company, the presence or absence of entrepreneurial culture and the market environment (Jennings, 1994:186). Quinn, (1982) and Van de Ven, (1986) have argued that some companies are so highly innovative and proactive in their search for growth that, to sustain the innovative momentum within the organisation, they need entrepreneurs. Caird, (1994:81) contends, for example, that venture enterprises can only be successful in the presence of leading innovators who are frequently the driving force behind innovations at the operational levels, supported by middle managers who are entrepreneurially conscious enough to conceptualise the strategic implications of the initiatives and a top management with an expansive entrepreneurial capacity to allow viable entrepreneurial initiatives to be introduced within the organisation. Proponents of entrepreneurial attributes as an essential component of large industries also argue that entrepreneurs would help the firm in the generation of new ideas, carrying out in house research and development, manning innovation task forces to create new products or improve on the existing ones. They also contend that entrepreneurs can identify openings in the existing market and help the firm gain competitive advantage. Entrepreneurs within large firms, can help integrate secondary activities

not directly related to the organisation's central mission. These may eventually end up as successful subsidiaries within an enlarged organisation.

On a rather contradictory conceptual pedestal, Peterson and Berger, (1971); Moore, (1983); Geneen, (1984) and Nielsen, Peters and Hisrich, (1985) have posited that entrepreneurial attributes such as flexibility and innovation are likely to disrupt the smooth running of the organisation as they conflict with the integration needs of the firm. Therefore, from their perspective, large companies are likely not to need entrepreneurial attributes and skills. Taking the same argument further, Mintzberg, (1979:233) contends that large firms depend on rigid rules and policies to administer the routine tasks of the organisation and these rigid structures stifle entrepreneurial attributes such as innovation and creativity and increase the aversion to risk taking. According to him, "management must find the means to make behaviour more predictable and so it turns to rules, procedures, job descriptions and the like, all devices that formalise behaviour." Furthermore, as the organisations grow, they introduce standard practices, and develop less tangible, but equally powerful cultures (Bridge, et.al. 1998:193). They develop certain normative characteristic ways of doing things guided by a set of shared values and norms. These standard procedures and culture can act as powerful controlling mechanisms, which inhibit entrepreneurialism in large industrial concerns.

Another militating factor advanced by the opponents of entrepreneurial activities in large well established firms is that innovative entrepreneurial activities may result in the change of tasks leading to loss of occupational identity and de-skilling among the workers resulting in reduced productivity within the organisation (Mthunzi, 1998:223-227). Individuals frequently resist change because they would have invested a great deal of time and energy in mastering the existing job and fear that their investment would be wasted and the last thing they want is a new machine that will render their skills obsolete (Bridge, et.al. 1998:191). This could as well result in resistance to entrepreneurial activities within large established organisations.

Miller and Friesen, (1982:1-25) give a more accommodating and non-partisan impression of the need for innovation and entrepreneurial activities in large firms. They argue that the nature of the strategy adopted by the individual company determines the demand for entrepreneurial attributes. Some executives decide that regular and intensive innovations in product lines, or

services and product designs should form a vital element of their strategy. Their firms may try to obtain a competitive advantage by routinely making dramatic innovations and taking the concomitant risks. On the other hand, conservative organisations would view innovation as costly and disruptive to operational efficiency. These firms will innovate only when they are seriously challenged by competitors or by shifting customer wants. After all, managers can be regarded as trustees and this necessarily entails caution as suggested by Bridge, O'Neil and Comie, (1998:192):

“They are responsible for expensive human and material resources, and they feel duty bound to use these resources wisely. They are concerned to earn an acceptable rate of return on their resources and to protect the lives and livelihoods of their employees.”

Although the available literature seems to suggest that large manufacturing companies prefer not to be innovative and entrepreneurial in character, environmental conditions dictate that firms be entrepreneurial. Myres and Marquis, (in Livesay, 1995:278) argue that organisations are invariably forced to be entrepreneurial because of environmental dynamism and hostility such as intensive competition and influences and the fluctuation of customer needs. It is however, instructive to note that according to Miller and Friesen, (1982:1-25) the company can either change because of its in built strategy or change because of the environmental pressure to change. Information processing can also make companies demand entrepreneurial activities.

Drucker, (1985:59-64) contends that innovative companies must systematically review changes on the socio-economic plain in order to identify and exploit business opportunities. Through scanning, firms are able to identify the needs and demands of the environment and become innovative and entrepreneurial in approach so as to match the demands of the environment. Market needs, for example, may determine innovation and the nature of the entrepreneurial attributes required. According to Drucker, (1985:142) entrepreneurial managers must take the lead in critically examining the contribution of their own products and where necessary, in making them obsolete rather than waiting to be out competed by other companies. The Botswana Technology Centre with more than 100 companies spread across the entire spectrum of the economy of Botswana assists industries in “scanning” and transfers relevant technologies to a widely divergent group of enterprises. It also offers consultancy in computer technology,

construction, technology development, information database and management. These scanning facilities foster entrepreneurial activities within companies particularly “now that it is widely acknowledged that the economy is at a turning point, that the mineral led growth is at an end and that new sources of growth are required. Export oriented manufacturing is seen as the main hope for the future” (Ministry of Commerce and Industry, 1994:5).

The availability of capital and technocrats within a country is important contributory factors, which can make manufacturing industries decide on a developmental route based on a large demand for entrepreneurial attributes and skills. For industries to be innovative, it is important that they have organisational resources such as expensive material, capital for acquiring equipment and well-developed human resources (Wilson, 1966:193-218). The more complex the innovations, the greater the need for a diversity of richness of inputs into the firms (Wilson, 1966; Thompson, 1969). Fortunately for Botswana, she boasts of a stable macro economy with a strong currency, high level of foreign exchange reserves and liberal exchange controls, which can sustain entrepreneurial developmental strategies. Botswana is currently capable of importing quality resources from other countries because of her large foreign currency reserves. The investment incentives available in Botswana under the Financial Assistance Plan (FAP) and Selibe Phikwe special incentive packages are relatively generous by international standards and can sustain innovations in large manufacturing companies. The Hyundai Motor company has already taken advantage of these incentives and is bringing in knocked down parts to develop the car manufacturing industry in Botswana (SADC Review, 1999).

A major militating factor in the development of Botswana’s industrial sector through the entrepreneurial path is not only the acute shortage of technocrats, professionals, and engineers who possess the knowledge and training to make changes but also the disciplinary entrepreneurial regime to seek out alternative approaches through empirical relevant research as suggested by the Presidential Task Group, (1999:40):

“Botswana does not at present have a strong tradition of technical research and development that can be used as a basis for developing home grown technology. Clearly in the early stages most of the technology will need to be adapted from elsewhere.”

Also closely related to the lack of a technocratic culture is the rather low motivational drive observed among Botswana workers, which is manifested through low productivity levels. A recent World Bank, (1992: 67) report noted that:

“Workers in Botswana could produce about seven pairs of jeans a day. The comparative figure in China is 24, and in Zimbabwe and South Africa it is 14. These comparisons work to Botswana’s disadvantage in virtually all industries. Botswana’s bricklayers, for example are less than one fourth as productive as their counterparts in South Africa and as little as five percent as productive as bricklayers in Europe or the Far East.”

Jefferies, (1994:A7-10) explains this lack of productivity as the effect of the relative newness of the industrial culture in Botswana. Most industrial workers in Botswana are first generation industrial/urban workers, in contrast to their compatriots in South Africa and Zimbabwe (Jefferies, 1994:A7-10). This has an important bearing on work attitudes, motivation, innovativeness and creativity. As the industrial culture develops and the regional competition intensifies it is to be expected that Botswana’s industrial labour will increasingly become more entrepreneurial in character.

Organisational size is another factor, which may determine the presence or absence of entrepreneurial activities within a large company. According to Jennings (1994:193), “conventional wisdom suggests that entrepreneurship may bloom and grow better in smaller, flexible organisations than in large bureaucratic forms”. On that light, small organisations tend to encourage the development of entrepreneurial attributes and skills more than large companies. They also argue that small companies tend to seek excellence of performance and workmanship, are motivated and there is ease of flow of communication allowing for fast feedback and the enhancement of entrepreneurial attributes resulting in efficiency. On the other hand, Thompson, (1969:25) argues that it is not so much the size of the firm, which determines the demand for entrepreneurial attributes, but the level of centralisation within the firm. On a similar note, Livesay, (1995:279) argues that highly centralised and structured organisations are not conducive to innovation or entrepreneurial activities:

“... dispersal of power is important because concentrated power often prevents imaginative solutions of problems. When power meets power, problem solving is necessarily called into play

Dispersed power, paradoxically, can make resources more readily available to support innovative projects, because it makes possible a larger number and variety of sub-coalitions. It expands the number and kinds of possible supporters and sponsors.”

In the case of Botswana, there is no empirical evidence to support or refute the contention that smaller manufacturing companies invariably encourage entrepreneurial attributes.

A pertinent question arising at this juncture becomes “What type of entrepreneurial skills and attributes are required in large industries?” On an individual entrepreneurial level, Caird, (1994:81) argues that what is wanted in large industries are flexible “project champions” who combine strong beliefs and commitment as major prerequisite attributes where the developmental strategy is innovation and creativity. On the other hand, Handy, (1990) argues that entrepreneurial firms will need “upside down, inside out and backward thinking” where knowledge and creativity, not muscle power, will be the order of the day. Peters, (1987) and Popcorn (1991) predict an increase in the demand for a higher propensity for taking risks in all the strata of the firms where making mistakes will teach the workers to select realistic and challenging goals which will enhance success, maintain a sense of creativity and opulence. Van Dusen Wishard, (1987) also contends that the leadership in these firms will need people who are willing to take risks, who believe in personality and intuition and are to a certain extent visionaries. On the other hand, Toffler, (1989) contends that companies should encourage creativity among their employers if they are to survive, those that encourage a bureaucratic style of thinking and limit the creativity of workers will be left behind in the emerging business environment. While Van Dusen Wishard, (1987); Peters, (1987); Toffler, (1989) and Popcorn, (1991) emphasise entrepreneurial psychological personality traits, Raizen, (1989) on the other hand emphasises foundation skills, competence skills, communication skills, adaptability, personal management skills and group effectiveness skills as essential for entrepreneurial activities to thrive in large-scale manufacturing industries. The essence of the arguments is that large and medium-scale industries demand workers with entrepreneurial attributes skills to meet the market demands, and to compete on the global and regional plain.

The above discussion raises many pertinent questions, which beg answers. For instance, do industrialists in Botswana support the development of an entrepreneurial culture in their industries? What is the nature of industrial dynamism in Botswana? Is it entrepreneurial

driven? Is there room for the individual entrepreneur in Botswana's industries? It is these and other similar pertinent questions that this study attempts to answer.

4.6 Conclusion

Projected trends indicate an imminent decline in the traditional agricultural activities and an inversely proportional increase in the development of manufacturing industries in Botswana. The implications are that there will be a demand for entrepreneurs with entrepreneurial skills and attributes to initiate and sustain the new enterprises and in the process create employment. The possession of entrepreneurial attributes and skills at the correct level is pivotal to the success of the introduction of the new agro- pastoral industry. What also emerges from the discussion is the predicted need for entrepreneurial orientation in terms of structural organisation, leadership, skills, reward and progression systems within the industries in Botswana if there are to develop a globally competitive urge. The study investigates the presence or absence of these characteristics in Botswana's small scale and large scale industries.

Mining has been the leader of Botswana's economic development since 1972. Economic projections indicate a decline in mining and the rise of manufacturing industries. For these manufacturing industries to develop and sustain international competition, there is a need for them to adopt and utilise entrepreneurial strategies, which involve a corporate staff that exhibits creativity, innovativeness, high motivation achievement, and a more than average propensity for taking risks. The study explores the nature and role of entrepreneurial attributes and skills demanded by the manufacturing industries by examining the attitudes and perceptions of the human resource managers of Botswana's industries towards entrepreneurial skills and attributes. The study also attempts to find out if what the industrialists "demand" is indeed what the schools and the school curriculum are "producing". Chapter 5 focuses on the methods and procedures used in the investigation to determine the nature of the entrepreneurial attributes inculcated in schools and industries, and for establishing the existence or non-existence of a consonantal relationship between the entrepreneurial curriculum envisaged by the school and industrial communities.

CHAPTER 5

RESEARCH DESIGN AND METHODOLOGY

5.1 Introduction

The previous chapters reviewed literature on images and perceptions of entrepreneurial attributes and discussed the nature of their interface with the school curriculum and their potential role within the manufacturing industry in the backdrop of Botswana's economic landscape. In the process of reviewing the existing literature, many assumptions and predictions were raised. This chapter presents a description of the research design, methodology and procedures used in investigating the substance of these assumptions and research questions. It deliberately avoids the rather sterile comparative debate of qualitative versus quantitative paradigms as these have been viewed in this study as complementary rather than adversaries providing a capacity for counter checking through triangulation (Guba, 1987:23 – 43 and Patton, 1987:11). In line with the layout proposed by Cohen and Manion, (1989: 97) the chapter outlines the purpose of enquiry, the design, the target population, sampling procedures and the instruments used for collecting data. Furthermore, it briefly reviews issues of validity and reliability and also explains how the collected data was analysed.

5.2 The purpose of enquiry

The report of the first National Commission of Education, (Republic of Botswana, 1977) known as "Education for Kagisano" marked a major milestone in the history of educational development in Botswana. The commission recommended universal education whose implementation resulted in an unprecedented increase in the number of both primary and secondary schools. For example, the number of primary schools increased from 376 in 1978 to 647 in 1991 (Central Statistics Office (CSO), 1992). There was also a linear proportional increase in the enrolment figures from 145 459 to 298 812 during the same period (CSO, 1993). The commission further recommended universal transition from the primary to the junior secondary schools which led to a huge building

programme of the junior and senior secondary schools and the enrolment figures for the secondary sector increased from 13 765 in 1985 to 52 866 in 1991 (CSO, 1995).

A resultant feature of the overextended network of primary and secondary schools was a massive school leaver unemployment problem. This problem attracted massive criticism of the educational system in Botswana which was accused of being irrelevant and of producing unemployable citizens. While there were complaints of unacceptably high levels of unemployment, the government, paradoxically, increased its importation quota of expatriate workers who had industrial skills (CSO, 1993). Prior to universal access to education, the unemployed had comprised mainly of the illiterate and some of the standard seven leavers, but between 1986 and 1996 the unemployed included both the junior and senior secondary school leavers. Therefore, Botswana's strategy of investment in education meant to generate lucrative employment, together with the anticipated concomitant resultant benefits from the expected social and economic development seemed unattainable. It became logical therefore, albeit unsubstantiated by empirical evidence, to assume that the education system was failing to produce products who were capable of finding employment and more so, of creating employment for themselves. Botswana then committed itself to the vision of employment creation through entrepreneurship as clearly stated by the Presidential Task Group, (1999:4):

“The education system will empower citizens to become innovators and best producers of goods and services. It will produce entrepreneurs who will create employment through the establishment of new enterprises.”

For the vision to take off, it is imperative that there be an alignment and consonance of focus in the images, perceptions and attitudes towards entrepreneurial attributes as reflected in the education and the economic fields. In most of the literature currently available, the question of consonance of images, perceptions and attitudes towards entrepreneurial attributes in schools and industries has received very little or no mention. Thus, the underpinning purpose of this study was the identification and investigation of the relationships in images, perceptions and attitudes towards entrepreneurial skills and attributes in the context of the senior secondary schools and manufacturing industries in

Botswana. The broad, all embracing aim was to find out if there is consonance or disjunction between the entrepreneurial skills and attributes inculcated through the senior secondary school curriculum and those required by the manufacturing industries in Botswana. The investigation was therefore, concerned with the identification, description and explanation of the relationships that exist between images, perceptions and attitudes towards entrepreneurial skills and attributes as portrayed by students and teachers in senior secondary schools and industrialists in the manufacturing sector in Botswana. The ulterior aim was to subsequently weave these different views, perceptions and images into a relevant, theoretical entrepreneurial curriculum framework for Botswana that inculcates and centralises entrepreneurial skills and attributes.

5.3 The research design

Stewart, (1996:69) cites the hallmark of a good hypothesis or research question as that which suggests the form of research design that is likely to yield the most accurate results and is suitable for the investigation. The nature of the research questions in this study suggest the use of two complementary research approaches: the investigative descriptive survey and the correlation inquiry. The descriptive survey aspect of the investigation is important in that it provides understanding and the accumulation of knowledge as Anderson, (1990:8) correctly observes:

“Unless we can describe, and quantify our observations in objective terms, they will have little meaning for others and will be of no general use.”

It is of fundamental importance to appreciate that a description on its own as an investigative tool is inadequate for investigating consonance. Consonance is a covariant relationship that either depicts commonality or divergence of focus of images, perceptions and attitudes. On a similar note, relevancy implies an element of a common uni-directional mode of focus as opposed to irrelevancy, which implies a mutually opposing polar bi-directional mode of focus. Thus, both relevancy and consonance of

phenomenon call for an inquiry that seeks associations and covariance. In one sense, as Anderson, (1990:138) suggests:

“this is the next level of description, an explanatory level that describes how one variable relates to another. Description gives added depth when it includes relationships among variables.”

The descriptive investigative survey is probably the most appropriate design for this study as it is inherently “adapted to obtaining personal and social facts, beliefs and attitudes” (Kerlinger, 1989:386). The descriptive survey research gathers data at a particular point in time with the intention of describing the nature of existing phenomenon and determining the relationships that exist between specific events (Cohen and Manion, 1989:97). Researchers such as Philips, (1961); Isaac and Michael, (1983); Cohen and Manion, (1989) and Charles,(1995) have written extensively on the functions and characteristics of the descriptive survey research method. There seems to be a convergence of thought on the functions and characteristics of the investigative descriptive survey. An archetypical functional definition of an investigative survey as portrayed by Mouly, (1978:180-81) is research that is:

“oriented towards the determination of status of a given phenomenon rather than towards the isolation of causative factors accounting for its existence ... The primary goal of the survey is the investigation of the present status of the phenomenon. Surveys must do more than merely uncover data, they must interpret, synthesise and integrate these data in relation to the problem and point to their implication and interrelationship.”

Similarly, the investigative survey adopted in this study is predicated on the same thought continuum; to give a detailed description of various perceptions, perspectives, images and attitudes towards entrepreneurial attributes as obtaining within the school and industrial contexts. In this case, the survey does not limit itself to “what is”, but also identifies, interprets, synthesises and integrates observable correlates in the perceptions, perspectives and attitudes of students, teachers and industrialists in an attempt to solve the problem of providing schools with a relevant entrepreneurial curriculum. It must be pointed out that it was not the intention of this study, nor indeed the purpose of survey, to

identify causal relationships but the study would be satisfied with the isolation and analysis of relationships and associations within the variables under study.

A major reason for selecting the investigative survey research method in this study was the advantage cited by Mouly, (1978:18) and Cohen and Manion, (1989:97) that the survey research method gathers information from a broad spectrum of respondents relatively cheaply and within a short time. In this case, the population strata were not only wide, but was also diverse necessitating a method that could easily and efficiently cover the broad sample identified. Kerlinger, (1989:381) also observed that the survey research method has the advantage of ease of data collection and analysis coupled with an unambiguous definition and specification of the research problem. It is interesting to note that Patton, (1987: 11) a proponent of qualitative research methodology, described quantitative survey research in highly complementary terms as “succinct, parsimonious and easily aggregated for analysis; they are systematic, standardised and easily presented in a short space.” On the other hand, Burchfield, (1994:14) views the value of the investigative survey research as lying mainly in the ease of generalisation of the findings. The survey method elicits information from a representative sample of respondents and the results can, in most cases, be generalised to a larger population with similar characteristics.

It must, certainly, be appreciated that the investigative survey is not without limitations. One of its major weaknesses is closely associated with its broad nature (Kerlinger, 1989:386). The investigative survey tends to have a broad lateral spread, which may at times be achieved at the expense of depth. Cohen and Manion, (1989:97) have argued that this should not be seen as a militating factor as surveys vary in their levels of complexity and depth; from those which provide simple frequency counts to those which present relational analysis. In fact Kerlinger, (1989:387) has argued that the lack of depth often cited as a major weakness in surveys is not necessarily inherent in the method itself and cites the Verba and Nie, (1972) studies which showed that it was possible to go considerably below the surface opinions using the survey method. In this study the problem of depth has been largely pre-empted by the extensive literature review

preceding the empirical investigation and the somewhat lengthy questionnaire, which sought both lateral breadth and longitudinal depth.

Philips, (1966:126) raised the argument of the survey method as producing information, which is equivalent to the knowledge of the respondent. Although the argument sounds compelling, it is instructive to note that it is not the role of the respondent to give detailed scientific explanations in surveys because, if such information is required, it should be accessed through qualitative means and approaches, which seek depth such as document analysis and case studies. Furthermore, surveys such as this one have to be preceded by extensive literature review which empowers the researcher to siphon the information through existing works to give it the necessary weighting and depth. To further minimise this limitation, information gathered is crosschecked with official documents whenever they are available, thus increasing concurrent validity.

Another problem often cited which is closely associated with the descriptive survey is that of choosing a suitable representative sample. The common argument is that a poorly selected sample in an investigative survey may restrict the validity of the findings. While the cogency of this argument is acknowledged, it is important to recognise that the subjects under study in this investigation such as students and teachers tend to be homogenous and show very little divergent characteristics and therefore, any reasonably stratified random sampling should be representative of the population. It must also be pointed out that the generalisations made from the findings should only be applicable to the defined population frame. On a similar vein, Anderson, (1990:196) clearly points out that:

“Restricting data collection to a sample need not be a serious limitation on external validity since with effective sampling techniques one can generally obtain valid estimates of the characteristics of the whole population.”

A problem inherent in any investigation, which includes correlation, is the one often referred to as the “third variable” (Burns, 1998:214). Correlation inquiry involves the calculation of a correlation co-efficient which is a measure of the extent to which

variables vary in the same way. It thus describes in quantitative terms the degree to which the variables are related. Correlational relationship does not imply a linear causal relationship. "In reality, both variables are probably related to an important third variable ... and it is always possible that some third underlying variable is responsible for the relationship between the first two" (Anderson, 1990:144). Consequently, an investigation may be limited to exposing those loose associations and hence may miss the important underlying relationships. It is for this reason that this study has combined the correlation enquiry with a descriptive aspect, which explains and interprets the relationships.

Once the arguments for selecting the research methods have been articulated and all the alternatives given due consideration, it is reasonable to consider that there are no perfect designs but the suggestions of Miles and Huberman (1984:253) may be reassuring:

"If you self-consciously set out to collect data and double check findings, using multiple sources and modes of evidence, the verification process will largely be built into the data gathering process, and little more need to be done than to report on one's own procedures."

5.4 Target population

The target population in this investigation comprised senior secondary school students, teachers and industrialists from the manufacturing sector. The population was influenced mainly by the nature of research questions and the availability of resources.

5.4.1 Senior secondary school students

The student population targeted comprised all the students attending Form 5 classes in either government or government sponsored senior secondary schools or international secondary schools in Botswana. They were particularly targeted because of their

importance as school leaving classes. In Botswana, students go through a seven-year programme leading to the Primary School Leaver's Certificate. The secondary school programme is organised into Forms and covers five years from Form 1 to Form 5. The secondary education continuum is subdivided into the junior level, which covers the first three years, and the senior level which covers the latter two years. On completion of the three-year junior certificate course, a national selection examination is written which determines entry into the senior secondary sector. The average transition rate from the junior secondary school level to the senior secondary school level is approximately 40% (Ministry of Education, 1999:17). It is mainly to this 40% that Botswana looks for high-level skills, innovation and creativity to sustain her current vibrant economy. It is the same group, which is on the threshold, facing the realities of unemployment in the turn of the century and stands to gain by the creation of wealth through entrepreneurship. It is this same cohort, which is on the verge of being described by prospective employers as "lacking in creativity and innovativeness". Furthermore, in Botswana's research arena, this group has been general sidelined by most researchers who have tended to concentrate on junior secondary schools.

The target group comprised twenty-seven government /government sponsored senior secondary schools and five private international secondary schools. Excluded from this target population unit are the "Setswana medium" private secondary schools, study groups and "Brigades" which provide informal secondary education in Botswana. It must be acknowledged that students in these institutions form a significant portion of the student population in Botswana. They have been excluded mainly because most of them study independently as private candidates and access to them would probably be problematic. Furthermore, taking these institutions aboard would most have compounded sampling problems and decreased external validity of the findings. This, perhaps, could be another area for future investigation. Thus, the findings of the study are only applicable to Form 5 students in the formal education sector.

5.4.2 Senior secondary school teachers

The perceptions and attitudes of teachers are crucial in the development of a culture of creativity in schools (Miel, 1961:3). Hence, in this study, the teachers form a key component of the population unit. The study targeted senior secondary school teachers because they administer, supervise, guide, develop and implement the senior secondary school curriculum (Miel, 1961:5). Furthermore, they are constantly in contact with the students. This way, the teachers are pivotal determinants in shaping and developing the students' skills and attributes as they inculcate and pass on their perceptions, images and attitudes (See section 2.12 paragraph 6).

5.4.3 Industrialists

Included in the population of industrialists were resource managers from both the small and large-scale manufacturing industries. The human resource managers were targeted as participants because of the crucial role they play in the industries. They sit in recruitment, planning and promotion committees and they form the industrial "elite" with a bird's eye-view of the proceedings of the whole company. In most cases, they act as company spokespersons and their statements are often grounded on company policies. According to Marshall and Rossman, (1989:94) elite respondents:

"respond well to enquiries related to broad areas of content and to a high proportion of intelligent provocative questions that allow them the freedom to use their knowledge and imagination."

It is important that the target group be accurately identified as failure to do so may lead to problems of external validity (Anderson, 1990:197). The generalisability of the findings is inherently interwoven with the nature of the target population. In the case of this study, it is important that the inferences regarding the findings be limited to the population groups identified. Thus the target group is the manufacturing industries and the respondents are the human resource managers. In the same vein, the findings of the

study cannot be applicable to other service industries outside the defined population parameters.

Small businesses in this study refer to businesses that employ less than twenty people including the owner and own plots in the developing industrial estates leased by the government in either Gaborone, Ramotswa, Molepolole or Lobatse. The major reason for particularly including these small-scale enterprises in industrial plots is their development and employment potential. Chinyoka, (1997) has already carried out an exploratory study on these entrepreneurs and has identified their latent potential. It is these nascent entrepreneurs who have the potential of becoming feeder industries for the large industries engaged in export-oriented activities. According to Chinyoka, (1997:16) all these entrepreneurs went into business “primarily on their own steam”. If the economy has to sustain its current developmental momentum, these nascent industries have to develop a creative innovative edge by utilising entrepreneurial skills and attributes inherent in the young labour pool from senior secondary schools. The types of small-scale industries included in the population are shown in Table 5.1.

Table 5.1
Different Types of Small Scale Industries in the Target Population

Garments	Metal work	Furniture
Food packaging	Livestock feed	Milling and Packaging
Engraving	Knitting	Pottery
Refrigeration	Welding	Manufacturing of Leather
Food production	Jewellery	

(Adopted from Chinyoka, 1997:44)

Large-scale industries in this study comprise manufacturing firms with a minimum of 25 workers. This was to ensure that the establishments studied had the potential of development, employment and export capacity. The large industries in this population unit included only those industries situate within the major urban areas of Gaborone, Lobatse and Francistown as shown in Table 5.2.

Table 5.2

Types of Large Scale Manufacturing Industries Located in Gaborone, Lobatse and Francistown.

Automotive Industries	Ballast and Crushed Stones	Bag Manufacturing
Beverages	Brick Production	Tyre Production
Cap and Helmet Production	Bone Mill Product	Film Production
Food Packaging	Fridge Assembly	Plumber and Sheet
Game Industries	Glass Industries	Gemstone Industries
Printing	Grain and Milling	Livestock Feed
Hide and Skin Production	Meat Packaging	Meat Processing
Engineering and Welding	Paint Manufacturing	Steel Furnishers
Pipeline Production	Furniture Manufacturing	Shoe Manufacturing
Radiator Manufacturing	Textile Industries	Car Assembly
Dairy Products	Sugar Industries	Bottles and Bottling
Paper and Stationery	Brake linings	Car Batteries

(Compiled from Botswana Telephone Directory, 1999)

5.5 Samples and sampling procedures

The size of the population under study, the expenses involved, issues of accessibility and time were taken into consideration when determining samples and sample sizes for this study. The large heterogeneous population unit made it impractical to attempt to obtain information from the whole population universe described in the previous section. The researcher therefore collected information from members of different representative subsets of the population in such a way that the knowledge gained was representative of the total population under study (Cohen and Manion, 1989:101 and Anderson, 1990:197). The study comprises a clearly stratified population universe: Form 5 senior secondary school students, teachers in senior secondary schools and industrialists. Thus, the nature of the population universe requires stratified sampling procedures in line with Cohen and

Manion, (1989:101) and Stroull, (1995:111) who have argued that sampling should be consistent with the nature of the components under study and must uphold and reflect the principles of representation of the population which is being investigated.

According to Anderson, (1990:199) the most perplexing question to both novice and experienced researchers is the question of sample size. To solve the riddle, the investigator in this study was largely influenced by the variability of characteristics under study. Each variable was given a representation within the sample to ensure that the sample was representative of the target population (Anderson, 1990:199).

5.5.1 The students sample

To select student respondents, first, fifteen senior secondary schools (55% of the total senior secondary school population) within the government and government-aided schools were randomly selected. After the initial random selection of the fifteen participant schools, stratified sampling was done in terms of sex, subject orientation, geographical location of the schools and status of the schools as shown in Table 5.3. Once stratification had been completed, random sampling was used to select individual students.

Table 5.3

The Planned Sample of Senior Secondary School Students

Strata Characteristic	Girls	Boys	Total in Sample
Sex	90	90	180
Natural Sciences	30	30	60
Social Sciences	30	30	60
Practical Subjects	30	30	60
Urban Schools	45	45	90
Rural schools	45	45	90
Government schools	90	90	180
Private international schools	18	18	36

In terms of each of the participant schools, this meant a sample of six male and six female students making a total sample of 180 student respondents from the government and government aided schools. The sample was made up of two students (one male and one female) per subject orientation. In terms of geographical location, eight urban schools and seven rural schools took part. The private International Secondary Schools had a representation of 18 boys and 18 girls selected from different strata as follows: six girls and six boys per school, two boys and two girls per subject orientation per school.

It was important to select student respondents using the stratified sampling method in this study so as to provide an equal chance for the selection of different subject orientation and a broader representation of different characteristics (Kerlinger, 1989:101). For instance, it allowed for representation in terms of gender, location, subject orientation and the status of the school. Another advantage observed by Kerlinger, (1989:101) is its strength when making inferences. Stroull, (1995:114) describes random sampling as having a high probability of being representative of the population while stratification increases the precision of analysis hence it was utilised in the sampling procedures for student respondents.

Out of a total of 216 questionnaires administered to Form 5 students 76.1% of the questionnaires were completed and returned. The responses were much higher than expected in the light of the argument that thirty responses can be considered as reasonable for conducting an investigation (Cohen and Manion, 1989:104). In fact, Philips, (1966:95) and Stroull, (1995:128) have argued that the basic prerequisite number of respondents is determined by the nature of the variables, types of statistical tests to be administered, level of confidence required and the homogeneity within the subjects under study. It was therefore, felt that for the purposes of this study, the returned responses were adequate.

The average age of the student respondents was 18 years which was fairly representative of the modal age range among Form 5 students in Botswana (Central Statistics Office, 1998), hence the reporting sample was deemed to be a fair representation of the Form 5 student population in Botswana senior secondary schools. Thus, any findings related to

the age variable should be seen as having high generalisation value. The reporting sample representation in terms of sex was 51.8% female and 48.9% male. This can be viewed as a microcosmic representation of the students' population in Botswana secondary schools where the females have, for the past ten years, comprised a higher percentage than males (Central Statistics Office, 1999:16).

The subject orientations of natural sciences, social sciences and practical vocational subjects were highly reflective of the secondary school curriculum in Botswana. Perhaps of concern was the exclusion of linguistics and other art subjects, which were bundled together under social sciences. Thus, social sciences contained too large an array of subjects making it difficult to pin down any particular subject orientation as the influential variable within the large cluster. Private schools and secondary schools in rural areas were also slightly over represented in the responses. However, this on its own could not, in any way, invalidate the findings.

5.5.2 The sample of senior secondary school teachers

To select the teacher participants, first, fifteen participant schools were randomly selected from the 27 government or government sponsored senior secondary schools in Botswana. From each of the fifteen schools, six teachers were selected through convenience sampling to take part in the study in order to reflect an equal representation by sex, subjects taught, geographical location and the status of the school. Convenience sampling was also used to minimise teacher response resistance. The researcher is aware of the potential bias inherent in convenience sampling as clearly put forward by Stroull, (1995:119). However, the homogenous nature of the teacher sample minimises the standard error and increases the confidence level making the findings reasonably applicable to the teacher population in senior secondary schools in Botswana. Table 5.4 presents the planned composition of the respondent teacher sample.

Table 5.4**Planned Composition of the Teacher Sample**

Sample variable	Male	Female	Total
Sex	45	45	90
Natural Sciences	15	15	30
Social Sciences	15	15	30
Practical Subjects	15	15	30
Urban	23	22	45
Rural	22	23	45
Government	45	45	90
Private International	15	15	30

Forty-nine percent returns were received from the teachers. The returns were considerably higher than expected. A possible explanation could be that the questionnaires were administered and collected by assistant researchers. The teachers who responded ranged from 25 years to 60 with 71% being 41 years of age and above. Basically, the whole teaching age group range was captured in the survey thus increasing the validity and generalisability of the findings.

In terms of location, about 62% of those who responded came from the cities. The villages were under-represented in terms of reporting participants as they hold an almost equal population of teachers as those in the cities. Perhaps the high response from the urban teachers could be attributed to the ease of communication between the investigator and the urban teachers compared to those in the rural areas. There was also a high response from private schools which were therefore over represented in relation to the obtaining teacher situation in Botswana. It is interesting to note that the administration of the questionnaires in private schools was carried out by the school deputy heads unlike in government schools where class teachers were requested to administer the questionnaire. It can possibly be argued that the high response rate in the private schools was a result of deferment to authority as represented by school deputy headmaster. Another plausible explanation could be that the large expatriate staff population in the private schools might

be more culturally inclined to respond to questionnaires compared to the more locally oriented staff in government schools. On the other hand, the few returns from government schools could be a simple expression of inertia prevalent among government personnel.

The educational level of reporting teachers was consistent with the structure of qualifications in senior secondary schools in Botswana. Seventy-five percent of the teachers in senior secondary schools have degree and diploma qualifications while about twenty-five percent have diplomas (Republic of Botswana, 1999:60). This is consistent with the government policy of deploying graduate teachers into senior secondary schools in Botswana. Those who hold diplomas tend to be those teaching practical subjects such as Design and Technology, Business Studies, Home Economics, Moral Education and Music. Thus, the teachers who reported in this study are largely reflective of the secondary teacher cohort in Botswana. This representation should positively impact on the validity and generalisability of the findings of the study.

5.5.3 The sample of industrialists

The sample comprised human resource managers from both small and large-scale manufacturing industries. A stratified sample was selected from the population unit of both small and large scale-businesses. The major selection criterion was the type of industrial activity carried out within the business and its location. To reduce the possibility of bias, there was no industrial activity which was given more than 13.5% representation in the sample. The representation range within the samples varied from 0% - 10%. The varied nature of the industrial activities ensured a broad general representation of manufacturing industries given in the population frame. This ensured that the findings were largely representative of both the small and large-scale industries as defined in the population unit.

Sixty-two questionnaires were sent out to 30 small-scale and 32 large-scale industries. A total of 34 responses were received from a possible total of 62. Of the reporting industrialist respondents, 28.1% were female and 71.9% male. The gender representation

contrasts very sharply with the reporting sample recorded by Chinyoka, (1993) where 40% were male compared to 60% females. However, it could probably be argued that Chinyoka (1993) investigated mainly small-scale industrialists whereas the current study includes large-scale industries, in some cases, with more than 100 employees. It is mainly in these large industries that management seems to be dominated by males.

The largest number of returns received (40.6%) were from the small scale and large-scale industries. The medium-scale industries had the least returns of approximately 18.75% representation. The actual respondents tended to be quite elderly people while the industries they represented were relatively new. Approximately 40% of the industries, which responded, had been in operation for less than five years. The second largest reporting sample were industries, which have been in existence for 11 and 15 years. The oldest industries established over 20 years ago formed 21.8% of the reporting sample. The representation seems quite representative in that most industries in Botswana are a post independence phenomenon with most of them having been established during the economic boom of the early 1980s.

It is essential to understand and appreciate that for the purposes of analysis industrialists, were taken as a monological entity. The paramount aim was not so much as to target a particular classification of industry but rather, to get a broad blanket picture of the attitudes obtaining in the industries regardless of the age and the size of the industry. This also avoided the sterile inquiry on whether an industry belongs to the macro, medium or micro sector. Indeed, the study strongly acknowledges possible inherent differences created by such factors as factory age and size but views them as of little consequence in the context and scope of this study. Thus, only in cases where there are glaring differences in attitudes will the study differentiate among industrialists. A factor to the selection of this approach was the thin spread of returns among different industrial sectors, which made it inordinately unviable to draw categorised generalisations.

5.5.4 A summary of the reporting sample of students, teachers and industrialists

A summary of the subject groups, which participated in this study, is given in Table 5.5 below:

Table 5.5
Summary Sample of Students, Teachers and Industrialists

Target group	Planned Sample	Actual Returns	Non-returns
Senior secondary school students	216	131	75
Senior secondary school teachers	120	59	61
Industrialists	62	34	28
Total Respondents	398	224	164

5.6 Instrumentation and data collection procedures

The instrument used for collecting data in this study was a questionnaire. Three questionnaires were used namely:

- a) a student questionnaire
- b) a questionnaire for teachers and
- c) a questionnaire for industrialists.

It is important to note that the three instruments comprised either identical or closely related items to allow for correlation of responses. The major differences were the addressees and at times, the wording, which was tailored to suit the clientele's activity and environment.

An immediate reason for selecting the questionnaire, as the instrument for data collection in this study was the ease and speed of data collection associated with the use of the questionnaire as cited by Anderson, (1990:207):

“A well constructed questionnaire permits the collection of reliable and reasonably valid data relatively simply, cheaply and in a short space of time.”

The questionnaire was also selected for collecting data because of its obvious advantage of reaching a large number of respondents situated in different locations within a short period without the researcher having to travel long distances. It needs less time and is comparatively cheaper than conducting interviews. In addition, the questionnaire was selected because of the ease of availability of some aspects of the instrument which had already been validated and whose use had sufficient reliability to warrant re-use. For example, some aspects of the validated instrument used by Miller and Friesen, (1982) and the Smith Achievement Potential Measure, (1973) were modified and incorporated into the questionnaires used in this study.

Another important dimension for using the questionnaire for collecting data in this study was its capacity to measure the variables reflected in the research questions. According to Stroull, (1995:167) a questionnaire “is the only way to elicit self reports of people’s opinions, attitudes, beliefs and values” and this study is concerned primarily with people’s perceptions, attitudes and values. The instruments in this study, therefore sought to measure attitudes and perceptions. The act of measuring attitudes is inherently tied to the definition of attitudes, yet it must be appreciated that not all definitions of attitude have clear measurement implications (Ajzen and Krells, 1994:251). Thurstone’s definition of attitudes in 1934 opened the way for the creation of attitude scales. He realised that all attitude measurements involved abstraction and have to restrict themselves to clearly defined continua along which a construct can be qualified (in Borg and Mohler, 1994:251). Basing their argument on the same logic, Eagly and Chaiken, (1993:1) also postulated that the main characteristic attribute of attitude is its evaluative dimension. Consequently, Borg and Mohler, (1994:25) concluded that:

“Attitude scales are generally designed to produce for each respondent, a score that places the individual on a certain point along the unidimensional evaluative continuum from extremely negative, through neutral to extremely positive.”

In line with the arguments advanced above, the questionnaires used for collecting data in this study comprised Likert-scale items where responses were assessed on a five point multiple choice agreement scale.

The format of the instruments was modelled on the Canadian International Agency (CIDA) Graduates Questionnaire (in Anderson, 1990:218-220) where the first part requires demographic data on such variables as sex, age, location and type of institution. The items progress to the descriptive type of information and then to the more involved attitudes and opinions. Items related to the orientation of the school and industries towards entrepreneurial dynamism were adopted from Miller and Friesen, (1982) and the Hogan and Champagne Personal Style Inventory, (1990) while items measuring achievement motivation and locus of control were adopted from the Smith Motivation Potential Measure, (1973). The items were adopted because of their confirmed content validity and reliability and their suitability to the research questions under study. It must be acknowledged that although attitudes are significant indicators of behaviour towards the attitude objects, there are changeable and are often useful for short-term predictions and exploratory work (Stroull, 1995:186). These, it is hoped, will facilitate ease of identifying relationships in perceptions and attitudes.

A common debate about questionnaire writing is the sequence of questions on the same topic. The question is, whether to arrange questions from the same topic consecutively or whether to disperse them throughout the questionnaire. In this investigation, questions on the same topic were grouped together. This is in line with Anderson's, (1990:214) argument that since item questions are based on research questions, they are already grouped to some degree and therefore “questions on the same topic should be grouped together and questions of similar form should be grouped”. This also reduces repetition of instructions. Furthermore grouping questions presents a neater and more purposeful look to the questionnaire.

When selecting the questionnaire, the researcher was aware of the weaknesses inherent in using questionnaires for collecting data Cohen and Manion, (1989:308) and Stroull, (1995:194) mention among many others, lack of opportunity for respondents to ask for explanations, the inability of the investigator to probe and the lower response rates often associated with postal questionnaires. However, on lower response rates, Cohen and Manion (1989:111) hasten point out that:

“Response levels to postal surveys are not invariably less than those obtained by interview procedures; frequently they equal, and in some cases surpass those achieved in interviews.”

At times the questionnaire may give insufficient information and respondents may omit some parts of the questionnaire. It may also have inherent errors such as items that lead the respondent to specific responses resulting in lower data validity (Stroull, 1995:166). However, sources of error in questionnaires are mainly limited to the instrument and sample. It is free from such weaknesses as interview bias and influences on the responses. It is also devoid of bias created by interview respondent interaction.

5.7 Research procedures

In Botswana, there are laid down procedures for carrying out a research study. The investigator had to first inform the Curriculum Development and Evaluation in the Ministry of Education, as the project related to curricular issues (Annex D 2). This was important in that it allowed the researcher to access information within the department without inhibition as the investigator was not a citizen of the country under study. Anderson’s (1990:26) observation comes into the fore that “research involving people of different countries and cultures requires special care”. Hence the importance of trudging carefully through the defined steps for researching within the country. In line with Botswana’s Anthropological Act, (1986) the investigator had to apply for a permit (Annex D) to carry out research within the country from the Ministry of Presidential Affairs, which is responsible for monitoring and licensing research projects in Botswana. Before the permit was issued, the project proposal, viability and worthwhileness of the study had to be scrutinised and approved. The permit defined the areas of research where

the researcher could access information and laid down conditions under which the researcher was allowed to carry out the study.

The second step was to select research assistants to administer the questionnaires in schools. In each of the fifteen senior secondary schools, the researcher requested one teacher to select student respondents as described in the section on sampling and then to administer the questionnaire on the selected students. After the administration of the questionnaire, the teacher was to post the responses to the investigator. The same teacher was to select three teachers within his or her school on the basis of sex, subject taught and age as respondents. The teacher was tasked with the responsibility of passing on the questionnaire to the selected teacher respondents and returning the completed questionnaire by post to the investigator. For the industries within Gaborone, the investigator took the questionnaires to the respondents personally. For respondents outside Gaborone, the questionnaires were sent by post.

According to Anderson, (1990:22) the most fundamental principle for ethical acceptability is that of informed consent. Participants should be informed of the nature and purpose of the research, its risks and benefits and must consent without coercion. In line with this reasoning, all the questionnaires were accompanied by a covering letter explaining the purpose of the study, its importance and the confidentiality with which the information collected would be treated. In addition, the researcher and his assistants explained, where possible, *viva-voce* the purpose of the study and allowed for subjects to ask questions before completing the questionnaires.

5.8 Reliability

Reliability refers to the consistency of scores obtained by the same person when re-examined with the same test on different occasions (Anastasi, 1988:109). An effective method of assessing the reliability of an instrument over a period of time is the test and re-test method which calculates the reliability co-efficient between the scores obtained by the same person on the two administrations of the test (Anderson, 1990:12). The researcher was aware that variations in the test and re-test responses may vary as a result

of such conditions as forgetting, fatigue, emotional strain among many others (Anastasi, 1988:17). Another factor, which needs to be highlighted in this research, is that because of the large sample, time and financial constraints, it was not possible to test and re-test the whole sample under study. A test and retest was only administered to ten students in only one school, which was selected for its convenient nearness to the researcher. The correlation found at 60% replication of the previous responses served as an estimate for the reliability of the instruments in relation to the items tested.

The items adopted from Miller and Friessen, (1982) were not assessed as the reliability measure was already given as an average of 7.4 for all variables on the Cronbach alpha measure. In all instances, the Cronbach alpha measure well exceeded the guidelines set up by Van de Ven and Ferry, (1980:78 – 82) for measuring organisational attributes. Construct reliability therefore, appeared to be acceptable.

5.9 Validity

The validity of a questionnaire is the extent to which it measures what it purports to measure; whether it is valid for the purposes for which it is claimed to be valid (Fitz-Gibbon, Morris and Henerson, 1987:115). The content validity of the instruments used in this study was established by requesting a university lecturer, an educational consultant and eight senior secondary school teachers to ascertain if the items in the questionnaires covered the topic satisfactorily. The researcher took advantage of a meeting held for senior teachers at Palapye to discuss with the group and make corrections on the validity of the instruments. Validation was also through the intensive literature review forming the grounding for the investigation. In addition, items which were adopted from Smith, (1973); Friessen and Miller, (1982) and Hogan and Champagne (1990) Personal Inventory should increase concurrent validity.

5.10 Data analysis techniques

Fitz –Gibbon et.al.(1987:118) point out that data analysis strategies are largely determined by the design of the research study. The method of statistical analysis

adopted in this study involved mainly descriptive statistics of central tendencies, the mean and standard deviation. For comparative purposes, percentages were used. Cross tabulation using the SPSS 95 computer package was used to reveal the inter-relations among variables. A further statistical procedure was the computation of the covariance matrix for each cluster of questions if it made sense. In the presentation, insignificant correlations were eliminated after checking the size of their communality and loadings.

Finally, each of the mean responses from the major respondents the students, teachers and where relevant, the industrialists were correlated and a correlation matrix presented. The specific procedure followed was the Pearson product moment correlation as described by Havelock and Huberman, (1977:226). The theoretical range of each correlation was from -1.00 indicating a completely inverse relationship to $+1.00$, indicating that the items elicit exactly the same response. A correlation of 0.00 would indicate no relationship whatever between the items. For the typical correlation reported in this study, a confidence level of 0.01 (two-tailed test) was considered to be significant. Before undertaking each of the steps, each variable was screened individually for outliers and skewed distributions. In most cases, tables, tabular matrixes and graphic presentations were made. Insignificant interrelations, co-variations and infinitesimal impact of variables were deliberately left out although in some cases, mentioned in the research questions.

5.11 Conclusion

The chapter gave a description of the research method adopted in this study. The investigative survey research method was used because of its ability to capture data from a variety of respondents and its suitability to the research questions given in this study. The chapter also described the research procedures, which were followed and discussed the methods used for sampling; stratified random sampling and convenience sampling respectively. The main sources of data in this study were Form 5 students in senior secondary schools, teachers and human resource managers in manufacturing industries. The instruments used were three questionnaires addressed to the three respondent groups.

Descriptive, correlation and comparative analysis was used for data analysis using the SPSS computer package. Chapter 6 presents the findings of the study.

Chapter 6

Analysis and Discussion of Results

6.1 Introduction

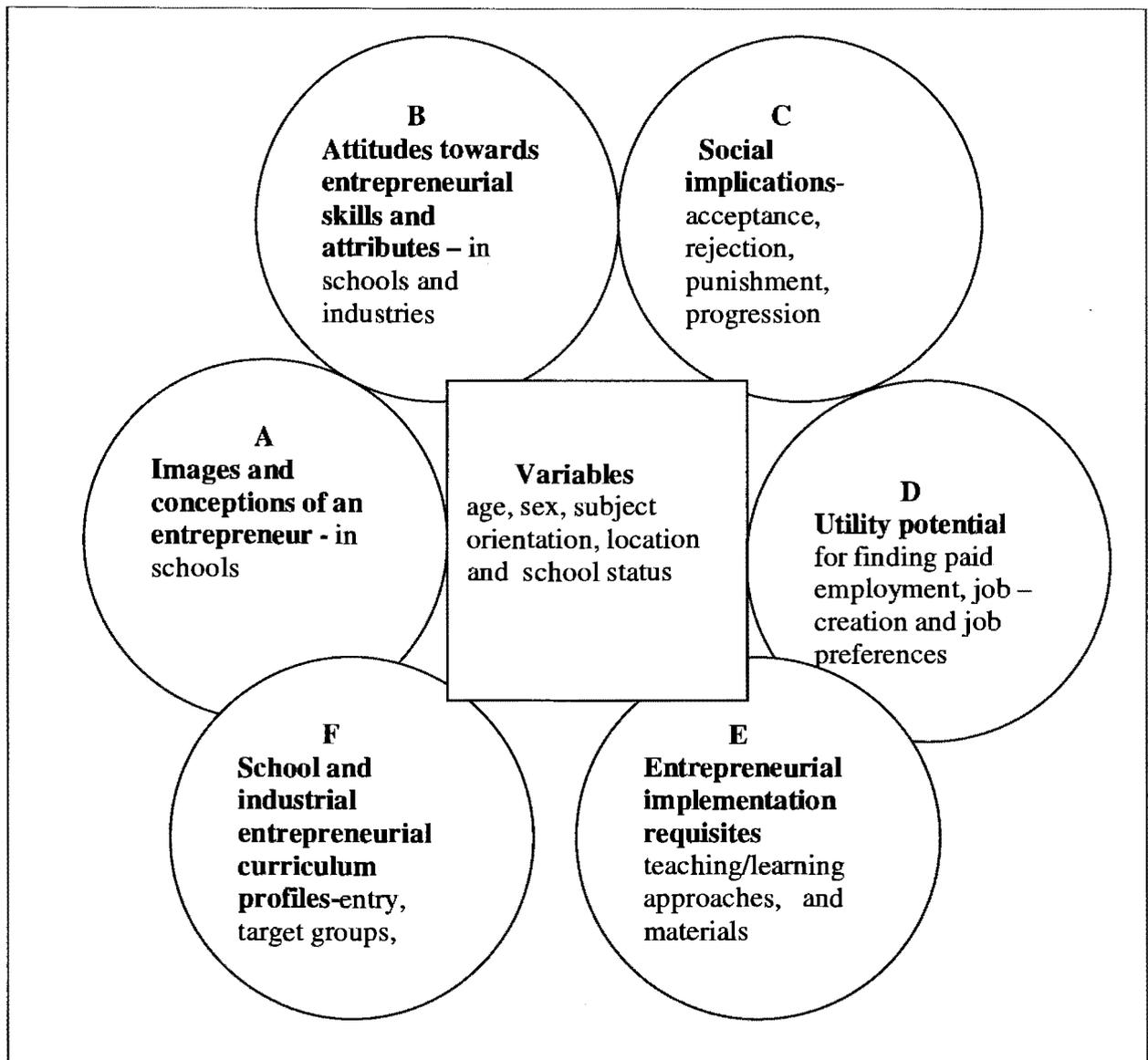
In this study, the analysis and discussion of data comprised several interrelated dimensions. The **first dimension** presents and discusses findings on the fundamental percept and images of an entrepreneur as conceived by students and teachers in senior secondary schools in Botswana. Within the same dimension, the study identifies and discusses entrepreneurial correlates in the light of the assumptions and predictions made in the literature review. Where relevant, the study also analyses the effects of variables such as gender, school status and subject orientation on the entrepreneurial images and conceptions.

The **second dimension** comprises an analysis and discussion of the findings on attitudes of students, teachers and industrialists towards entrepreneurial skills and attributes. The dimension circumscribes the status of entrepreneurial skills and attributes in relation to traditional academic and conformist skills and attributes inculcated in schools and industries. Furthermore, it presents findings on the skills and attributes, that schools and industries consider as worthwhile. These are discussed in the backdrop of the predictions proposed in the literature review.

The **third dimension** is the presentation, analysis and discussion of the social implications of the possession of entrepreneurial skills and attributes. It presents findings on social acceptability/rejection, the reward/penalty system and progression in schools and industries. The implications are discussed in the light of traditional, comparative skills and attributes inculcated in schools and industries. Figure 6.1 gives a conceptual framework for analysis and discussion of data in this study.

Figure 6.1

A Conceptual Framework for Data Presentation and Analysis



The **fourth dimension** presents and discusses the findings on the utility value of the possession of entrepreneurial skills and attributes in industries. This dimension is concerned with entrepreneurial attributes as requisites for recruitment for employment and self-employment purposes. It also discusses findings on the frequency, intensity and source of entrepreneurial dynamism within Botswana's industries. Furthermore, it focuses on the

ranking of entrepreneurial and incubator occupations as alternative preferences in the hierarchy of occupations.

The **fifth dimension** comprises the presentation and discussion of results on pedagogic, entrepreneurial curricular implementation requisites. It compares types of teaching/learning approaches currently obtaining in Botswana's senior secondary schools in the light of entrepreneurial curricular implementation pre-requisites assumed in the literature. It also discusses the findings on the images of an ideal instructional material as perceived by teachers and students in Botswana senior secondary schools in the backdrop of teaching/learning approaches suggested for the acquisition of entrepreneurial skills and attributes in the literature review.

Finally, the **sixth dimension** reports on the findings relating to the profile of an entrepreneurial curriculum as perceived by students, teachers and industrialists. It reports and discusses the desirability of an entrepreneurial curriculum in the education system, the level of entry and the target group for an entrepreneurial curriculum. All the dimensions presented are discussed in the backdrop of existing literature as suggested by De Wet, et. al. (1981:38) and where applicable, the effects of gender, school status and subject orientation are presented and discussed in line with Figure 6.1.

(A) Images And Conceptions of An Entrepreneur in Schools

6.2 Images and conceptions of teachers and students

The postulant advanced in the literature review discussed in this study presented an entrepreneur as having a myriad of images and conceptualisations ranging from Schumpeter's (1934) innovative entrepreneur, Collins, Moore and Unwala's (1964) oedipal scenario to what Bridge, et. al. (1998:32) have referred to as an enterprising individual with a flexible and adaptable disposition with transferable entrepreneurial attributes. In order to have an insight into the images and perceptions of an entrepreneur as conceived by students and teachers in senior secondary schools in Botswana, respondents were presented with a

mixed bag of activities and attributes associated with an entrepreneur. They were requested to indicate how closely they associated each activity and attribute to an entrepreneur on a scale of “strongly agree”, “agree”, “uncertain”, “disagree” and “strongly disagree”. To analyse the data, each response was accorded a numerical value on a five-point scale with values rising proportionally to the level of disagreement. The highest mean values, therefore, are indicative of high levels of discordance. The smaller the mean values, the stronger the association of the attribute to the entrepreneurial image. To calculate percentages, a triad scale of “agree”, “uncertain” and disagree was used.

6.2.1 Students’ images and conceptions of an entrepreneur

Table 6.1 presents responses indicating the level of association between the activities, traits and the concept of an entrepreneur. The evidence presented strongly portrayed respondents as associating an entrepreneur first with a business (98.9%) and secondly, with creativity (84.9%). The student respondents “agreed” that an entrepreneur, in their perception was closely associated with a business. To a lesser extent, they also associated an entrepreneur with such attributes as intelligence, risk taking and high self-esteem. The respondents seemed uncertain about the level of association between an entrepreneur and a school subject. Of interest was the high consensus level demonstrated by low standard deviation values varying from .485 to 1.4248 throughout the responses.

The results as presented in Table 6.1 portrayed student respondents as viewing an entrepreneur from a bi-dimensional perceptual pedestal; first, as a concrete physical phenomenon and secondly as psychological construct. Bridge, et.al. (1998:22-32) have referred to this ambivalent perception of an entrepreneur as “the narrow and broad meanings” of the term entrepreneur. In the narrow dimension, the respondents perceived an entrepreneur as relating to a business. This is a common conception, which is often broadened to include starting a business as suggested by such writers as Brockaus, (1980); Birch, (1982) and Ndzingo and Chinyoka, (1997). In some instances, the same unidimensional image has included a businessperson or owner-managers as perceived in the studies by Hill, et.al. (1980) and Cooper and Dunkelberg, (1981).

Table 6.1

Students' Perceptions of Traits Associated with the Conceptions of an Entrepreneur
(N= 131)

Activity / Trait	Mean (1-5)	Std. Deviation	Agree (%)	Undecided (%)	Disagree (%)
Business	1.298	.4850	98.9	0.7	0.4
Creativity	1.883	.7884	84.9	.11.6	3.5
Intelligence	2.305	1.0121	70.5	14.1	15.3
Propensity for Taking Risks	2.314	1.1908	66.2	17.4	16.4
High Self Esteem	2.258	1.2114	66.1	18.3	15.6
Low Esteem	3.188	1.3930	40.5	4.0	55.5
Success	3.398	1.4428	38.9	17.6	43.5
School Subject	3.598	1.2277	10.3	10.3	79.3

A second conceptual image, which can be inferred from the findings, portrays an entrepreneur as closely linked with psychological constructs and competencies that “enable individuals, organisations and communities to be flexible and creative” (OECD, 1989:6-7). The attributes associated with an entrepreneur have included creativity, risk taking, intelligence and high self esteem (McClelland, 1961). An examination of the correlation matrix (Table 6.2) indicated a positive significant correlation at .01 level among the psychological correlates of creativity, risk taking and high self-esteem. There was also a positive correlation between activities and characteristics of self-employment, success and high self esteem at .01 level of confidence. Needless to say, there was a negative correlation between success and failure, albeit, at insignificant levels. Similar perceptual images have been reported in the studies conducted by McClelland, (1961); Palmer, (1971); Wartmann, (1987) and Gartner, et.al. (1989). In this image, the entrepreneur embodies distinctive characteristics, which can be identified.

Interestingly, students strongly associated an entrepreneur with a business regardless of their subject orientation. One hundred percent of the practically oriented students “agreed” that business was closely associated with the image of an entrepreneur while only 2.3% of

the social science students were uncertain of the existence of a relationship between an entrepreneur and a business. The response patterns were similar regardless of the subject orientation in relation to the propensity for taking risks.

Table 6.2 A Correlation Matrix of Entrepreneurial Activities and Entrepreneurial Traits (From Student Respondents)

	1	2	3	4	5	6	7	8	9	10
Business	1.00									
Risk	.247	1.00								
Intellig	.303	.064	1.00							
Failure	.078	.067	.207	1.00						
Sch. Sub.	.049	-.017	.265	<u>.498**</u>	1.00					
Self Empl	<u>.281**</u>	<u>.256*</u>	-.144	-.109	-.079	1.00				
Creativity	.087	.266*	<u>.295**</u>	.020	.024	<u>.395**</u>				
Success	.026	-.019	.279	.276	.089	-.211	-.097	1.00		
L.Esteem	.037	-.125	.267	.110	.335	-.206	-.021	-.690	1.00	
H. Esteem	<u>.674**</u>	.209	.162	-.152	-.208	<u>.524**</u>	<u>.501**</u>	<u>.274*</u>	<u>.337**</u>	

(*Correlation significant at 0.05 level (two-tailed)

(**Correlation significant at 0.01 level (two-tailed)

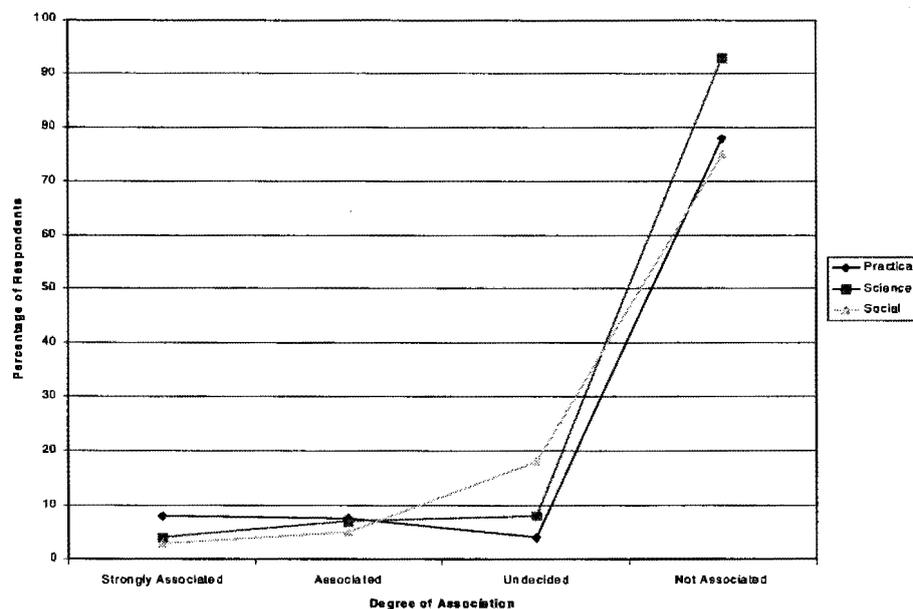
**1 Business 2 Risk Taking 3 Intelligence 4 Failure 5 Subject
6 Self Employment 7 Creativity 8 Success 9 Low Self-esteem
10 High Self esteem**

An observed difference was the broad divergence of opinion among students regarding the association between an entrepreneur and intelligence. Seventy-five percent of the practically oriented students “agreed” that there was a relationship between entrepreneurship and intelligence while 25% “disagreed”. Hornaday and Bunker, (in Jennings, 1994:145) associated entrepreneurship with intelligence and creativity. Yet, there is no standing consensus among researchers on the correlation between the two attributes. Guilford, (1950:448), for example, predicted only a low to moderate correlation between intelligence tests and creativity while studies by Getzel and Jackson, (1962) and Torrance, (1962b) found very low but positive correlation levels between intelligence and creativity. In this study, a significant positive correlation between intelligence and creativity were found. The findings seem to confirm the allegation made by Tsireletso, (1999: 2) that “creativity and innovation co-exist and co-vary strongly with intelligence, autonomy and

thought”. Furthermore, Van Praag, (1996:111) has gone further to posit that intelligence and schooling are important determinants of successful entrepreneurship.

Another notable observation was that students whose orientation was science and social sciences “disagreed” with the notion of relating an entrepreneur to failure. Only 3.7% in science and 2.7% in social sciences “agreed” that entrepreneurship was related to failure. A surprisingly large comparative percentage of 16.65 % of the practically oriented student respondents viewed an entrepreneur as a concept, which was related to failure as shown in Figure 6.2.

Figure 6.2
Entrepreneur/Failure Relationship Response Patterns by students

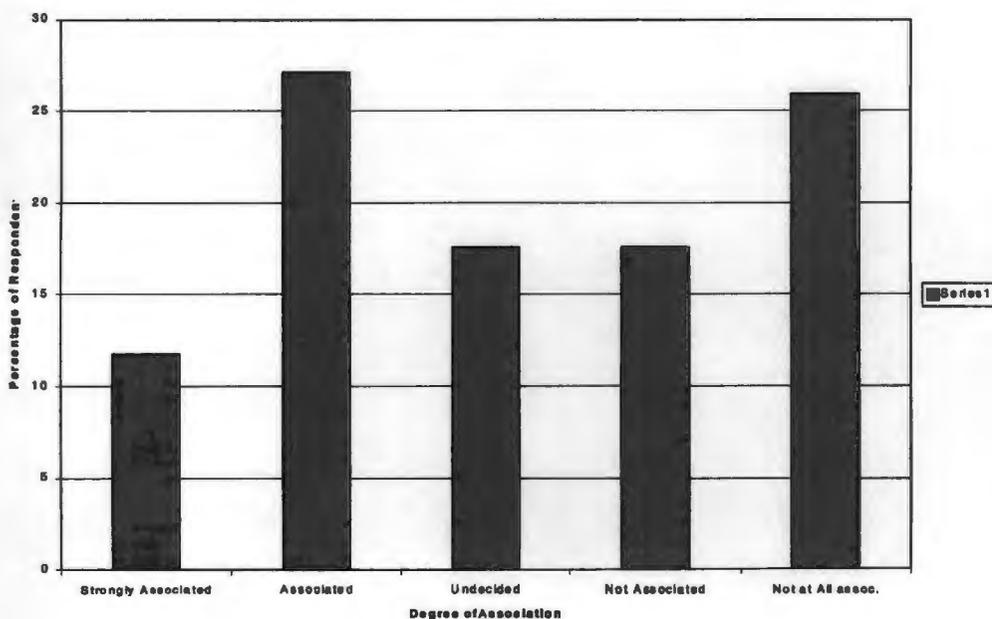


These results could be viewed as a confirmation of the low ratings accorded to practically oriented subjects by students doing vocational / practical subjects. It further concurs with Psacharopoulos and Loxely, (1985:5 –10); Coombe (1988:8) and Jones, (1992:203 –204) whose studies concluded that students doing practical subjects view their learning areas as of a comparatively low status in relation to academic subjects and at times regress into

academically oriented activities despite their practical subjects foundation at school. In essence, the findings seemed to bear out the fallacy of vocational articulation as already proved by many researchers.

Student respondents seemed to express mixed feelings regarding the association of an entrepreneur with success (Figure 6.3). Thirty-three percent of the student respondents related an entrepreneur to success compared to thirty-seven percent who associated it with failure.

Figure 6.3
The Degree of Association between the Concept of Entrepreneur and Success



A possible explanation could be the low levels of dependability of entrepreneurial ventures in Botswana observed by Chinyoka, et.al. (1998:6-7) which led them to conclude that entrepreneurial activities in Botswana have been on the decline since 1980 with many facing liquidation. As further confirmation of the instability and retrogression of entrepreneurial ventures in Botswana, the Government Paper No.1, (Republic of Botswana,

1999:4) recently made a scathing attack on the instability of entrepreneurial ventures in Botswana:

“Experience shows a high failure rate among start up business. 80-85% enterprise will disappear within 5 years of start upOn the other hand, it is believed that the majority of micro enterprise do not disappear but also, paradoxically, do not grow. Basically, they survive because the owners have no alternative or other potential sources of income.”

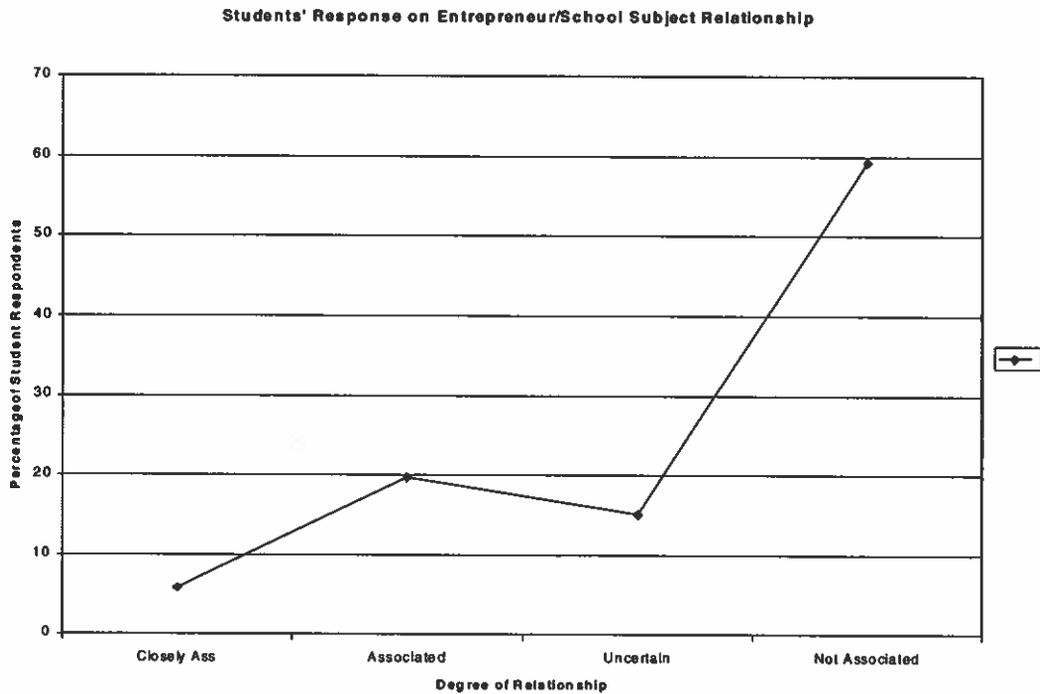
In such a context, it is logical therefore, that students should perceive entrepreneurial activities as related to failure rather than to success. Possible implications in schools would be difficulties in cultivating an entrepreneurial culture if it is seen to be closely associated with failure.

The findings also indicated that almost 70% of the students associate the entrepreneur with high self-esteem. These findings concur with the results of the study carried out by Chinyoka, et. al. (1998) in which they concluded that Botswana entrepreneurs perceived themselves as highly confident and valued the trait of confidence. This could be viewed as positive in that an element of self-confidence is essential for any successful venturing and should be deliberately inculcated in any entrepreneurial culture.

Students were also requested to rate the level of association between an entrepreneur and self-employment. As was expected, the students perceived an entrepreneur as closely related to self-employment with only about 8% failing to observe any association. Interestingly, student respondents did not seem to see any link between what they do in school and the entrepreneur as they strongly “disagreed” that an image of an entrepreneur could be related to a school subject. Figure 6.4 shows the strong rejection by students of a relationship between the conception of an entrepreneur and a school subject. Mudariki and Weeks, (1993:A12-24) made a similar observation concerning the isolation of academic agriculture practised in the classroom from the actual agriculture practised in Botswana’s rural areas. On a similar note, the teaching of entrepreneurship or business studies in Botswana’s classrooms is done such that students learn theory and develop theoretical academic images of the subject with no relevance to real life situations. “The reliance on

theory to the neglect of practice is all pervasive through practical subjects” (Mudariki and Weeks, 1994:A12-33). As a result, students fail to relate what they learn in class to what obtains in real life outside the classroom.

Figure 6.4
Students’ Conceptions of the Relationships between Entrepreneurship and a School Subject



A summary of findings regarding the students’ conceptualisation of an entrepreneur would be that students in senior secondary schools in Botswana perceive an entrepreneur as comprising a bi-perceptual image. The first image being that of an individual that is related to a business as portrayed by Howell, (1972) and Birch, (1982). The second lesser image is that of a series of psychological entrepreneurial traits as profiled by McClelland, (1961); Brockaus and Howitz, (1986) and Gartner, et.al. (1989). The findings also show no significant influence in the perceived images by variables such as age, sex and location. The only significant factor seemed to be subject orientation. Students who had a vocational orientation tended to undervalue entrepreneurship by relating it to failure. There was a significant correlation among the entrepreneurial psychological constructs such as

creativity, risk taking and intelligence as observed by Stewart, (1996). Of importance, perhaps was that students did not associate an entrepreneur with a school subject indicating a failure to relate what is learnt in the classroom and what obtains in the world outside the classroom.

6.2.2 Teachers' conceptions of an entrepreneur

The same items used to elicit students' images and perceptions of an entrepreneur were administered to teachers. In each case, the respondents were requested to indicate the degree of association between their perceptions of an entrepreneur and the suggested entrepreneurial traits and activities on a five point perceptual scale of: strongly agree, agree, uncertain, disagree and strongly disagree. To analyse the data, each response was accorded a numerical value on a five-point scale. The numerical values accorded were inversely proportional to the degree of association. Thus, the smallest mean values were indicative of the strongest perceptual relationships. To calculate percentages, a three-point scale of "agree" "undecided" and "disagree" was used. Table 6.3 presents the responses reflecting the degree of relationship between entrepreneurial attributes and activities and the images of the entrepreneur as perceived by teachers.

Table 6.3

Teachers' Perceptions of the Images of an Entrepreneur

The concept of entrepreneur is associated with:	Mean (1-5)	Std. Deviation	Associated (%)	Undecided (%)	Not Associated (%)
A business	1.5614	.8664	92.9	3.5	3.5
Risk taking	1.6842	.9094	68.4	12.2	5.2
Self –employment	1.7193	.8814	91.2	1.7	7.1
Creativity	1.77544	.8718	92.9	1.7	5.2
Success	2.2182	.9943	64.9	22.8	8.3
Intelligence	2.3509	1.259	68.4	12.2	19.2
A school subject	3.4912	1.2119	26.3	21.0	52.6
Failure	4.4912	.8264	5.2	5.2	89.4

(N = 58)

As predicted, the results showed that 92.9% of the teachers in senior secondary schools in Botswana, view “an entrepreneur” as closely associated to a business. In this regard, the teachers’ responses did not appear to differ inordinately from those of the student respondents and the predictions postulated in the literature by Ndzinge and Chinyoka, (1998); Birch, (1982) and Brockaus, (1980). The teacher respondents also closely associated creativity (92.9%) and self-employment (91.2%) with an entrepreneur. In a way, this confirmed the conventional belief that people, including teachers, generally tend to relate entrepreneurship with self-employment. This is in line with the argument of owner manager entrepreneurs advanced in most economics literature compared to modern intrapreneurs who are found in large corporations as described by Jennings, (1994). On a comparatively moderate scale, teachers perceived an entrepreneur as related to a series of Stewart’s (1996) psychological correlates of risk taking and creativity. There was a strikingly high consensus in the responses among teachers compared to student respondents as indicated by a relatively smaller mean standard deviation. Perhaps of interest was a significant correlation at 0.01 level in the psychological traits of creativity and risk taking cited by Jennings, (1994); Stewart, (1996) and Chinyoka, et.al. (1998). In his study, Stewart, (1996) found a significant positive correlation at .01 level of confidence in the entrepreneurial attributes of creativity, high motivation and a propensity for taking risks. Furthermore, in this study, there was a strong significant correlation between creativity and self-employment at the 0.01 level of confidence. The correlation matrix is presented in Table 6.4.

There seemed to be no significant differences as a result of variables such as age, location, sex and position regarding the teachers’ images of an entrepreneur. Somewhat different though, from the students’ perception of an entrepreneur was the comparatively small degree of association between an entrepreneur and intelligence among teacher respondents. Teachers, unlike the students, seemed not to associate an entrepreneur with intelligence. The teachers’ conception seemed to be in line with Havens’ (in Mensah et. al.1998: 81) postulant that “a highly creative person is not necessarily a person with high intelligence”. In fact, Holland, (1959) had reported earlier on that intelligence correlated highly with leadership than with creativity. Getzels and Jackson, (1962) and Torrance, (1962) in their

studies found that teachers preferred students with high creativity compared to those with high intelligence quotients.

Table 6.4

A Correlation Matrix on the Teachers' Perceptual Images of an Entrepreneur

	Business	Risk	Intelligence	Failure	School	Self - Employ	Creativity	Success
Risk	.365**	1.00						
Intelligence	-.004	.415	1.00					
Failure	-.168	-.004	.023	1.00				
School	-.063	-.197	.225	-.049	1.00			
Self Employ	.350**	.600**	.155	-.003	.014	1.00		
Creativity	.233	.373**	.490**	.220	.049	.443**	1.00	
Success	-.149	-.193	.421**	.069	.187	-.083	.434**	1.00

**Correlation significant at 0.01 level (two tailed)

In summation, it can be said that teachers associated an entrepreneur with a business and self-employment, a view often presented by various writers including Ndzingo and Chinyoka, (1998) and Kurillof, et.al. (1993). It was also observed that teachers associated an entrepreneur with the attributes of creativity and to a lesser extent risk taking. Interestingly, they did not associate it with a school subject and neither did they associate it with failure.

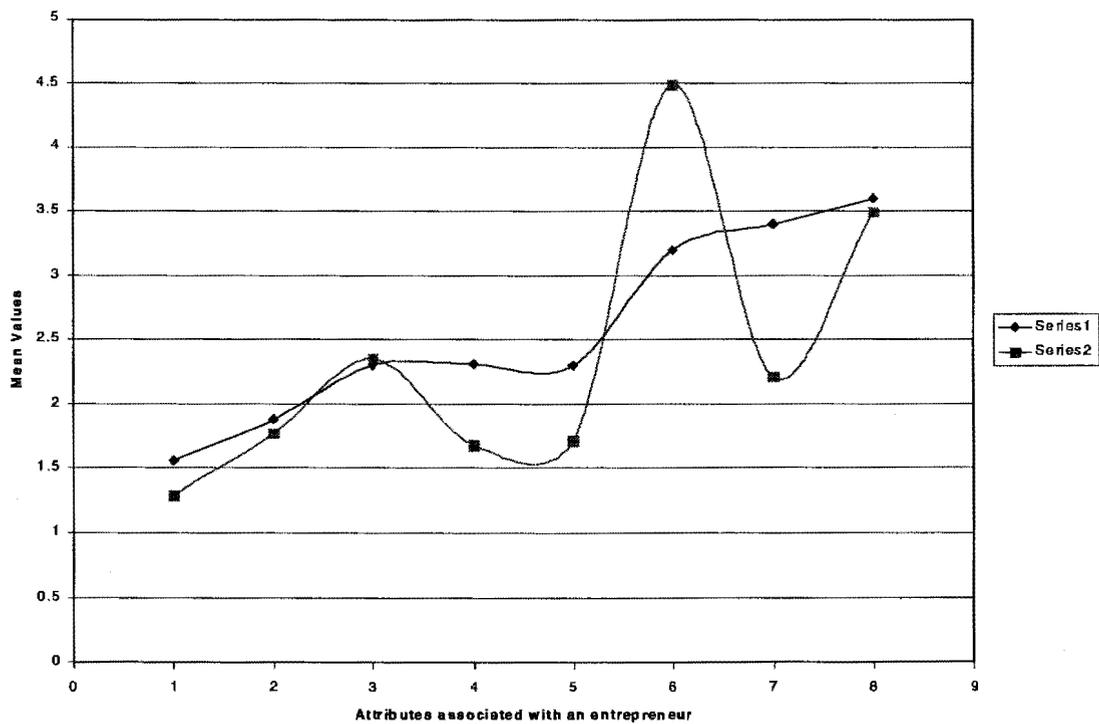
6.2.3 Correlation in students' and teachers' images of entrepreneurs

There seemed to be a marked resemblance in the entrepreneurial perceptual images presented by the teachers and the students. Both the teachers and the students viewed an entrepreneur as comprising a bi-dimensional perception; the concrete physical perception in the form of a business and the psychological constructs comprising entrepreneurial traits such as creativity and risk taking. The scatter-gram (Figure 6.5) revealed a very modest positive correlation in the teachers' and students' perceptions of an entrepreneur. There

was a strong positive co-variation in the perceptions of teachers and students particularly with regard to the association of an entrepreneur with a business and creativity. On the other hand, there was a moderate co-variation between responses regarding the association between the entrepreneur and intelligence and taking risks. In addition, there was very little co-variation in the responses for self esteem. The teachers associated an entrepreneur with high self-esteem while the students associated him/her with low self-esteem. This observed discordance has been explained earlier on as a result of the unstable nature of entrepreneurial ventures in Botswana. A strong co-variation was observed for responses pertaining to the image of an entrepreneur as a school subject.

Figure 6.5

A Scatter-gram Showing Teacher-Student Response Interface on the Conception of an Entrepreneur



Series 1-Teachers

Series 2-Students

Attributes

1 Business

2 Creativity

3 Intelligence

4 Taking Risks

5 High Self Esteem

6 Low Self Esteem

7 Success

8 School Subject

In summary, it can be concluded that teachers and students both view an entrepreneur as related to a business and to a small extent, entrepreneurial attributes. Both teachers and students do not associate an entrepreneur with a school subject. The close relationships in the perceptual images perhaps underpin the importance of the role played by teachers in attitude formation among students. This would imply that students are likely to replicate their teachers' attitudes towards entrepreneurship. In this case, it becomes imperative that the teachers' attitudes be positive if the students are to view entrepreneurship from a positive perspective.

B Attitudes Towards Entrepreneurial Skills and Attributes in Schools and Industries

6.3 Attitudes towards entrepreneurial attributes in schools and industries in Botswana

After reflecting on the images and perceptions evoked by the term 'entrepreneur' among students and teachers the study proceeded to investigate attitudes towards entrepreneurial traits and skills in juxtaposition to the traditional academic oriented skills and attributes. The study attempted to answer the research question; "What are the attitudes of students, teachers and industrialists towards entrepreneurial attributes in Botswana?" "How do they rate entrepreneurial attributes in comparison to the traditional conformist attributes?" The question was fundamental to this study in that it largely circumscribed the status of entrepreneurial attributes in relation to other competing attributes within the school and industrial environment in Botswana. Recent studies by Munby, (1984); Hollingsworth, (1989) and Richardson, (1990, 1994), suggest that the adoption of an innovation or any new practice by teachers depends on the degree to which the assumptions inherent in the innovation are congruent with their beliefs. Furthermore, attitudes exhibited by teachers often influence the pupils' attitudes and levels of acceptance of that attribute which is being inculcated. Concurring with this argument, Philips, (1973:501) and Makepe, (in Mensah et. al, 1998:259) have posited that attitudes which teachers consider as important are

readily communicated to students either directly or indirectly. For instance, a negative attitude towards a subject may lead to its rejection and similarly, negative attitudes towards entrepreneurial attributes may result in their rejection while positive attitudes would most likely result in their adoption. Viewed from that perspective, attitudes assume a pivotal role for the inculcation of a culture in any institution as they define what should be considered as important and therefore deserving of acceptance within that institution. Informed by the same reasoning, the predication in this study was that schools and industries tend to nurture those attributes which the students, teachers and industrialists regard as worthwhile. Thus, in the backdrop of this predication, the study attempted to identify those attributes students and teachers in secondary schools and industrialists perceived as important. On identification of these attributes within these institutions, correlation was sought among the responses in relation to the importance of the attributes.

First, in order to identify those worthwhile attributes, a set of indicative, skeletal entrepreneurial traits and skills mentioned in the works of Hull, et.al. (1980); Jennings, (1994) and Stewart, (1996) were compiled. These included creativity, confidence, intuition and imagination. Added to this list, were the traditional academically oriented attributes, which have the support of the Report of the National Commission on Education in Botswana, (Republic of Botswana, 1993); the Revised National Policy on Education, (Republic of Botswana, 1994) and the Curriculum Blueprint, (Curriculum Development and Evaluation, 1997). These included accuracy of factual knowledge, acquisition of knowledge, intelligence, analysis and critical thinking. It must be acknowledged that the list of attributes used in this study is purely representative and falls far too short of being exhaustive. For instance, Ndzingo and Chinyoka, (1997) have mentioned more than twelve entrepreneurial characteristics while Jennings, (1994) has mentioned well over fifteen! The respondents were requested to rate the importance of each attribute on a five – point attitudinal scale of very important, important, uncertain, not important and not at all important.

6.3.1 Teachers' attitudes towards entrepreneurial attributes

To analyse the data from the teacher respondents, first, the attributes were tested for intra-correlation based on the teacher responses using the Pearson product moment correlation significant at .01 level of confidence. Table 6.5 presents the correlation matrix based on the teachers' ratings of entrepreneurial attributes. The correlation matrix presented indicates a significant intra-group co-variation among the academic oriented skills and attributes; intelligence, analysis, knowing facts, factual accuracy and critical thinking at .01 level of significance. A similar parallel, significant intra-correlation was observed between the entrepreneurial attributes of creativity and self-confidence at 0.01 level of confidence. Creativity and self-confidence also correlated with common sense at 0.05 level of confidence. This largely confirmed the existence of intra co-variations within the entrepreneurial and academic traits. In essence, the indications are that teachers have different attitudes towards entrepreneurial attributes and traditional academic attributes.

Table 6.5

A Correlation Matrix Based on Teachers' Ratings of Attributes

Intell	Intellige -nce	Crit. Think	Com.. Sense	Self Conf.	Analysis	Creativi -ty	Fact. Accur.	Intuition	Facts
Crit. Think	.441**	1.00							
Com. Sense	.349**	.173	1.00						
Self Conf	.111	.283	.031	1.00					
Analysis	.301*	.268	.448**	-.013	1.00				
Creativity	.272*	.327	.055	.352**	-.204	1.00			
Fact. Accuracy	.199	.336**	.371**	.133	.377**	.234	1.00		
Intuition	.045	.089	.076	.063	-.054	.112	-.020	1.00	
Facts	.377**	.386**	.304	.061	.437**	.350**	.383**	.154	1.00

*Correlation is significant at .05 level (2 tailed)

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

The second step in the data analysis was to determine the percentage ratings of the attributes on a triad scale of “important”, “uncertain” and “unimportant”. The results indicating the percentage ratings are presented in Table 6.6.

Table 6.6

Ratings of Entrepreneurial and Academic Oriented Attributes by Teachers

Attribute	Important (%)	Uncertain (%)	Unimportant (%)
Self Confidence	99.9	0	0
Crit. Thinking	97.0	0	1.6
Common Sense	91.4	3.3	0
Analysis	86.2	3.3	10.6
Creativity	95.0	0	5.0
Intuition/ Imag.	89.7	8.4	1.6
Factual Knowledge	84.6	8.4	6.7
Intelligence	77.9	20.3	15.2
Fact. Accuracy	71.8	8.4	11.2

(N=58)

The literature discussed in the previous chapters had predicted that teachers in Botswana would rate academic oriented attributes such as intelligence, knowledge of facts and factual accuracy as the most important attributes in the school environment. In a striking contrast, the teachers perceived self-confidence as the single most important attribute in the school system. All the teacher respondents, regardless of age, sex or subject orientation, rated self - confidence as the most important attribute in the school system.

There was a very high level of consensus with a standard deviation of .464 and the lowest mean value of 1.305 on a five point mean scale. In a study conducted by Chinyoka, et.al. (1998) in Botswana, a group of bankers and accountants rated the possession of self confidence among Batswana entrepreneurs as slightly above the overall mean of 2.5 with a

high consensus standard deviation value of 0.94. Table 6.7 shows the mean values on the possession of entrepreneurial traits as rated by experts (bankers and accountants) and entrepreneurs themselves in a study carried out by Chinyoka, et.al. (1998). Interestingly, the entrepreneurs themselves rated their self-confidence highest at 4.57 on a five – point scale in line with the findings of this study.

Table 6.7
Expert Ratings of the Degree of Possession of Entrepreneurial Attributes Among
Entrepreneurs in Botswana

Attributes	Experts' Mean Ratings	Entrepreneurs' Mean Ratings
Drive and energy	2.68	4.45
Self confidence	2.54	4.57
Initiative	2.25	4.22
Need for Independence	2.68	4.08
Tolerance for uncertainty	2.25	4.19
Optimism	3.04	4.08
Innovation and Creativity	2.04	4.08
Perseverance	2.14	4.54
Overall mean	2.45	4.28

(Adopted from Chinyoka, Ndaba and Mudariki, 1998:11)

The findings of this study and those made by Chinyoka, et.al. (1998) portrayed self-confidence as an attribute with a high aspirational value in Botswana as perceived by teachers and entrepreneurs. Paradoxically, a recent study carried out by Mongke, (1999) on recruitment policies in Botswana revealed lack of confidence as the single most debilitating weakness among job-seeking Batswana school leavers. Perhaps this could be explained by the argument posited by Hopson and Scally, (1981) that goals which are given primary attention by students, parents and employers such as initiative, self confidence and ability to deal with others receive scanty attention in schools. According to Hopson and Scally, (1981:40):

“The really essential skills for living are rarely taught directly in schools, with the exception of literacy, and numeracy. It is hoped that in some mystical way, these skills are passed on via the teaching of traditional subjects.”

After identifying self-confidence as the single most important attribute aspired for in the school system, a logical sequel would have been to expect high ratings for other entrepreneurial correlates within the hierarchy of attributes. Instead, the teachers perceived academic oriented attributes of critical thinking, common sense, and analysis as more important than entrepreneurial correlates of creativity, intuition and imagination. It can be argued that the academic oriented correlates of analysis and critical thinking derive their importance from the high premium placed on them by the Revised National Policy on Education, (Republic of Botswana, 1994) and the Curriculum Blueprint, (Curriculum Development and Evaluation, 1997). An almost identical scenario holds true in Thailand where the Ministry of Education has a programme, which emphasises critical thinking and analysis and aims at producing what are termed “kit-pen” people. The whole idea of “kit-pen” people is informed by the presupposition that an individual who has mastered critical thinking has the capacity to approach life problems systematically (Hopson and Scally, 1981:30). Furthermore, in Botswana, the examinations tend to reward those academic oriented correlates of analysis and critical thinking. Colclough, (in Crowder, 1984:256), has gone further to suggest that:

“In Botswana the examination tends to assess and certificate mainly those with the capacity to recall, analyse and critique. Those who attain these academic attributes become eligible for jobs in the formal sector which have been codified by employers in terms of educational certificates.”

This could possibly form part of the core explanation for the seeming relative importance attached to critical thinking in senior secondary schools in Botswana.

The entrepreneurial correlates of imagination and intuition were rated third to confidence and the dual academic oriented attributes of critical thinking and analysis. It is instructive to note that the traditional academic measures of intelligence, acquisition and regurgitation

of information were not rated highly by the teachers. There has always been a cry in Botswana from educators such as Tabulawa, (in Mensah et.al.1998:101 –114); Maruatona, (in Mensah et al, 1998:96 –100) and Tsireletso, (1999:2) that schools seem to be concerned only with the acquisition and regurgitation of factual knowledge which may not necessarily be transferable to real life situations. Although the results of this study do not indicate a change of approach to teaching in Botswana secondary schools, at least, in a modest way, it does demonstrate a reduction in the perceived importance of the acquisition and regurgitation of content knowledge, which has always been a dominant pedagogical strategy in Botswana (Tabulawa in Mensah et. al. 1998:101-114). It is indicative of a slight change of attitudes towards traditional academic attributes.

An examination of the data based on subject orientation yielded some notable, albeit modest differences in responses. Teachers of practical and science subjects seemed to rate academic oriented attributes highly compared to those teaching social sciences who tended to view entrepreneurial attributes as more important than the academic skewed attributes. This was particularly true to the attributes of creativity, imagination and intuition as against intelligence, critical thinking, analysis and knowledge of facts. Table 6.8 presents the ratings of critical analysis and intuition according to subject orientation.

Table 6.8
Comparative Ratings of Critical Analysis and Imagination / Intuition

Ratings	Analysis			Imagination /Intuition		
	Practical (%)	Science (%)	Social (%)	Practical (%)	Science (%)	Social (%)
Important	94.0	85.6	82.0	82.2	92.8	92.8
Undecided	0.0	7.6	21.4	0	0	3.5
Not Important	6.0	7.6	0	17.6	7.1	3.5

N=58

A tentative conclusion in relation to the teacher subject orientation ratings of entrepreneurial attributes could be that science and other practical oriented subject teachers are most likely to support positive nurturing attitudes towards academic oriented attributes

in schools compared to the social science oriented teachers. On the other hand, social science teachers are most likely to exhibit positive attitudes towards the development of an entrepreneurial culture in schools. However, these findings must be seen as tentative and their consistency should be seen as subject for further research.

The cross tabulation of the sex variable and entrepreneurial attributes bore observable response differences of an instructive nature. It was observed that 43.3% of the male teachers perceived intelligence as the most important attribute compared to only 20% of the female teachers. Perhaps this could be related to the fact that in Botswana, male students tend to do well in mathematics and sciences which conventional wisdom, albeit unsubstantiated by empirical evidence, defines as demanding more intelligence. In the same vein, the male teachers view themselves as intelligent and therefore glorify and idealise intelligence. However, the non-causal nature of the relations sought in this study could not elicit the cause for this apparent divergence. A tentative conclusion would probably be that female teachers exhibit more positive attitudes towards entrepreneurial attributes than their male colleagues.

In summary, the findings indicated that the teachers rated self-confidence highly. The correlates of creativity, imagination and intuition were rated as less important compared to the academic oriented attributes of critical thinking and analysis. Science and practical teachers seemed to value academic oriented attributes more than the entrepreneurial attributes when compared to their social science counterparts. On the other hand, social science teachers seemed to be more disposed towards entrepreneurial attributes than towards traditional academic oriented attributes. Inferring from the findings, it could be tentatively concluded that social science teachers have a more positive attitude towards entrepreneurial attributes than science and practical subject teachers.

6.3.2 Students' attitudes towards entrepreneurial attributes

As was the case with the teachers and Botswana entrepreneurs in the study carried out by Chinyoka, et.al. (1998:12) students suggested confidence as the most important attribute in

the representative list of attributes (Table 6.9). Again, there was a strong consensus on the importance of confidence as demonstrated by the low standard deviation mean of .7909. Perhaps this could be viewed as a case of teacher influence as described by Mapolelo, (in Mensah et. al. 1998:259), where teachers' perceptions were reflected in the students' responses. Table 6.9 presents the percentage ratings, mean values and standard deviations on entrepreneurial and academic oriented skills and attributes.

Table 6.9
Students' Mean Ratings of Academic and Entrepreneurial Skills and Attributes

Attributes / skills	Mean (1-5)	Std. Deviation	Important (%)	Undecided (%)	Unimportant (%)
Confidence	1.571	.7909	91.0	5.3	3.8
Intelligence	1.672	.7888	89.3	6.1	4.6
Creativity	1.838	.9709	80.0	7.7	9.2
Common Sense	1.842	1.015	81.9	10.5	7.6
Practicality	1.947	1.024	78.1	11.3	10.6
Deciding on evidence	1.956	.9834	79.3	11.5	9.2
Critical Thinking	1.977	.9687	76.5	15.9	7.6
Factual Accuracy	2.035	1.232	75.3	14.6	10.0
Intuition	2.132	1.030	71.7	16.9	12.2

(N=131)

A positive attitude towards confidence among teachers and students in senior secondary schools in Botswana augurs well for the development of an entrepreneurial culture in schools. Nelson and Leach, (in Fiddy,1983:156) for example, have mentioned confidence as one of the traits to be encouraged in entrepreneurial learning. Furthermore, Abosi, (in Mensah et al, 1998:70) and Bridge, et.al. (1998:45) have contended that students with a high self-concept and an internal locus of control aim high, take challenges, ask questions, worship success and develop an ambition to achieve.

Informed by a similar assumption, self-confidence was introduced in Brazil as the basis for education by Friere, (1972a) who viewed it as capable of liberating the individual from

being “a passive object crammed with information by his teacher” (Friere in Hopson and Scally, 1981:28). Confidence, as an index of entrepreneurial orientation, has been well documented by Brockaus, (1975) and of late, Donckels and Miettinen, (1990).

After self-confidence, students, unlike teachers, rated intelligence (89.3% with a mean value of 1.672) as the second most important attribute encouraged by the school system. The nature of the education system in Botswana, which emphasises academic ability, and the passing of examinations could possibly account for this divergence of opinion. Students are probably aware that those who are rewarded in the education system are those who are endowed with intelligence compared, for instance, to those who are creative and innovative. The nature of examinations also calls largely for intelligence more than creativity and innovativeness. Students rated intuition least (71.7% with a mean value of 2.132) probably because of its low school currency value and a standing neglect. It must be acknowledged that the results of the students’ responses tended to produce a mixed bag of reactions and were difficult to analyse unlike the well defined patterns which emerged from the teachers’ responses and therefore, whatever inferences were drawn should be deemed as tentative.

As further confirmation of the mixed-bag-nature of the student responses, the correlation matrix derived from their responses failed to show a clear-cut pattern of intra-correlates as reflected in Table 6.10 below. The Pearson product moment correlation matrix reflected the perceived interwoven nature of the entrepreneurial and academic oriented skills and attributes. As a result, it was difficult to state with a degree of confidence that students perceive entrepreneurial skills and attributes as more important than academic skills and attributes. There were no significant co-varying responses, which could indicate substantive relations among responses in the exception of confidence which was perceived as the most important attribute. In fact, it is interesting to note that in the case of student response correlation matrix, confidence significantly co-varied with the whole spectrum of attributes and skills. It virtually circumscribed the universe of all desirable attributes be they academic or entrepreneurial oriented.

Table 6.10**A Correlation Matrix on Students' Attitudes Towards Academic and Entrepreneurial Skills and Attributes.**

	Intelligence	Critical Think	Comm. Sense	Confidence	creativity	Factual Accuracy	Intuition	Practical
Intelligence	1.00							
Crit. Think	.003	1.00						
Comm. Sense	-.053	.287**	1.00					
Confidence	.245**	.266**	.293**	1.00				
Creativity	.046	.331**	.298**	.272**	1.00			
Fac. Accuracy	.125	.342**	.133	.343**	.347**	1.00		
Intuition	-.020	.184	.201	.692	.284**	.364*	1.00	
Practical	.0086	.068	.028	.271**	.161	.444*	.382	1.00

Correlation is significant at 0.01 level (2tailed)

Despite the mixed-bag-responses, there were some modest observations worth mentioning. There seemed to be a difference in the perceptions of the importance of accuracy based on subject orientation. Students studying science subjects had the largest percentage of the responses considering factual accuracy as most important compared to those who were social and vocational subject oriented. On the other hand, social subject oriented students had the highest percentage (16.6%) of respondents who perceived accuracy as unimportant. This is consistent with the earlier findings where science teachers tended to be concerned mainly with the academic oriented attributes and skills while their social science counterparts showed a marked preference for entrepreneurial attributes. This probably could be a reflection of the influence of the subjects they learn and a spill over of teacher attitudes on the students' perceptions (Mapolelo in Mensah et.al. 1998:259). It seemed as though social science students tended to focus on fluency while science students focused on accuracy. Table 6.11 presents the perceptions of students by subject orientation on factual accuracy.

Table 6.11 Students' Ratings of Factual Accuracy by Subject Orientation

Rating	Science (%)	Social (%)	Practical (%)
Important	79.0	75.0	79.0
Undecided	12.5	6.9	14.2
Not Important	8.3	16.6	5.7

(N=131)

A synopsis of the students' attitudes towards entrepreneurial attributes in senior secondary schools would probably be that they consider confidence as clearly the most important attribute followed by intelligence and creativity. There is no clear division in their perceptions of entrepreneurial and academic attributes and skills. Other factors such as age, sex and status of the school failed to yield observable differences. In fact, it seemed as if the variable with the greatest weighting was subject orientation. An explanation could be that there is very little or no difference between schools in urban areas and those situated in rural areas in Botswana in terms of resources as they are mainly centrally funded and administered.

6.3.3 Industrialists' attitudes towards entrepreneurial attributes

The study also investigated the attitudes of industrialists towards entrepreneurial skills and attributes. The same items administered to students and teachers were administered to the industrialists to investigate how they rated entrepreneurial attributes in juxtaposition with conformist and the traditional academic attributes. The traditional academic attributes offered as indexes were intelligence, critical thinking, analysis and numerical competency. The entrepreneurial camp comprised self-confidence, use of intuition, creativity and perseverance. The data analysis involved the calculation of mean values and percentages, which were then presented and discussed in the light of the existing literature.

Ninety nine percent of the industrialists rated intelligence as the most important attribute in the industrial arena. A logical sequel would have been to expect the rating of the critical thinking and analysis as the second most important attributes. However, the second most

important attribute was rated as common sense followed by confidence (Table 6.12). There was an element of congruency in outlook between the industrialists and the aspirations of the Curriculum Blueprint (Curriculum Development and Evaluation,1997:7) which emphasises critical thinking, and problem solving compared to entrepreneurial attributes of creativity and innovativeness.

Table 6.12

Ratings of Entrepreneurial Attributes by Industrialists

Attributes/skills	Important (%)	Uncertain (%)	Unimportant (%)
Intelligence	99.9	0	0
Common sense	90.6	9.3	0
Self confidence	90.5	9.3	0
Perseverance	84.4	0	12.5
Critical Thinking	78.0	6.2	12.5
Analytic ability	62.4	18.7	12.5
Numerical proficiency	59.3	15.6	21.8
Intuition	56.2	40.6	0
Creativity	49.8	18.7	30.2
Outspokenness	40.8	25	31.2
Exclusivity	9.3	9.3	78.0

N=32

The Curriculum Blueprint (Curriculum Development and Evaluation, 1997:8) has classified numerical competency as the second most important learning area next to languages and has accorded it the largest time slice in the secondary school curriculum. It was therefore interesting to note that only 59.3.1% of the industrialist respondents considered it as very important. It must be admitted that 21.8% of the respondents who rated it as unimportant is too considerable a population for such a seemingly highly valued learning area. A tentative tacit implication could be that the numerical learning area's utilitarian value in industrial development and diversification as suggested by the Revised

National Policy on Education (Republic of Botswana,1994) has been slightly overemphasised.

Of interest were the low ratings of such key entrepreneurial attributes as creativity, intuition and working alone. It seemed as if the industrialists do not place much value on entrepreneurial attributes as they do on traditional and academic oriented attributes such as intelligence, common sense and ability to analyse and critique. A possible linear interpretation could be that industrialists do not consider entrepreneurial attributes as core to industrial operations. Perhaps it is pertinent to view the low ratings of entrepreneurial attributes from the context of Sinetar's (1985:57-62) perspective that in industries, creative thinking for example, can be disruptive to organisational life, has chances of courting mistakes, and can encourage unprofitable experimentation. In such situations, a polar position would be created between entrepreneurial attributes and the industrial profit oriented aspirations. After all as Sinetar, (in Jennings, 1994:287) suggests:

“Organisations are designed to administer, maintain and protect what already exists; creative thinkers are designed to bring into existence that which has never been before. The creative's need to think and invent disturbs the well oiled machinery of organisation.”

Students and teachers have consistently indicated an admiration for extravertedness. In the same vein, expectations were that the industrialists would also rate the attribute highly. Surprisingly, only 40.8% of the industrialist respondents considered it as very important. Actually, a sizeable 31.2% considered it as unimportant. This seems to negate the allegations made by Deraniyagala, Dore and Little, (1987:38) that industrialists value employees with a large propensity for extravertedness.

A synopsis of the findings on the attitudes of industrialists would probably be that they consider critical thinking, common sense and intelligence as comparatively more important than entrepreneurial attributes of creativity, intuition, individualism and perseverance. In essence, they are more disposed towards the traditional generic attributes captured by the broad educational aims as most important than to entrepreneurial attributes. The only indicator entrepreneurial attribute rated highly, compared to its stable mates was

confidence. The findings concur with Moraad, Dambe and Maravanyika's (1994) recommendation that employers seem to prefer a broad based education system.

C Social Implications; Acceptance, Reward and Progression

6.4 Social Implications

After investigating attitudes towards entrepreneurial attributes, the study also investigated social implications of possessing entrepreneurial attributes in schools and industries. Research studies on the motivation of entrepreneurs have revealed a multiplicity of motives and that economic ones contribute and rarely predominate. Shapero, (1984:26); Dana, (1993:16-31) and Bridge, et.al. (1998:225) have argued that socio-cultural factors play a vital role in the acquisition of entrepreneurial attributes. In line with this school of thought, the study therefore investigated social acceptance of individuals exhibiting entrepreneurial attributes, the reward and penalty system and the role of entrepreneurial attributes as factors for progression in schools and industries.

6.4.1 Social acceptance

An important social criterion for the inculcation of any culture is the resultant social acceptability of the possessor within the society in which he/she operates. In the same vein, Bridge, et.al. (1998:225) have posited that:

“The personal desirability of entrepreneurship is important, but if the entrepreneurship act is also perceived as socially desirable, then this is likely to encourage entrepreneurs. A positive community attitude to enterprise is important because, essentially, the capacity for enterprise is embedded in a community.”

Similarly, if students, teachers and industrial workers are to adopt an entrepreneurial culture in their communities, it is essential that they view the possession of these attributes as socially desirable. The possession of socially desirable attributes leads to social

acceptability of the possessor. Thus, the degree of social acceptance of an individual is a function of the desirability of their projected personality within the community. In the backdrop of this predication, this study attempted to investigate the social acceptability levels of individuals possessing entrepreneurial attributes in schools and industries in comparison to those possessing traditional conformist attributes. This was particularly cogent in a study purporting to investigate entrepreneurial attributes because of the variety of images often portrayed. For instance, psycho-analysts such as Freud (in Bridge, et.al. 1998:48) and Kets de Vries, (1977:34-57) have portrayed the entrepreneur as a frustrated individual with problems of social acceptance while Ndzinge and Chinyoka, (1997:5) have painted a picture of a sociable individual who is acceptable to the community in which s/he operates.

Respondents were requested to rate two broad bands of personalities: one comprising the traditionally accepted personalities such as energetic social elites, conformists who follow instructions to the letter, populists whose decisions reflect majority decisions and the entrepreneurial oriented traits comprising autonomous decision makers, loners and resisters who do exactly what they set out to do. These attributes were rated as highly admired, admired, uncertain, not admired and disliked. For analysis, numerical values were accorded to each of the items on a scale of one to five with the most admired trait being accorded the smallest of values.

6.4.2 Students' responses on entrepreneurial attributes as factors for social acceptance

First, the data collected was tested for intra-correlation using the Pearson product moment at the 0.01 level of confidence. The results are presented in Table 6.13. The correlation matrix confirmed the existence of significant intra co-variations within the students' acceptance levels of classmates exhibiting entrepreneurial personalities. There were significant co-variations in social acceptability levels in the responses on individuals who work alone, make autonomous decisions, are persistent and have non-conformist tendencies at 0.01 level of significance. Of interest, were the significant negative co-

variations between the autonomous loner and the conformist, the independent thinker and the populist decision maker at 0.01 level of significance. The social elite also negatively correlated with the loner at 0.05 level of significance.

Table 6.13

A Correlation Matrix on Social Acceptability of Different Personalities

	Centre of attraction	Works alone	Makes autonomous decisions	Makes populist decisions	Very obedient	Asks difficult questions	Loner	Social elite	Non-conformist
Works alone	.147	1.00							
Makes autonomous decisions	.061	<u>.299**</u>	1.00						
Makes populist decisions	.798	-.209*	-.143	1.00					
Very obedient	.513	-.176*	-.049	.035	1.00				
Asks difficult questions	.249	.001	.193*	-.047	.248**	1.00			
Loner	.239	<u>.239**</u>	<u>.229**</u>	-.178*	<u>.277**</u>	.096	1.00		
Social elite	.055	-.065	-.154	.096	.215*	.036	-.178*	1.00	
Non-conformist	.203	.194*	.326*	-.134	-.126	.144	.263**	-.033	1.00
Persistent	.892	.516	.053	-.068	-.114	.072	.177*	<u>.311**</u>	.016

*Correlation is significant at 0.05 level (2-tailed)

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

At least two dimensions emerged from these findings. The first dimension was the confirmation of the existence of intra-correlation in acceptance levels of classmates who work alone, think independently, make their own decisions and ask difficult questions. In essence, there was a significant correlation in the acceptance levels of individuals exhibiting entrepreneurial attributes. Secondly, there seemed to be an implicit underlying element of mutual exclusivity in the responses for social acceptance levels for classmates with entrepreneurial oriented personalities and those exhibiting traditional conformist oriented personalities. The results served to confirm the existence of intra-correlations within the entrepreneurial oriented personalities and also within the traditional conformist

oriented personalities. However, these results on their own did not indicate which group of personalities students better appreciated. For, in the final analysis, it is the preferred block of personality traits that students are most likely to inculcate in the school environment.

To find out the block of personality traits admired by students in the classroom situation, student respondents were requested to rate the possession of entrepreneurial and conformist oriented personality traits as admired, undecided and disliked. To analyse the data, numerical values were accorded to each of the items on a five-point scale with the least admired personality being accorded the largest values and percentages were calculated.

Table 6.14

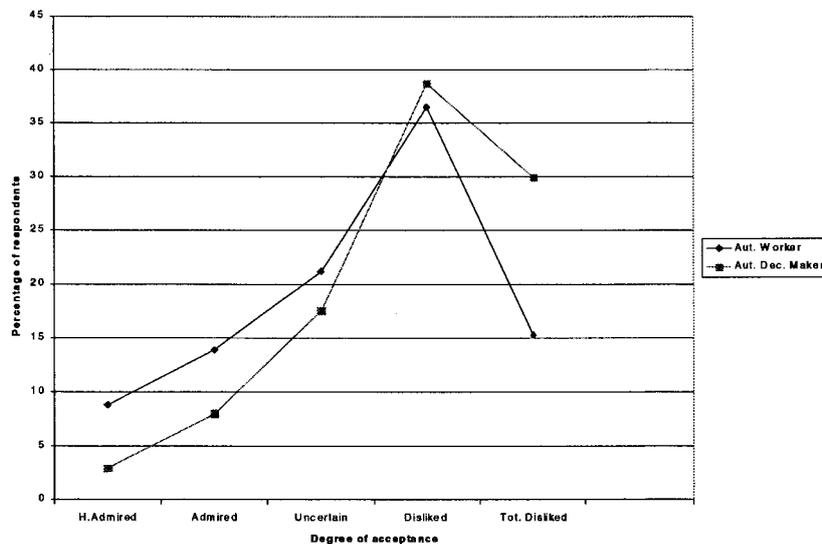
Students' Ratings of Personality Images of Their Classmates (N=32)

A student who is:	Mean (1-5)	Std. Deviation	Admired (%)	Undecided (%)	Not Admired (%)
Active, spends energetic time with people (social elite)	1.7424	1.0161	85.6	5.3	9.1
Does exactly what is required by the teachers (conformist)	1.8015	.9317	80.2	14.5	5.3
Decides after consultation with others (populist)	1.9395	1.2233	72.9	12.8	14.3
Very persistent	2.3785	1.1560	65.2	17.4	17.4
Asks difficult questions	3.1462	1.4473	62.6	16.8	20.6
The centre of attraction in class (social elite)	3.1527	1.1196	40.0	12.3	47.6
Spends thoughtful time alone (loner)	3.1667	1.2304	27.0	31.4	37.2
Prefers to work alone (autonomous worker)	3.2166	1.8540	23.7	22.1	54.2
Makes independent decisions (autonomous decision maker)	3.8722	1.0402	11.3	18.0	70.6
Does exactly what s/he likes (non-conformist)	2.3893	1.1869	11.0	11.0	79.0

(N=131)

From the results presented, student respondents seemed to admire mainly classmates who reflect conformist tendencies. They admire primarily those individuals who mix well with others (85.6%) and those who do exactly what is required by their teachers (80.2%). A third rating was for those whose decisions are made after consulting others (72.9%). This perhaps is a reflection of Botswana's traditional culture of communality of decision-making. Botswana societies have a long-standing culture of consultation through the "Kgotla" (consultation) system, which has, over the years, become engrained in their culture. In addition to the already mentioned findings, traits which are often associated with entrepreneurial attributes such as the ability to work as individuals, the capacity to make autonomous decisions and at times, to ask difficult questions seemed to be generally disliked by students. For instance 54% of the student respondents described classmates who liked working alone as "disliked" compared to only 23% who rated them as "admired". A sizeable 70.6% of the respondents rated classmates who make independent decisions as "disliked" compared to only 21.3% who viewed them as admirable. Figure 6.6 depicts low ratings for autonomous working and decision making by students.

Figure 6.6
Students' Social Acceptance Response Patterns for Autonomous Workers and Decision Makers



Female student respondents indicated a stronger dislike for independent workers (52%) compared the male student respondents (32%). Similarly, 79% of the female student respondents indicated that they disliked classmates who make independent decisions compared to 69.8% of the males. On the other hand, classmates who exhibited elite social tendencies such as those who were the centre of attraction and made populist decisions were highly admired by both female and male respondents (Table 6.15). The dislike for those students who like working alone could probably be viewed as militating against the acquisition of entrepreneurial attributes in schools as entrepreneurs relish “more than any other group of persons their freedom to work alone and the right to be different and unique” (Ndzingo and Chinyoka, 1997:5).

Table 6.15
Students’ Social Acceptance Response Patterns for Populist and Autonomous
Decision Makers by Sex.

Ratings	Populist decision maker		Autonomous decision maker	
	Male (%)	Female (%)	Male (%)	Female (%)
Admired	68.6	58.4	15.7	7.3
Undecided	7.9	17.9	16.4	20.6
Disliked	10.6	19.3	65.0	79.0

(N= 131)

A variable, which revealed a slight difference in response patterns, was subject orientation. Forty one percent of the social science students indicated an admiration for autonomous thinkers compared to 8.1% and 9.3% of the practical and science oriented student responses respectively. On the other hand, 80.2% of the practical subjects oriented students tended to admire mainly those students who make populist decisions compared to 71.3% of the social science oriented students.

Virtually, what the student respondents seemed to admire were those students who exhibit traditional conformist characteristics. Perhaps in line with the argument posited by Bridge, et.al. (1998:225) an implicit inference would be that students view the traditional

conformist attributes as socially desirable and therefore, those individuals who manifest those desirable attributes would tend to be socially accepted within the school environment. In essence therefore, students who are socially accepted by other students in senior secondary schools in Botswana would probably be those who exhibit conformist attributes.

6.4.2 Teachers' responses on entrepreneurial attributes as factors for social acceptance

The results of the Pearson product moment intra-correlation statistics test on the teachers' responses on the social acceptability of individuals exhibiting entrepreneurial attributes are presented in Table 6.16.

Table 6.16
Teacher Response Correlation Matrix on Social Acceptability of Different Personalities

	Social elite	Works alone	Makes independent decisions	Makes populist decisions	Conformist	Works alone
Social elite	1.00					
Works alone	.153	1.00				
Makes independent decisions	.161	.639**	1.00			
Makes populist decisions	-.132	-.149	.026	1.00		
Does exactly what is required by the teacher	.105	.994	.080	.045	1.00	
Non-conformist	.030	.429**	.170	-.044	.068	1.00

*Correlation is significant at 0.05 level (2-tailed)

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

The correlation matrix shows a significant co-variation in the two sets of the teachers' responses on the acceptance levels of students who work alone and those who make

independent decisions at 0.01 level of confidence. There is also a strong correlation between responses on autonomy and non-conformist personalities. The co-variation basically confirms the intra-correlates identified earlier on in the student responses on social acceptance levels.

To identify the levels of social acceptability of entrepreneurial profiles within a selected representative hierarchical ladder of personality images, teachers were also asked to rate their attitude towards colleagues who were social elites, populist decision makers, conformists, independent decision makers, lone workers and non-conformists. The least admirable personalities were accorded higher numerical credit than the most admirable profiles. Thus, the lowest mean values indicate the highest degree of social acceptability. Table 6.17 presents the teachers' responses on different personality profiles.

Table 6.17
Teachers' Ratings of Personality Images

Personality Image	Mean (1-5)	Std. Deviation	Important (%)	Undecided (%)	Unimportant (%)
Populist decision maker	1.5763	.9685	89.8	3.4	6.8
Social elite	1.7627	.9161	79.7	16.9	3.4
Conformist	2.6271	1.0651	52.6	25.4	22.0
Centre of attention	2.6610	1.0105	52.6	23.7	23.7
Non-conformist	3.0169	1.0421	33.9	28.8	37.3
Thoughtful and self contained	3.1186	1.0681	30.5	32.2	37.3
Independent worker	3.4575	1.0225	15.3	32.2	52.6
Independent decision maker	4.1070	1.0618	10.2	5.1	84.8

(N=58)

The results as shown in Table 6.17 indicate that teachers admire colleagues who make decisions after finding out what others have decided (89.8% with a mean value of 1.5763). Also highly admired, were the social elites who were energetic, interacted easily with others and drew a lot of attention. Third in the hierarchy were the conformist personalities

who tended to agree with whatever those in authority prescribed (52.6% with a mean value of 2.6610). The consensus, as indicated by the standard deviations, was relatively high in almost all the ratings. In essence, the findings indicate that teachers admire those individuals who are popular, attract a lot of attention and have an unquestioning disposition. This personality profile, which teachers seem to admire, according to conventional wisdom, tends to be flashy, trendy and generally quixotic and lacking in persistence and stability as their actions are governed not so much by what they want to achieve as by what they think others expect them to achieve. A closer analysis would reveal their image as externally controlled and therefore, according to Rotter (1966) having less chances of being enterprising. On the other hand, Ndzingo and Chinyoka, (1997:6) viewed the populist as entrepreneurial oriented. According to them, “they capitalise on the talents of others and know how to motivate them. Teamwork is a key concept in their lives”. Whether the possessors of these characteristics make better entrepreneurs compared to their rather down – to – earth compatriots remains a debatable subject.

The findings in this study also revealed that teachers tended to lean more towards a dislike for those colleagues whose personalities exhibited a tendency towards entrepreneurial attributes. For instance, working alone was lowly rated at 56% with a mean value of 3.4576 and non-conformism at 37.3% with a mean value of 3.0160. Independent decision-making was rated as disliked by 84.9% of the respondents with a mean value of 4.1017 on a five point inverse scale. A generalised interpretation of these findings could be that teachers tend to dislike colleagues exhibiting characteristics eminent in entrepreneurially driven individuals. The covert implications would probably be that acceptance levels among teachers with entrepreneurial personality traits would be low. If there is truth in this prognosis, then the development of an entrepreneurial culture in the school environment would be largely inhibited by the low acceptance levels for personalities reflecting entrepreneurial attributes.

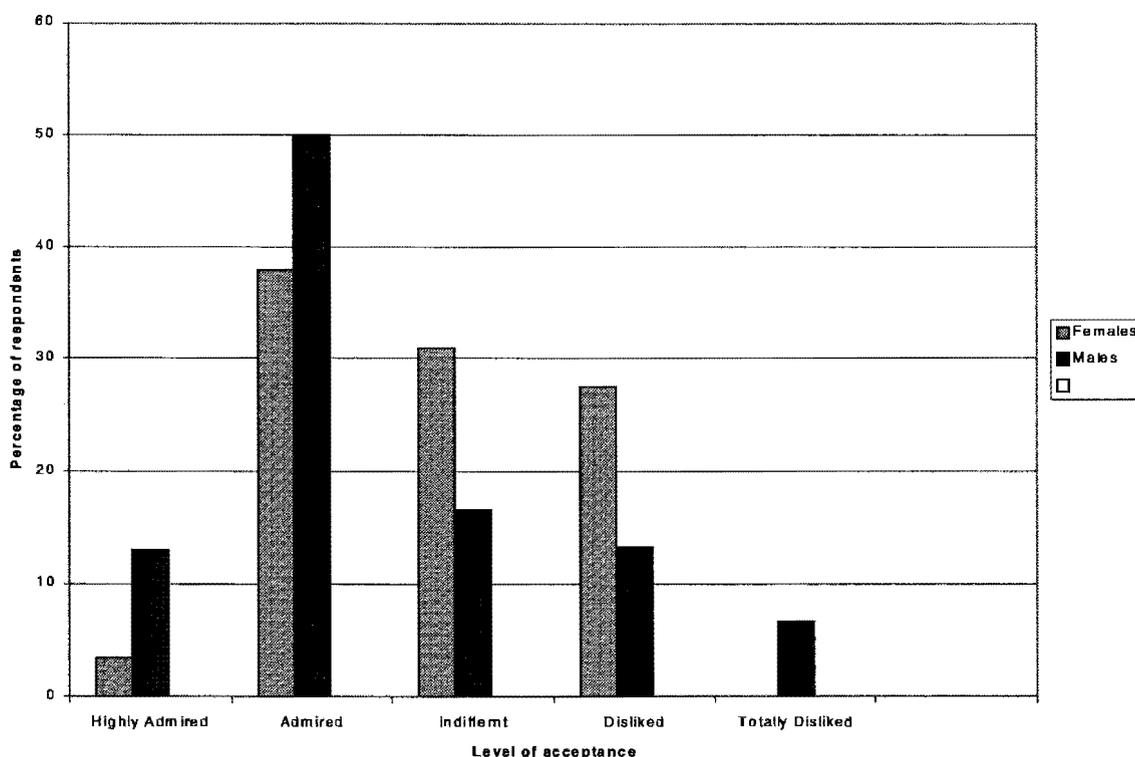
The sex variable indicated a higher percentage (63%) of male teacher respondents as admiring colleagues who are the centre of attention than, surprisingly, females (41.4%). This could be true in Botswana’s situation where the female population far outnumbers the

male population resulting in the males enjoying a position in the centre stage because of their small numbers. On the other hand, female teachers indicated a dislike for colleagues who showed a disposition towards working alone and making individual decisions. Figure 6.7 (a) and (b) present instances of response patterns for social acceptability of colleagues based on the sex variable

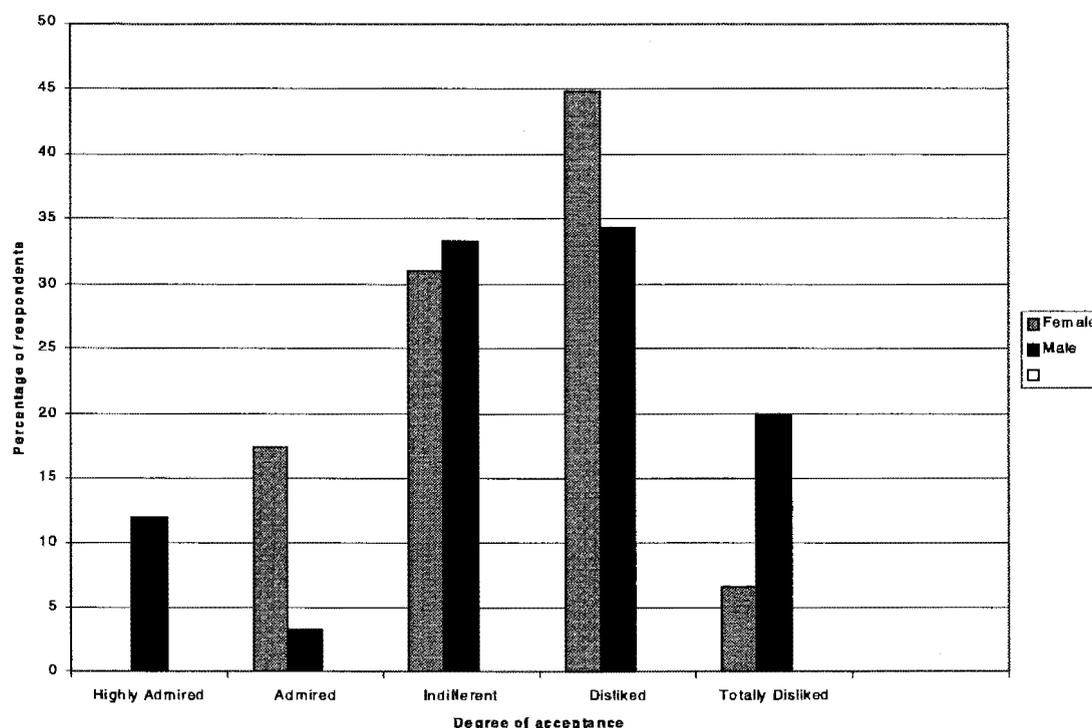
Figure 6.7

Male/Female Responses for (a) Centre of Attention (Social Elites) and (b) Lone Workers

(a) Social Elites



(b) Autonomous Workers



In summation, teachers seemed to admire colleagues who exhibit mainly populist and social elitist personalities. A possible explanation for this apparent admiration could lie with the trendy outlook reflected by the populist and social elite. However, it is outside the scope of this study to find out whether these groups do make successful entrepreneurs or not. The archetypical entrepreneurial types were seen generally as not admired. The tacit implications could be that teachers would strive to associate not with other teachers who are typically entrepreneurial in orientation but rather, with those who are plain outgoing without necessarily being entrepreneurial.

6.4.3 Industrialists' responses to entrepreneurial attributes as factors for social acceptance

A wide range of personality qualities were presented to industrialists and they were requested to indicate how far they admired each of the given qualities in their employees. Table 6.18 presents the responses given.

Table 6.18**Social Acceptance Levels of Industrialists Towards Entrepreneurial Personalities**

Personality Trait	Admired (%)	Indifferent (%)	Disliked (%)
Likes brainstorming	91.0	0	0
Makes logical analytic decisions	84.3	0	16.6
Is persistent	68.7	21.8	9.3
Is an energetic mixer	67.4	9.3	0
Does exactly what management instructs	65.6	12.5	21.8
Starts work at the exact time	62.4	28.1	9.3
Insists on feedback	61.4	28.3	10.3
Questions existing solutions	58.3	28.1	30..3
Is very independent	49.9	9.3	59.3
Is highly predictable	46.8	37.5	0
Centre of attention	40.8	59.3	0
Makes populist decisions	40.6	9.3	40.6
Decides on feelings and intuition	34.3	43.75	18.7
Asks difficult questions	31.2	31.2	37.5
Is reserved & thoughtful	25.0	31.2	43.7
Starts work when ready	21.8	18.7	53.3
Makes independent decisions	18.7	9.3	62.5
Accepts management decisions	18.7	34.1	34.3
Prefers to work alone	9.3	50.0	40.6
Is full of surprises	9.3	34.3	40.6

(N=34)

The results indicated that industrialists admire those employees who can brain storm on issues, have time management skills, do exactly what they are told to do by management, can persistently pursue a task and can make logical decisions. In essence, the industrialists admire those employees who exhibit conformist attributes. This could probably be seen in

the light of the argument posited by Barmash, (in Jennings, 1994:191) and Sinetar, (1985:57-62) that large companies find it difficult to accept entrepreneurs as they tend to disturb the existing status quo. Miller and Friesen, (in Livesay, 1995:276-300) have also argued that some executives would loathe accepting entrepreneurial changes because of the risk and costing factors involved.

The results also showed industrialists as disliking employees who exhibit autonomous decision-making and a preference for working as individuals. In fact, it is quite instructive to note that a hefty 62.5% of the respondents indicated a dislike for employees who make independent decisions. A propitious interpretation could probably be that industrialists admire workers who look up to them for decision-making and can take instructions. This is reminiscent of the classroom situation where students who were admired were those who doggedly followed the given instructions. The implications of such a scenario indicate a silent rejection of the entrepreneur in schools and industries.

On a personality that prefers to ask difficult questions, the findings revealed a “dislike” response almost similar to that accorded to autonomous workers with 37% percent of the industrialists indicating a dislike of those who ask difficult questions. To top it all, 59.3% of the industrialists indicated that they disliked employees who showed a lot of independence. From these results, one can infer a very thinly veiled permeating dislike for employees who exhibit entrepreneurial attributes such as a preference for autonomous work, independent decision-making and questioning management decisions. On the other hand, an inferred polar view would be an admiration for a conformist employee reminiscent of employees in the Fordist mode of production where the worker is not concerned with decision-making except for the operation of the machine allotted to him/her. In that case, the employee has no business making independent decisions as his/her clearly defined role is that of an appendage to the machine. The employee’s business revolves around production and not thinking. In such cases, entrepreneurial attributes and the traditional conformist attributes assume juxta-polarised parallel positions mutually exclusive except when referred to as mere rhetoric.

Another interesting finding was that management disliked surprises and using intuition for decision making in industries. This obviously cements the inferred industrial image of a rigid environment with little or no room for individual entrepreneurial expression. A possible explanation could be that some of the industries, which responded, were parastatals run on rigid rules and regulations. Yet, this should not over impact on the essence of the findings since these are the same industries which, it is hoped, would provide incubator environments for entrepreneurs. Under the obtaining conditions, it is unlikely that an entrepreneurial culture can easily proliferate in Botswana's industries without a change of attitudes. If there is truth in these findings, it would only be logical to conclude that industrialists' call for an entrepreneurial culture in schools is not supported by what obtains in their own industrial environment.

To sum up the findings on industrialists' social acceptance of employees with entrepreneurial attributes, it can be concluded that industrialists admire those employees exhibiting conformist tendencies more than those who exhibit entrepreneurial tendencies. On the other hand, they dislike employees who exhibit entrepreneurial attributes such as independent decision making, working alone and using intuition.

6.4.4 Rewarding and penalising entrepreneurial attributes

Social acceptance of the desired personality attributes is often buttressed and reinforced through the reward and penalty systems adopted in a particular environment. The role of the reward and penalty dimensions in the inculcation of entrepreneurial attributes could probably be viewed from a dual conceptual platform: the reward oriented nature of entrepreneurship and the theoretical instrumentalist conditioning learning perspective. In the first perceptual dimension, a nucleus component of entrepreneurship is the anticipated reward which can be derived from the enterprise in the form of being one's own boss, amassing profit, commanding respect and deference of others, use of one's skills, and a sense of achievement (Kurillof, et.al. 1993:34-35). Hollingsworth and Hand, (1979) for example, have linked several entrepreneurial traits and attributes such as achievement motivation, desire to be independent, self esteem and total commitment to the profit

motive. Thus for students to acquire and develop these attributes, it is imperative that they perceive them as rewarding. In the same vein, the teachers should be seen to be rewarding the demonstration of these attributes if they are to effectively facilitate their proliferation in the school environment.

The second dimension is informed by the learning theories advanced by psychologists such as Thorndike, (1935) and Skinner, (1950) who articulated the role of the reward system in fostering desirable behavioural patterns. Skinner, (1950) for example, articulated the theory of operant conditioning where by an immediate reward facilitates and re-enforces the learning of a new behavioural pattern. In a classroom situation, it is, therefore, imperative that entrepreneurial attributes be rewarded if they are to be inculcated by the learners.

In the same thought continuum, the study attempted to identify the attributes, which were rewarded in the schools and industries. It attempted to answer such questions as “Do schools and industries reward or penalise individuals for demonstrating entrepreneurial persuasion?” and “Do industries and schools reward individuals for the same attributes?” The logical prediction was that those attributes which were lauded by the teachers and students were most likely to be inculcated within the school while those which were lauded by the industrialists were most likely to proliferate within the industrial strata. Respondents were requested to indicate, on a five-point sliding scale, how far they agreed that the given sample attributes were either rewarded or penalised in their environment. Analysis was based on the simple percentages of the responses.

6.4.6 Teacher responses to rewarding and penalising students for entrepreneurial attributes

The teacher respondents indicated that generally, they reward all the attributes presented in the sample. However, 93.2% “agreed” that in class they rewarded students for being imaginative while 89.8% rewarded them mainly for being creative (Table 6.19). This is consistent with the earlier findings in this study which have showed teachers as idealising entrepreneurial attributes comparatively more than the traditional academic attributes.

Table 6.19**Teachers' Responses on Rewarding Entrepreneurial Attributes**

My students are rewarded for	Agree (%)	Undecided (%)	Disagree (%)
Being imaginative	93.2	3.4	3.4
Creativity	89.8	6.8	3.4
Being analytic and critical	88.1	5.1	6.8
Following instructions	83.0	11.9	5.1
Remembering	81.4	13.6	5.1
Intelligence	76.2	15.3	7.5
Discussing new issues	71.2	18.6	10.2
Taking Risks	69.5	23.7	6.8

(N = 58)

A tentative explanation would probably be that teachers are aware of the need for rewarding entrepreneurial attributes. However, there is no evidence from this study, which can support the conclusion that teachers actually reward students for entrepreneurial skills and attributes in the classroom situation. In the event that the teachers do practise their ideals, then it would mean that they are supportive of the development of entrepreneurial attributes among students in class through the reward system.

It is also worth noting that 83% of the teacher respondents agreed that they reward their students for following instructions. This indicates that, to a certain extent, the traditional limitations to creativity such as dogmatic following of instructions and reproduction of content material are still subtly predominant and are amply rewarded in senior secondary schools in Botswana. On a similar vein, respondents seem to be saying that they agree that recall should be rewarded but not on the same scale as creativity and being imaginative. It would have been informative to have actually verified whether teachers reward what they feel ought to be rewarded in the actual classroom situation. In essence, these findings raise a number of unanswered problematic questions: "In the Botswana classroom situation, does the teacher praise students who give different versions of the answer from the

expected stereotypes ?” “ Do examinations reward the correctness of the answer or the creativity behind the answer?” “How is creativity and imagination assessed in schools?” “Do the school structures have the capacity in terms of time, infrastructure and instructional material to support an entrepreneurial oriented curriculum?” These and other similar unanswered pertinent questions need to be taken aboard if educators are to finally land a relevant entrepreneurial curriculum in schools. In conclusion, it can be said that teachers believe that students should be rewarded not so much for what they remember, but for demonstrating such traits as creativity, being imaginative, analytic and critical.

The inverse of the reward system can be seen as the penalty system. In the penalty system, the performance of an act is prohibited by an act of punishment, which may cause the subject under punishment to either abandon the act or hide its continued performance (McConnell and Philipchalk, 1992:274). Whatever the effects of punishment, they can only be retrogressive in the acquisition of attributes. On a similar predication, entrepreneurial attributes cannot proliferate when perceived by the student clientele as punishable. To ascertain if the teachers viewed the exhibition of entrepreneurial attributes as punishable, they were asked to indicate on a sliding scale ranging from 1-5 how far they agreed with statements operationalising punishment for entrepreneurial attributes. Table 6.20 presents the teachers’ percentage ratings based on a triad scale of “agree”, “undecided” and “disagree”.

Table 6.20

Teachers’ Responses to Punishment for Demonstrating Entrepreneurial Attributes

In class students are punished for:	Agree (%)	Undecided (%)	Disagree (%)
Disagreeing with the teacher	10.2	5.1	85.3
Getting the wrong answer	5.1	16.9	77.8
Attending lessons in another class	13.6	33.9	52.5

(N=58)

The literature review had predicted that teachers in Botswana punish students for showing divergent thinking. For example, Harber, (in Mensah, 1998:36) made a similar allegation when he wrote:

“A colleague of mine from the U.K. was in a school Botswana.... One female pupil asked him whether students at university got beaten for not knowing the answer. On being reassured not, she risked a further question: if students tried to give an answer and it was wrong, would they, as in her school, get beaten twice as hard for simply not knowing?”

The teachers' responses failed to bear out these allegations. Instead, the statistics indicated that almost 85.3% of the teachers do not punish students for divergence of opinion. Only 10.2% of the teacher respondents agreed that they punish students for divergence of opinion. On a similar note, about 77.8% of the teacher respondents indicated their disagreement with the intimation that they punish students for getting the wrong answer. However, despite the cogent evidence exhibited above, it can be argued, albeit correctly, that even the 10.2% and 13.6% of the respondents who agreed to punishing students for divergence of opinion and for being adventurous militate against the acquisition of entrepreneurial attributes. The act of punishing students for divergence of opinion cannot be condoned despite the small population size of the perpetrators.

A tentative conclusion which can be drawn from these findings would probably be that a large majority of teachers in senior secondary schools in Botswana do not punish students for articulating entrepreneurial attributes. It must, however, be acknowledged that a small percentage still deems divergence and getting the wrong answer as punishable. It is perhaps only this small portion of teachers who may, unwittingly, militate against the acquisition of entrepreneurial attributes in senior secondary schools in Botswana in their zeal to cordon off divergence and maintain conformity.

6.4.6 Students' responses to being rewarded and penalised for entrepreneurial attributes

The items on rewarding and punishing students for the possession of entrepreneurial attributes administered to teachers were also given to the students. Their responses are presented in Table 6.21.

Table 6.21
Students' Responses on Rewarding Entrepreneurial Attributes

In class we are rewarded for	Agree (%)	Undecided (%)	Disagree (%)
Following instructions	83.0	11.9	5.1
Intelligence	76.2	15.3	8.5
Creativity	66.2	15.9	16.4
Being imaginative	64.7	15.2	19.8
Discussing new issues	63.9	16.6	18.9
Remembering	45.3	24.2	28.8
Being analytic and critical	44.6	21.5	34.6
Taking Risks	29.5	25.7	44.6

(N = 132)

Unlike the teachers who indicated that they rewarded students for creativity, students indicated that they were rewarded mainly for following instructions. Interestingly, Tabulawa, (in Mensah et.al.1998:1-15) and Maroatona, (in Mensah, 1998:87-90) have posited that teachers in Botswana schools are authoritarian thriving on the total conformity of the students to perpetuate their authoritarian positions in class. It is obviously telling that about 83% of the students "agreed" that they are mainly rewarded for being docile. The other attribute which they cite as being rewarded for was intelligence (76.2% "agreeing"). Again, this has been mentioned by Havens (in Mensah et.al. 1998:82-83) where he strongly argues that teachers reward students for intelligence more than for entrepreneurial attributes such as creativity:

“In school, the teacher may not understand, encourage or value the creative pupil. Often this creative child must operate in a situation where theories and practices are based on conformity and convergent thinking. In primary schools in Botswana, emphasis is placed on academics in the early childhood education with little concern about spending time on creative issues. Often these children will rebel against tradition to protect their creative integrity.”

Furthermore, it is a conventionally accepted truism that in Botswana, the examinations act as a selection mechanism meant to reward the more academically oriented students. In this study, a relatively large percentage (66.2%) of the student respondents agreed that they are rewarded for creativity albeit on a lesser scale than following instructions and intelligence. On the other hand, only 29.5% of the student respondents agreed that they were rewarded for taking risks. The tacit implications could be that the propensity for risk taking is not strongly encouraged in schools. A tentative conclusion from the findings could be that students felt that they were rewarded more for their academic oriented attributes than their entrepreneurial attributes in class. Students’ responses on punishment are presented in Table 6.22.

Table 6.22
Students’ Responses to Punishment for Demonstrating Entrepreneurial Attributes

In class we are punished for:	Agree (%)	Undecided (%)	Disagree (%)
Disagreeing with the teacher	8.4	10.7	80.9
Getting the wrong answer	9.4	10.9	73.9
Attending lessons in another class	27.3	21.2	51.5

(N=131)

The students’ responses seem to be in tandem with what the teachers indicated earlier on regarding punishment. Approximately 80.9% of the students indicated that they are not

punished for disagreeing with the teacher while only 8.4% agreed that they are punished for not agreeing with the teacher. Similarly, 73.9% of the respondents indicated that they are not punished for giving wrong answers. The findings seem to confirm the results from the teachers' responses which had indicated that they did not punish students for getting the wrong answers and divergence of opinion.

To summarise the findings, it could be stated that student respondents view themselves as being rewarded mainly for academic traits such as intelligence and following instructions while their teachers view them as being rewarded for entrepreneurial attributes such as creativity and innovativeness. There seems to exist two polar conceptual perspectives regarding the reward and penalty system in schools. Could it be a case of the teacher having a partial knowledge of what happens in the classroom as alleged by Ramatebele, (in Crowder, 1984:272):

“Far from knowing what happens in their classrooms, studies show that teachers' perspectives are very limited. Thus, we have the situation where the teacher thinks he is in control of a delicate social environment, yet he is not or, only partially. He nevertheless continues to shape his whole behaviour and his teaching strategies as if he were in full control of all transactions and all meanings.”

The discrepancies observed in the reward system did not, however, intrude into the penalty system. Both the teachers and students seemed to concur that students in senior secondary schools are not, contrary to existing literature, penalised for divergence of opinion.

6.4.8 The reward and penalty system in industries

As discussed earlier on, social acceptance relates very closely to the nature of the reward and penalty system operant within an institution. Similarly, it seems logical to assume that the attributes inculcated among the industrial workers would be in line with those rewarded by management.

In this study, 90.6% of the industrialists indicated that they rewarded their employees for persistence in carrying out tasks while 85% indicated that they rewarded them for following management instructions (Table 6.23).

Table 6.23
Rewarding in Industries

In our industry we reward our employees for	Agree (%)	Uncertain (%)	Disagree (%)
Perseverance	90.6	9.3	0
Following instructions	85.8	11.8	3.4
Discussing new issues	81.3	18.7	0
Intelligence	82.1	17.9	0
Creativity	81.1	18.9	0
critical thinking and analysis	68.75	9.3	21.8
being imaginative	68.75	9.3	21.8

(N = 34)

Also 81.2% “agreed” that their industries rewarded employees for discussing new issues. Common wisdom and consistency would have predicted that industrialists would reward employees for being analytic and critical. These attributes received comparatively low ratings in comparison to persistency, following instructions and discussing new issues. The entrepreneurial attributes of creativity and being imaginative were also moderately supported as worth of rewarding. In essence, the industrialists seem to be saying that they reward those employees who pursue their tasks relentlessly, follow instructions and discuss new ideas. To a lesser extent, they also reward those who exhibit signs of intelligence. On an even lesser scale, they also recognise creativity and innovativeness.

Industrialists strongly disagreed that they penalise employees for divergence of opinion. The only major acts which they perceived as deserving of penalties were lack of productivity and taking risks. This could be understood in the context of the profit-based nature of the industries (Ndzingo and Chinyoka, 1997:1). Industries have to make profits

if there are to be sustainable and hence the emphasis on productivity. Similarly, large corporations invest a lot of capital into the industrial enterprise and therefore, cannot afford to take risks with a potential of failure. The economic landscape is littered with failed entrepreneurial ventures with Moore, (1983:120-128) citing archetypical cases of such failed ventures. Probably, it is in this light that the industrialists view risk taking as punishable.

A synopsis of the findings would be that industrialists reward employees for working persistently on a task and following management instructions. To a lesser extent, the employees are also rewarded for discussing new issue, intelligence and creativity. On the other hand, management discourages risk taking and lack of productivity. It would be untrue to categorically state that the results of this study showed management industries as rewarding either traditional or entrepreneurial attributes per se as the results portrayed a mixed bag of responses. A more accurate reflection of the results would probably be that the industrialists reward those attributes, be they entrepreneurial or traditional, which have the potential of maximising their profits.

6.4.9 Entrepreneurial attributes as factors for progression

Progression, position of leadership and responsibility are indicative of social approval within a given socio-economic organisation. Recent works by Carland, et.al. (1984:354-356) have included leadership and responsibility in their list of entrepreneurial indicators. Furthermore, Homaday and Aboud, (1971) after studying 60 entrepreneurs involved in manufacturing sales and service business, identified leadership as one of the important indices of an entrepreneurial profile. De Carlo and Lyons, (1979) carried out a similar study of 122 female entrepreneurs from business and manufacturing and concluded that leadership and responsibility formed an integral part of entrepreneurial indices. A common thread running through their studies was that entrepreneurs thrive best in positions of leadership and responsibility. Such a prognosis, if valid, might imply that in order to develop entrepreneurial attributes, students need to be exposed to positions of responsibility and leadership on the basis of their entrepreneurial characteristics. Thus, an

environment which purports to foster entrepreneurial attributes ought to consider positively, entrepreneurial orientation when selecting individuals for positions of responsibility and leadership.

Informed by the above predication, this study attempted to answer such questions as: “Do students, teachers and industrialists consider entrepreneurial attributes when selecting people for positions of responsibility?” “Is there a relationship between the entrepreneurial attributes considered for student positions in schools and those considered for progression in the industries?” Respondents were requested to rate traditional personality management qualities of honesty and trustworthiness against entrepreneurial qualities of self confidence, flexibility, independent thinking and decision making based on intuition. A third group of qualities included comprised competencies of communication, intelligence, and class performance. However, it must be acknowledged that the intra-coherence of the qualities given in the sample could certainly be perceived as a moot point. A five point attitudinal scale of “very important”, “important”, “undecided”, “not important”, “not at all important” was used. When calculating percentages, only three categories of “important”, “undecided” and “unimportant” were used.

6.4.10 Students’ responses to entrepreneurial attributes as factors for progression

Conventional wisdom would predict that when considering individuals for leadership, the ability to control others would be deemed as paramount. However, the findings of this study (presented in Table 6.24) indicated that a sizeable 96.7% of the student respondents consider honesty as the most important attribute when selecting leaders or individuals for responsibility in class. Kuriloff, et.al. (1993:31-33), have advanced a similar argument intimating that entrepreneurs are expected to support ethical and moral ideals and have to be honest and “they continually build a reputation of integrity” (Ndzingo and Chinyoka, 1997:7) if they are to win customers. Furthermore, they have argued that the entrepreneur has social responsibilities and has to be seen as a role model. The tacit implication would be that an entrepreneurial fostering environment should develop a strong ethical concern of what is right and wrong (Kuriloff, et.al. 1993:33). A considerable 94.7% of the student

respondents considered the ability to communicate as the second most important attribute in the selection of students for positions of responsibility while 89.9% felt that the ability to control others was an important selection determinant. The students' responses on entrepreneurial attributes as determinants for progression are presented in Table 6.24.

Table 6.24
Students' Ratings on Attributes as Determinants for Positions of Responsibility in the Classroom

Attributes	Important (%)	Undecided (%)	Unimportant (%)
Honesty	96.7	1.5	0.7
Communication	94.7	1.5	3.7
Ability to control others	89.9	4.5	5.3
Confidence	89.1	3.8	7.5
Creativity	79.2	10.0	10.7
Independent decision making	69.9	11.5	18.5
Intelligence	59.2	14.6	26.9
Analytic decision maker	57.2	25.9	16.7
Flexibility	53.0	19.2	27.6
Intuition decision making	44.2	27.4	27.4
Class performance	41.8	14.7	43.3

(N = 131)

It is difficult to categorically conclude that students consider entrepreneurial attributes as the most important determinants for selecting other students for responsibility in class because of the ambivalent nature of the attributes of honesty and communication. The major problem is that these concepts are not well delineated. For example, Raizen, (1989:10) referred to them as personal management skills, Wellington, (1993:35) viewed them as "work place know-how skills" while Kuriloff, et.al. (1993:31-33) referred to them as "indexes of entrepreneurship". The paradox of these attributes is that they face many

ways and can be appropriated by both left and right for use for quite different purposes. A clear delineation is imperative if they are to attain their optimum indicator value.

On the other hand, class performance, a much clearer index of traditional academic orientation operant within the Taylorist mode of education, was perceived as least important by 41.8% of the student respondents. This largely indicates that class performance plays a limited role in the selection of leaders and individuals for progression in class. Indexes of entrepreneurship such as flexibility (53.0%) and using intuition (44.2%) were largely considered as unimportant. A tentative conclusion would probably be that students consider honesty, communication, ability to control others and confidence as of great consequence when selecting individuals for responsibility in class. Of little substance would probably be deciding by intuition and flexibility. Of importance perhaps, is that the possession of entrepreneurial attributes seemed to be a relative bonus for progression in class.

6.4.11 Teachers' responses to entrepreneurial attributes as factors for progression

Teachers were requested to rate entrepreneurial attributes as determinants for selecting students for positions of responsibility in class. Each of the responses was accorded a numerical value with the most important responses being accorded the smallest values on a five-point scale. To analyse the data, mean values, standard deviations and percentages were calculated.

The findings presented in Table 6.25 reflect a similar picture to the one that emerged from the findings on the students' responses where honesty emerged as the most important attribute when selecting students for positions of responsibility. Of almost equal importance were entrepreneurial indices of confidence (98.3% with a mean value of 1.3220), creativity and innovativeness (93.2% with a mean value of 1.5932) and flexibility (79.6% with a mean value of 1.9831). The traditional academic traits of authoritarianism, intelligence and careful analysis of issues received low ratings compared to the

entrepreneurial attributes. The only exception among entrepreneurial traits was the trait of deciding on gut feelings (intuitional decision making), which received the lowest ratings. This is consistent with the low ratings attributed to intuitional attributes in the earlier findings.

Table 6.25
Teachers' Ratings of Attributes as Determinants for Positions of Responsibility in the Classroom Situation

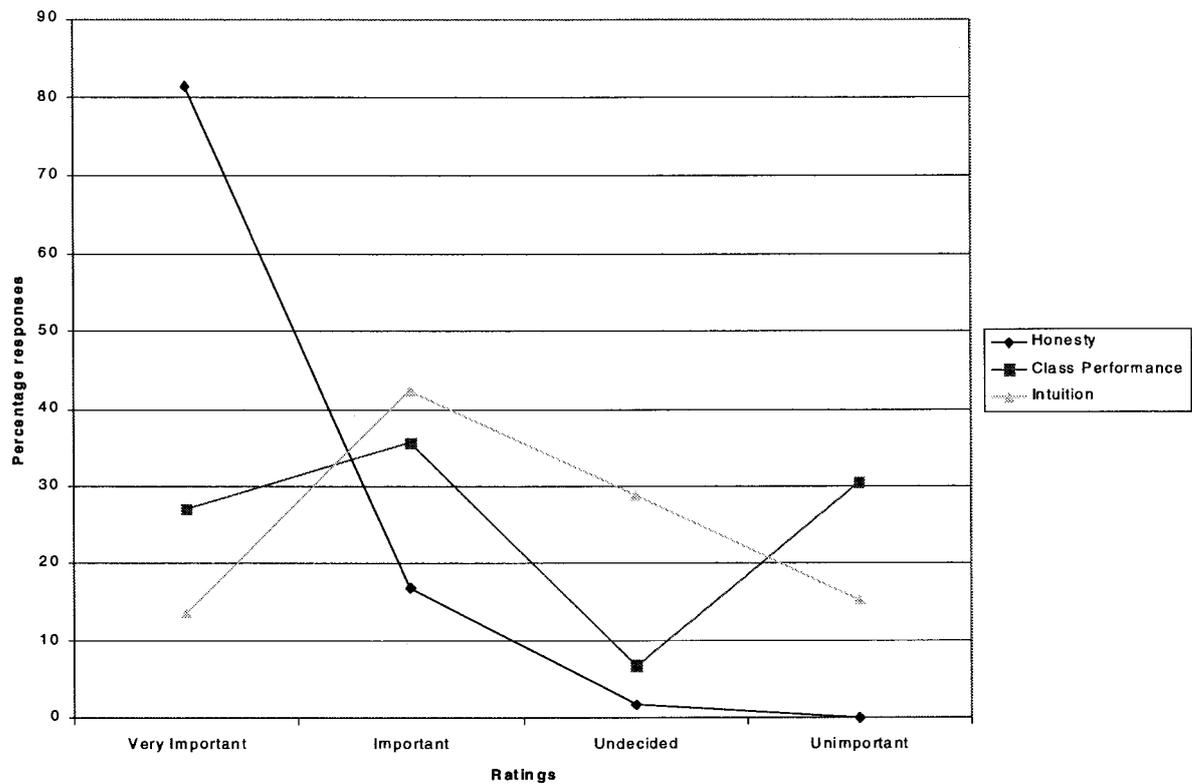
Trait	Mean (1-5)	Std. Deviation	Important (%)	Undecided (%)	Unimportant (%)
Honesty and trustworthiness	1.2034	.4464	98.3	3.4	0
Self Confidence	1.3220	.5065	98.3	1.6	0
Communication Skills	1.3390	.5123	98.3	3.4	3.4
Creativity & innovativeness	1.5932	.6192	93.2	15.2	5.0
Flexibility	1.9831	.7985	79.6	13.7	12.6
Intelligence	2.1356	1.0248	74.5	13.7	12.5
Deciding on analysis of problems	2.1695	1.0197	74.7	20.3	8.4
Ability to control of others	2.4915	1.3310	71.1	11.8	5.0
Deciding on feelings	2.5085	1.0234	83.0	28.8	15.2

(N = 59)

The response patterns in almost all the attributes were basically the same except for class performance, intelligence and deciding on intuition where there were large percentages of respondents who disagreed that intuition and class performance should be considered as important attributes for selecting individuals for responsibility (Figure 6.18).

Figure 6.8

Response Distribution Patterns for Honesty, Class Performance and Intuition



The similarities in the distribution patterns are indicative of the high consensus in the perceived importance of the sample attributes. In essence, the teachers view most of the attributes as basically important determinants for selecting individuals for leadership and responsibility except for intuitional decision-making and class performance.

Another dimension which revealed a considerable difference was the subject orientation variable. Of interest was the high value attached to the traditional academic oriented attributes by practical subject oriented teachers as determinants for progression. For example, 98% of the practical subject teachers rated the ability to control others as the most important attribute compared to 74% and 93% of the social and science teachers respectively. Seventy one percent of the practical subject teacher respondents rated class performance very highly compared to 56% and 61% for science and social science teacher

respondents. On the other hand, social science teachers rated flexibility (86%) and intuition (60%) higher than those teaching practical subjects. Similarly, the social science teacher respondents indicated that they considered self-confidence highly as a determinant for selecting class leaders compared to the practical subject teachers. In summation, it can be concluded that the study indicated that practical teachers regard traditional academic attributes as more important than entrepreneurial attributes when selecting class prefects and monitors when compared to other non-practical subject teachers. On the other hand, social science teachers considered entrepreneurial attributes such as confidence, flexibility and independent thinking as the most important determinants for selecting students for leadership and responsibility in the classroom.

On a very modest scale, the sex variable indicated that a comparatively higher percentage of male teacher respondents (83%) viewed honesty as most important when selecting students for positions of responsibility compared to 79.3% of the female teacher respondents. Similarly, a larger percentage of male teacher respondents considered creativity, intelligence and self-confidence as the most important attributes when selecting students for positions of responsibility. In contrast to the male teacher responses, female teacher respondents rated self-confidence and communication skills higher than their male counterparts.

In conclusion it can therefore, be argued that the possession of entrepreneurial attributes positively impacts on the selection of individuals for positions of responsibility in class. Thus in terms of classroom progression, the classroom environment does not militate in any observable way against the entrepreneurial oriented student. It is imperative that schools develop strong leadership qualities among prospective entrepreneurs as creativity and innovativeness at times demand buttressing by strong leadership. On a similar note, it must be acknowledged that zealously mechanistic controlling leadership can stifle entrepreneurial orientation. Perhaps schools should strive to develop an entrepreneurial cadre capable of striking a balance between a robotic and a flotsam leadership.

6.4.12 Industrialists' responses to entrepreneurial attributes as factors for progression in industries

When asked to rate the possession of entrepreneurial attributes as determinants for promotion among employees, 50% of the industrialists rated honesty and excellent workmanship as the most important attributes. This is consistent with the importance attached to personal management skills cited by Raizen, (1989:10) as essential in industries. The ability to follow management instruction was rated as the second most important attribute (48.9%) while the ability to control others was rated as the third most important attribute for promotion with 40.6% of the respondents rating it as the most important. The attributes which seemed to have received premium ratings were mainly traditional attributes which have been perpetrated in the industries during the Fordist industrial era. For instance, the attribute to control others has been known to have been used in the old bureaucratic pyramid organisations, which promoted employees mainly on the strength of their discipline rather than their creative abilities. These pyramidal organisations operated in conjunction with layers of managers and supervisors controlling menial, abnegating lowly workers following per-determined standard procedures (Wirth, 1992:67).

The results can therefore be interpreted to mean that employers in Botswana still promote individuals on the strength on their ability to "kow-tow" to management rather than the possession of creative abilities. Hopson and Scally, (1981:14) have emphasised the need for adaptability in the workplace. Informed by such arguments, expectations were that flexibility, independent thinking and intuitional decision-making would receive high ratings as determinants for advancement in the industries. Instead, the findings rated them comparatively low. Out of the entrepreneurial attributes offered in the item sample, creativity seemed to have received the highest rating for promotional purposes. This creates a paradoxical recipe in that earlier findings have indicated that there is very little or no room for creativity within the industries. Yet, interestingly, these are the attributes which seem to matter when it comes to promotion within the industries. The explanation to

such ambivalence cannot be sought within the confines of this study as it, probably, falls out outside the ambit of this study.

An important weakness inherent in this study, which could probably have had a telling influence on the results, was the exclusion of the role of experience in securing promotion within the industrial sector. Mongke, (2000) in his study on recruitment and the progression in the employment sector has indicated the important role played by experience in the promotion system. A future similar study could probably include experience as a factorial determinant for progression.

To sum up the findings regarding entrepreneurial attributes as determinants for progression in the industrial scenario, it can be said that industrial management shows a preference for promoting employees who are honest, obedient and do their tasks well. Employers seem to prefer to keep and promote a loyal workforce than take those who may soon leave in search of new pastures. Creativity, although relatively important played a subservient role to the conformist traditional attributes for promotion purposes. Interestingly, flexibility was not as highly rated as was expected considering the fluctuating nature of modern employment as painted by Hopson and Scally (1981:14) among many other writers.

D Utility Potential for Employment, Job creation and Job Preferences

6.5 Utility value of entrepreneurial skills and attributes

Closely associated with social acceptance is the utility potential of skills and attributes. In their study, Mudariki and Weeks, (1993) referred to the utility value as “currency value”. It refers to how useful the skills and attributes are to the individual. This study investigated utility issues such as the potential role of entrepreneurial skills and attributes for securing employment and in creating innovations in industry. It also investigated and reported on employment preferences regarding entrepreneurial and incubator occupations in comparison to the traditional professional occupations.

6.5.1 Entrepreneurial attributes as determinants for recruitment

A fundamental concern in carrying out this study was the investigation of consonance or disjunction in the attributes required by industrialists and those fostered in senior secondary schools in Botswana. The issue of consonance and disjunction largely circumscribes the relevancy of the curriculum to the industrial requirements. In the face of the obvious danger of providing an overly simplistic answer to an otherwise complex, multifaceted and problematic issue, it seems logical to posit that a linear positive correlation between the attributes and skills required in industries and those nurtured in schools largely describes a relevant curriculum. If there is truth in this prognosis, then, when taken to its logical conclusion, this postulant would mean that a match between what the schools promote and what the industries expect from prospective recruits should translate into consonance while the opposite would be indicative of a disjunction between the school and industrial recruitment aspirations. In an attempt to elicit an answer to this multifaceted consonantal problem, many sub-questions were asked including questions such as “What attributes do industrialists look for in new recruits?” “Does the possession of entrepreneurial attributes enhance the chances of being recruited?” “What do teachers consider as central for the employment of their students?” “What do students themselves view as important in getting employment?” “Is there any significant correlation in the school and industrial perspectives?”

Basing some of the items on the Welsh survey into employees' needs (in Wellington, 1993:82), respondents were asked to indicate how far they agreed with the statements justifying why students should be recruited. The justification statements included competencies in communication and numerical skills (presented as passing Mathematics and English), personal entrepreneurial qualities such as confidence, propensity for taking risks, creativity and the capacity for autonomous work and the traditional conformist attributes of obedience, honesty and a capacity for analysis. To analyse the data, each response was accorded a numerical value on a five-point scale increasing inversely with the degree of agreement. For instance, a response of strongly agree was accorded a numerical value of one point while a response of “strongly disagree” was accorded a numerical value

of five points. A triad scale of “agree”, “undecided” and “disagree” was used for calculating percentage ratings.

6.5.2 Attributes that teachers consider as important for the employment of their students

Table 6.26 presents the percentage ratings, mean values and the standard deviations of teachers’ responses on the reasons why their products should be recruited for employment in industries.

Table 6.26
Teachers Responses on Skills and Attributes Essential for Recruiting Students for Employment

Skills/attributes	Mean (1-5)	Standard Deviation	Agree (%)	Undecided (%)	Disagree (%)
Being confident	1.4576	.5966	98.3	1.7	1.7
Being honest	1.4915	.7514	96.6	1.7	1.7
Being creative	1.4915	.6262	96.6	1.7	1.7
Ability to work as an individual	1.5085	.6791	96.6	1.7	1.7
Being a good team member	1.5085	.6262	96.6	1.7	1.7
Being analytic	1.6441	.7373	95.0	5.0	0.0
Propensity for taking risks	1.8814	.8922	83.1	8.5	8.5
Being obedient	2.0517	.8465	72.4	22.5	5.2
Questioning attitude	2.1356	.9730	69.5	18.6	11.9
Passing English Language	2.3220	1.1513	71.2	10.2	18.7
Passing Mathematics	2.5085	1.0234	59.4	23.7	17.0

(N= 59)

According to the findings, the teachers perceived the possession of confidence (98.3%) as the single most important attribute to be considered when recruiting for new employees. Honesty and creativity were (96.6%) perceived as the second most important criteria for recruitment. Close to these was the ability to work as an individual and to work well as a

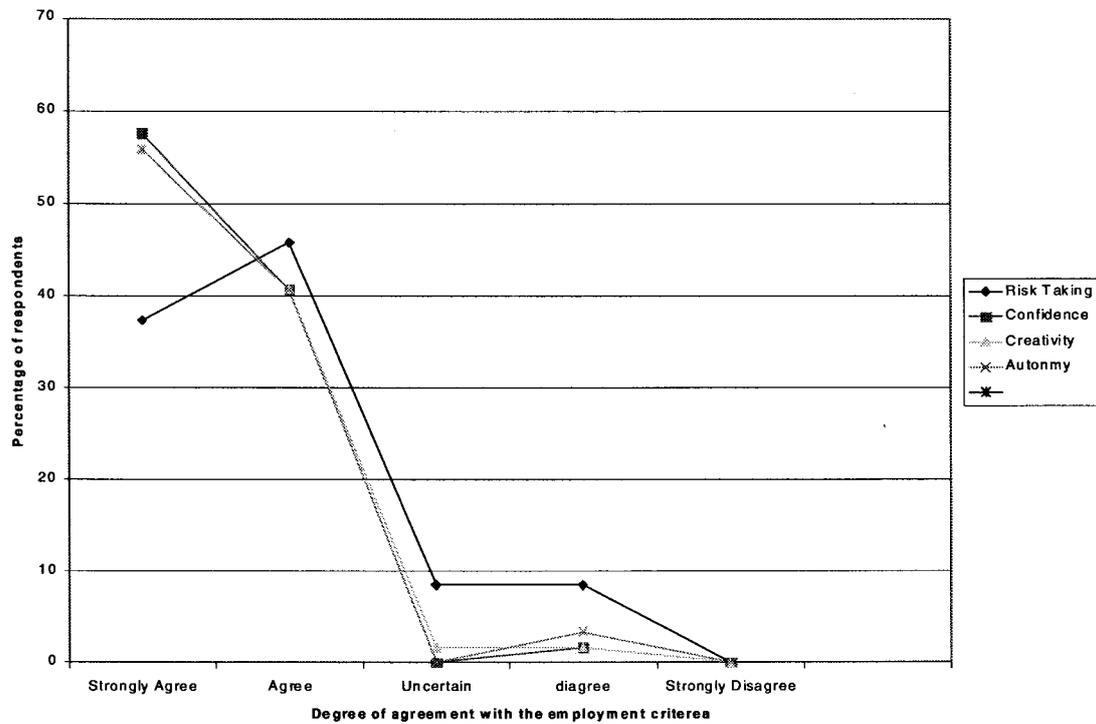
member of a team. In essence, the results indicated that teachers believe that their students should be employed on the strength of their entrepreneurial personality qualities. At the lower end of the rung was the ability to communicate well in English (71%) and the capacity for mathematical computation (59.4%). To a certain extent, the results, concur with the findings of the Welsh survey (in Wellington, 1993:82) on the needs of employers which involved in-depth interviews of jobholders and supervisors in 15 different occupations across a range of employment sectors. The results indicated employers as looking mainly for personal qualities such as reliability, punctuality, willingness to learn and enthusiasm. However, in the Welsh survey only 21% rated creativity as very important which negates the findings in this study which has placed a high premium on creativity and its other entrepreneurial correlates. A recent survey of Michigan employers carried out by Roeber, Brown and Stempper, (1989) gave an almost similar set of criteria as prerequisites for recruitment. The employers accorded the highest priority to personal management skills such as honesty, integrity, pride in one's work and respect for others. The second priority was accorded to academic skills and the third priority went to teamwork skills.

A very interesting contradiction concerned the capacity to work alone. In the results pertaining to the profile of an admired student the autonomous worker was viewed by the teachers as disliked. Yet, when it came to its potential for securing employment for school leavers, it was considered as important. The implication seems to be that teachers understand the importance of an independent worker yet they dislike the personality socially as a colleague and a student. A possible explanation could be that teachers are not comfortable with autonomous workers and yet they are aware of the potential utility value inherent in the characteristic. The personality trait then assumes the position of a utilitarian imperative which, although socially undesirable, serves an important purpose and therefore deserves a grudging acceptance with a potential for translation into currency value and employment opportunity.

A further analysis of the response patterns indicated similarities in the high percentages of teacher respondents who believe that their students should be employed for possessing entrepreneurial personality qualities (Figure 6.9).

Figure 6.9

Teachers' Response Patterns for Entrepreneurial Personality Qualities (confidence, creativity, risk taking and autonomy)

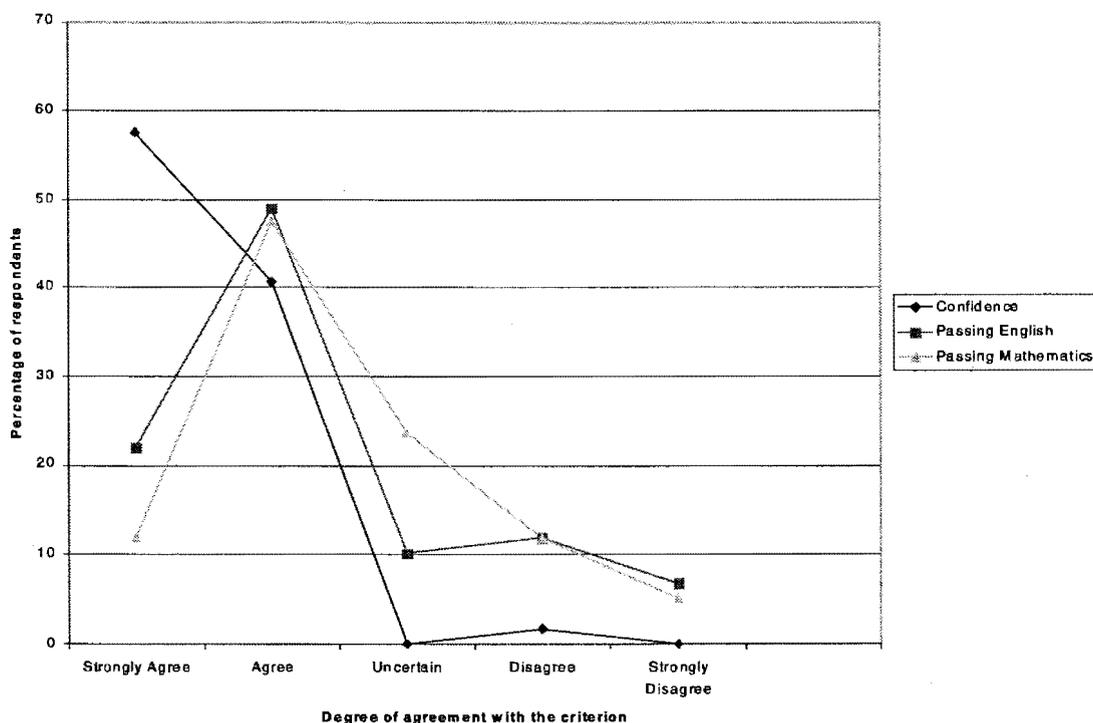


It is interesting to note that teachers want their students to be employed because of personal qualities whereas in schools they emphasise the acquisition of linguistic competence and mathematical computation. Raizen, (1989:10) has suggested a plausible explanation for this apparent paradox:

“The problem is that the concepts that give rise to dispositions and habits desired by employers are not well delineated. For example, what lies behind an individual’s willingness to take initiative or the ability to plan? What is entailed in co-operation or decision-making? How do you teach pride in one’s work and respect for others? Until these concepts are reasonably well defined, it is difficult to envisage how the desired habits and dispositions might be taught effectively.”

It must be noted that teachers were not against the use of English and Mathematics as criteria for recruitment per se, they viewed them as important, albeit on a lesser scale. A close comparative examination of the response patterns (in Figure 6.10) between the highest ranked criterion; confidence, English and Mathematics revealed similarities in the distribution patterns emphasising the general acceptance of the importance of all the criteria in recruitment but more so, emphasising confidence as a stronger reason why students should be employed.

Figure 6.10
Teachers' Response Patterns for Confidence, Linguistic and Mathematical Computational Competencies



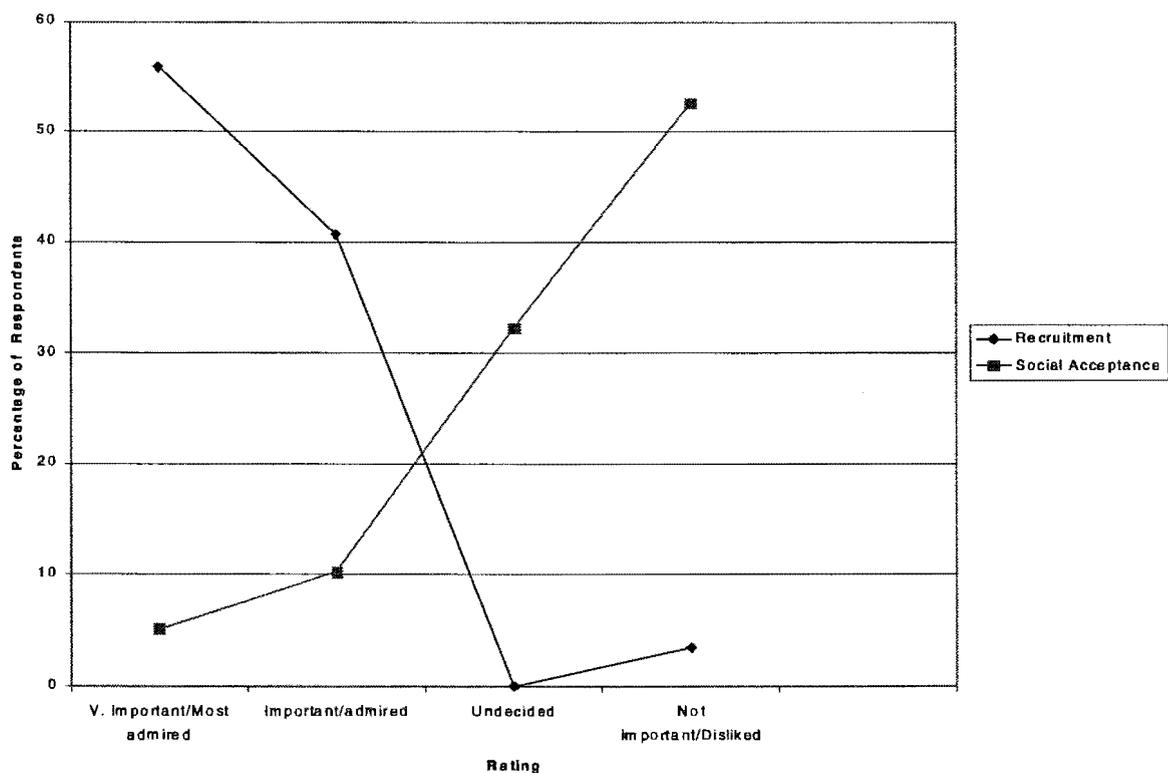
The findings seemed to reveal a paradoxical quagmire in which the teachers are caught up. On the one hand, they expect employers to recruit their products on the strength of personal entrepreneurial attributes such as confidence, creativity, risk taking and the capacity for working alone. Yet, on the other hand, they are expected to teach a curriculum which is heavily skewed in favour of mechanistic, Taylorist skills which by their very nature militate against the acquisition and the development of the attributes which teachers

view as essential for employment. This seems indicative of a disjunction in what the teachers view as essential for employment and what they teach in the classroom.

A similarly interesting observation was that teachers viewed the capacity to carry out work independently as an important factor for recruitment purposes. For instance the capacity for autonomous work was ranked fourth in the hierarchy of requisite qualities and competences for recruitment (Figure 6.11). Yet on the other hand, when requested to indicate social acceptance for colleagues who liked working alone, they reflected mediocre to low levels of acceptance and admiration.

Figure 6.11

Teachers' Ratings of Social Acceptance of an Autonomous Worker as a Colleague and as a Personality Quality for Recruitment Purposes



The puzzle is, if the teachers are aware of the desirability and importance of working independently for securing employment, why should they dislike someone who actually exhibits such a seemingly desirable characteristic? Can it be that some of the characteristics

demanded by the employers are actually repugnant to the teachers? How then do teachers respond to this paradox? Do they proceed to try and inculcate these repugnant traits in students so as to get employment or, alternatively, do they underplay the importance of such attributes? The answers to such questions, however, fall outside the delineated parameters of this study. A study to investigate these apparent contradictions would probably prove to be of great interest.

6.5.3 Attributes students consider as important for finding employment

Table 6.27 presents students' perceptions on attributes which they consider as important for recruitment for employment in industries in Botswana.

Table 6.27

Students' Responses on Skills and Attributes Essential for Recruitment for Employment

Skills/Attributes	Mean (1-5)	Standard Deviation	Important (%)	Undecided (%)	Unimportant (%)
Being confident	1.6364	.7644	90.9	6.1	3.1
Being creative	1.7727	.8251	86.4	9.1	4.6
Being honest	1.8030	.8775	86.4	7.6	6.0
Being obedient	1.8636	.9228	86.3	6.8	6.8
Ability to work as an individual	2.0379	1.0294	77.0	9.1	12.9
Being a good team member	2.1742	2.8081	81.0	8.3	19.9
Being analytic	2.1832	.9511	70.2	21.4	8.4
Questioning attitude	2.2126	1.1172	66.9	18.1	14.9
Passing English	2.2652	1.2713	68.7	8.0	19.7
Passing Mathematics	2.3788	1.1821	65.9	13.6	20.4
Propensity for taking risks	2.5115	1.3322	58.8	16.8	24.4

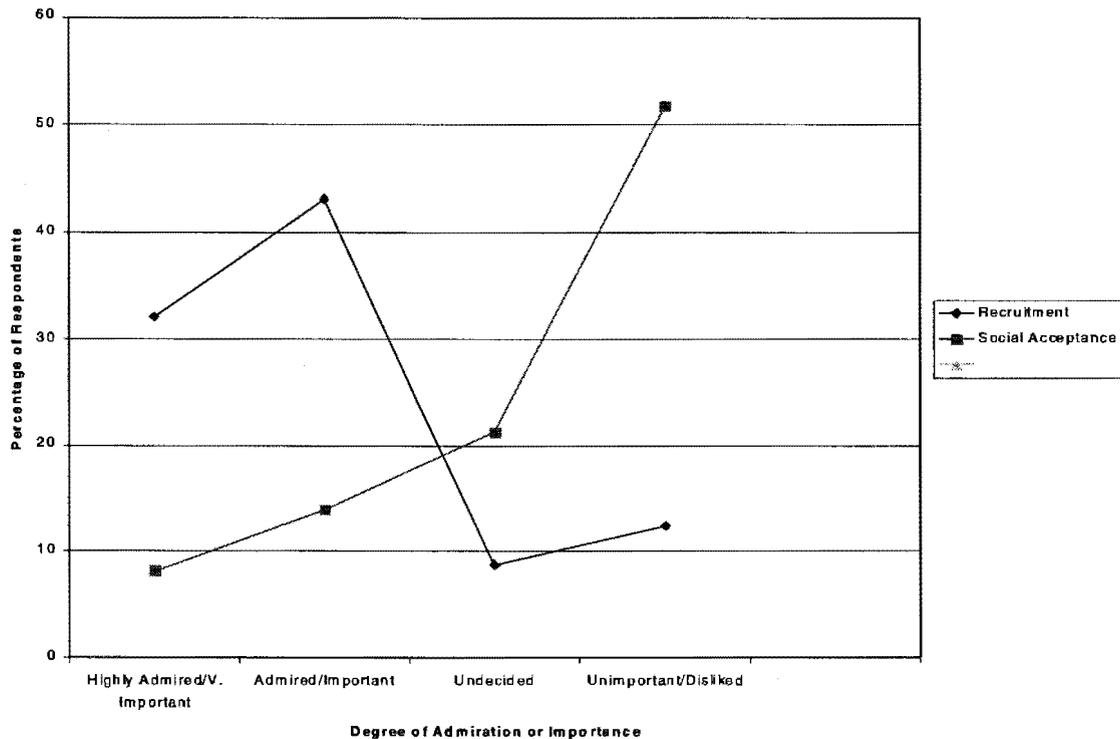
(N= 131)

Contrary to expectations, students' responses echoed the criteria for recruitment in the same order as the one suggested by their teachers. The expectations were that students would probably suggest passing English and Mathematics as the most important requirements for getting employment as is conventionally believed. Instead, they indicated that employers should employ them not necessarily on the strength of their passing English or Mathematics, but on the strength of their personality traits. It is also interesting to note, that like the teachers, they "agreed" that they should be employed on the strength of their confidence, (90.9% with a mean value of 1.6364), creativity (86.4% with a mean value of 1.7727), honesty (86.4% with a mean value of 1.8030) and obedience (86.3% with a mean value of 1.8636). In essence, students indicated that they deserve to be employed not because of their academic competencies per se, but for their personality qualities as individuals. In fact, it is worth noting that students rated entrepreneurial characteristics of confidence, creativity, and working independently as strong criteria for being employed. The results reflected a close resemblance to the results presented in a study of what the employers look for in recruits by Roeber, et.al. (1989).

As was the case with the teachers' responses, the students' results revealed some contradictions. In the results presented earlier on, students had consistently rated autonomous workers, creativity and a questioning attitude as being subservient to the traditional conformist attributes of obedience, following instructions, analysing and critiquing. Yet, when it came to its utilitarian value as a criterion for recruitment, they rated it highly. This seems to be indicative of their awareness of the importance of the ability to work independently and being creative in the world of work. This poses more questions than answers; if the students are aware of the importance of working alone why should they prefer the monological teacher centralising approaches? Could it be a case of certification attainment at all costs? In the case of social acceptance, like the teachers they indicated a dislike for those possessing autonomous tendencies. Figure 6.12 clearly shows the inherent contradictions in the utility value and the social acceptance of an autonomous worker as perceived by students.

Figure 6.12

Students' Ratings of Social Acceptance of an Autonomous Worker as a Classmate and as a Personality Trait for Recruitment Purposes



6.5.4 Attributes industrialists consider when recruiting school leavers

When the industrialists were requested to indicate the attributes they considered as important for recruiting new employees, firstly, they considered obedience as the most important attribute (97.4%) followed by honesty and thirdly by the ease of availability of the individual as shown in Table 6.28.

This perception of recruitment which is based on honesty, obedience and self control is reminiscent of the Japanese recruitment and work ethic of “Bushido” cited by Wirth, (1992:46), which emphasised loyalty, cluster virtues, duty, integrity and justice. Japan has benefited from the emphasis of these attributes in employment selection and has been able to transform itself from a feudal system to a technologically advanced state.

Table 6.28**Industrialists' Recruitment Criteria Rating**

Attribute/Skill	Mean (1-5)	Important (%)	Undecided (%)	Unimportant (%)
Honesty	1.5	90.5	9.3	0
Team Membership	1.63	96.8	0	0
Availability	1.68	90.4	0	9.3
Communication Skills	1.81	90.6	9.3	0
Obedience	1.87	97.4	0	2.6
Confidence	1.89	96.8	0	3.2
Creativity	2.15	53.0	28.1	12.5
Questioning Attitude	2.25	71.8	18.7	9.3
Passed Mathematics	2.81	47.8	0	46.8
Passed English Language	2.81	37.4	28.8	34.3
Autonomy	2.43	34.3	25.0	18.0
Analytic	2.43	71.8	6.2	21.8
Risk Taking	3.09	40.6	18.7	31.2

(N= 34)

However, inherent weaknesses in these seemingly worthwhile values may hinder the development of entrepreneurial attributes. For instance, emphasis on obedience and control may mutually exclude the exposition of entrepreneurial traits among employees. Furthermore, there is a real danger of the "Bushido system" creating workaholic robots that are the very antithesis of entrepreneurial orientation. Examples of control and obedience based curricular and recruitment policies were a common feature of the colonial era in Africa (Mthunzi, 1992:1-2).

Of interest was that only 37.4% of the industrialists rated the passing of English and Mathematics as very important. The literature had predicted that these would receive very high ratings in line with their status in the school curriculum where they have been allocated the largest time slice and have been described as crucial for employment purposes and the world of work, (Curriculum Development and Evaluation, 1997:4). Entrepreneurial attributes of questioning, autonomous decision-making, creativity and risk taking, although considered important, were ranked at the bottom end of the scale. This is a reflection of the consistency in industrial preference for obedient employees who are not willing to take risks, question management decisions and change the status quo. A dichotomy is thus created whereby industrial management calls for creative, innovative and independent thinking school leavers when in reality they want individuals with conformist tendencies.

6.5.5 Industrial dynamism

Central to recruitment among school leavers is the nature of dynamism within the manufacturing industries. For instance, “Do industries use innovation strategies which utilise individuals with entrepreneurial attributes for initiating and sustaining entrepreneurial activities within their industries?” “Is there room for individual entrepreneurs within Botswana’s industries?” “Is there any benefit which may accrue to individual entrepreneurs within the industries?” Finally, “Is the industrial environment supportive of entrepreneurial activities?” These and many other similar cogent questions beg answers if a relevant entrepreneurial curriculum is to be found which can accommodate the school and the industrial aspirations.

To elicit answers on industrial dynamism, the study identified creativity and innovation as indicators of entrepreneurial industrial dynamism. Schumpeter, (1939:132) and Levine, (in Ronen, 1982:256), have strongly advocated for innovation and creativity as central and indicative to entrepreneurial activities. Schumpeter, (1939:132), for instance, has argued that a clear measure of entrepreneurship is the exploitation of a new product or process into

production. Similarly, Friesen and Millar, (1982) used the same indicators in their study of industrial dynamism. Informed by such Schumpeterian theories, this study therefore investigated the nature of industrial innovations in Botswana, the strategies adopted and the role played by individuals and teams in initiating entrepreneurial activities.

First, to elicit industrial attitudes towards change and innovation, respondents were requested to select what they considered as the most pertinent reasons for change and innovation in their firms. The most commonly advanced reason was that goods became obsolete quickly in the market and as result, the industrialists were compelled to make innovations (Table 6.29).

Table 6.29
Reasons for Innovations in Industries

Reason for innovation	Agree (%)	Uncertain (%)	Disagree (%)
Goods become obsolete in the market	81.2	18.7	0
Company policy	65.6	0	31.2
Management support	87.4	12.5	0
Finance for innovation	59.3	18.7	21.8
Competition forces change	65.2	10.0	24.8
Employment of few professional	30.9	36.5	32.6

(N= 34)

From the results presented in Table 6.29 it seemed as if changes in industries came mainly as a result of goods becoming obsolete in the market forcing the industries to carry out innovations with management support. Interestingly, none of the industrialists “agreed” that they changed because their industries kept money for innovations. This perhaps implies that industries do not, on their own, welcome innovation. The innovation comes as an exogenous phenomenon dictated by the market forces, which the industries cannot control.

When requested to state where ideas for innovations in their industries came from, 78.1% of the industrialists indicated the source as management. On a complementary inverse scale, 43.7% “disagreed” that in their factories employees initiated innovation. Fifty percent perceived innovation as emanating from both employees and management (Table 6.30).

Table 6.30
Industrialists’ Perspectives of Sources of Innovation in Industries

Ideas for innovation come from	Agree (%)	Uncertain (%)	Disagree (%)
Management	78.1	9.3	12.5
Employees	9.3	46.8	43.7
Employees and management	50.0	40.6	9.3
Outside the company	37.5	9.3	53.1

N = 34

A fairly conclusive picture emanating from the findings is that innovation is management driven in Botswana’s industries. It was interesting though, to note that 37.5% of the respondents indicated innovation as sourced from outside the firm. This can possibly be interpreted as indicating that innovation is a result of exogenous factors but is initiated and driven in individual industries by management. In such a situation, employees are not likely to be entrepreneurial. In a way, this could be seen as the nature of modern bureaucracies, which are conservative, by nature (Levine in Ronen, 1982:250). In that sense, it becomes doubtful if industries can be seen as promoting entrepreneurial activities in Botswana. It also puts to doubt the idea of industries seeking to employ individuals with entrepreneurial attributes.

When asked what caused changes in the industries an overwhelming 90.6% of the respondents “agreed” that changes in the industries were dictated to them by market forces. It is interesting to note that only 37.5% of the respondents indicated that their innovations

were spontaneous (Table 6.31). As if to confirm the non-spontaneity of innovation in the industries 81.2% of the respondents also indicated that they planned for changes.

Table 6.31
Responses on the Cause and Nature of Innovations in Industries

In this company innovations are	Agree (%)	Uncertain (%)	Disagree (%)
Spontaneous	37.5	28.1	34.3
Planned for	81.2	15.6	0
Dictated by the market	90.6	0	9.4

(N= 34)

The lack of spontaneity could be better perceived in the context of Millar and Friesen's (1982) theory of conservative strategies where innovations are viewed as costly and disruptive to production efficiency. Firms following the conservation strategy can only innovate when compelled by exogenous factors outside their control in the form of shifting customer wants, or serious competition. In such industries, an entrepreneurial culture is not likely to proliferate. In fact, when an enterprising employee is confronted with such a situation, s/he is forced to work within the narrow confines of the industry and avoids risky and innovative activity (Levine in Ronen, 1982:251).

Industrialists were asked to indicate the magnitude of innovations which had been initiated in their companies within the past five years. It was interesting to note that none of the companies had introduced dramatic innovations. Only minor changes had been introduced (Table 6.32).

Table 6.32

The Nature of Changes Introduced in Industries

Type of change	Agree (%)	Uncertain (%)	Disagree (%)
Dramatic	0	46.8	53.1
Minor	93.7	6.2	0
None	18.6	9.3	71.8

(N = 34)

The picture, which emerged from the responses, was that industries in Botswana make minor innovations mainly. There is very little entrepreneurial dynamism within the industries. However, if the industries are to diversify as envisaged in Vision 2016, there is a need for a deliberate development of an entrepreneurial culture not only in schools but also in industries. In the current prevailing situation, the call for diversification and an enterprising industrial sector by the Government Policy Paper No. 1 of 1998 (Republic of Botswana, 1998), remains sheer rhetoric. Industrialists who are supposed to be entrepreneurial in outlook are themselves bogged down by inertia and cannot be seen to be developing an entrepreneurial industrial culture.

As discussed in the literature review, industries utilise different strategies for innovation. Included among the multiplicity of approaches are the individual, team and research driven approaches. Each type of strategy demands its own supportive culture. For instance, an industry whose innovation strategy is individual inspiration, can only be operational if the entrepreneur is part of management and has substantial status and authority within the industry to pass through the innovation. To find out the types of strategies adopted in Botswana's industries, respondents were given a set of approaches and asked to indicate how far they agreed with the utilisation of each strategy in their company. The results are presented in Table 6.33.

Table 6.33**Innovation Strategies used in the Industries in Botswana**

The company uses	Agree (%)	Undecided (%)	Disagree (%)
Research	81.2	21.8	0
Individuals & teams	78.1	18.7	0
Individuals	62.5	28.1	9.3
Teams	50.0	31.2	18.7

(N =34)

In the study, 81.2% of the respondents indicated that they used research to initiate and sustain innovations in their industries. Innovating through prior research has the advantage of minimising the risk factor by the pre-identification of possible pitfalls within the proposed innovation. However, Arrow, (in Ronen, 1982:22) warns against the blind use of research and argues that research may lose validity through information degradation. He argues that by the time the information reaches decision makers, it is likely to have lost some of its negative aspects and taken on distortions and exaggerations.

At least 50.0% of the respondents indicated that in their industries, they “agreed” that they used the teamwork strategy for carrying out innovations. The teamwork approach implies a collectivity of skills and motivation going into production and demands diversity of knowledge and interpersonal skills (Price in Ronen, 1982:11-12). The entrepreneurial teamwork approach can only proliferate in industries with sound information transmission, co-ordination and openness. While it must be acknowledged that there are many benefits to be reaped from the team work approach to innovation, it is instructive to note that in some instances, it may impede the individual entrepreneurs’ incentive to innovate within a team as the resultant benefits may not accrue to the individual innovator (Price in Ronen, 1982:12).

In the study, 62% of the respondents indicated a preference for individual aspirational innovation. The individual strategy to entrepreneurial activities has been deified, most notably in the Austrian tradition, by the works of Schumpeter, (1939:94-109). However,

the rise of large corporate industries has reduced most of its lustre and has created logical difficulties in the reward structure for the individual entrepreneur (Arrow in Ronen, 1982:16).

In the light of the above argument, the individually driven entrepreneurial activities can take root mainly in smaller industries where the entrepreneur can still have overall control and reap the benefits or sustain the losses if they accrue. In the case of Botswana's economy, it must be acknowledged that the small entrepreneur is a central element to diversification and innovation. To deny the importance of small-scale entrepreneurship would be to deny the co-existence of both small and large firms in Botswana's economic landscape. The very existence of these small firms in a competitive economic plain is testimony of their necessity.

In summary, the findings regarding industrial dynamism, indicated that there are very few innovations in Botswana's industries. Those few innovations are invariably small, are a result of changes in the market arena and are management driven. The possession of entrepreneurial attributes does not seem to be beneficial for the lowly placed employees. Although there is room for individual entrepreneurship on the economic scenario, entrepreneurial skills and attributes in individual employees largely remain untapped in Botswana's industries. However, some industries indicated that they use teamwork for entrepreneurial activities. The implications of the findings are that school curricular could probably take a leaf from the industries and emphasise team approach to learning. Learning activities could also focus on investigation as a way of predetermining possible openings which can be fruitfully exploited.

6.5.6 Entrepreneurship as an alternative preferential occupation

An object of primary importance in this study was the investigation of the presence or absence of correlates in the perceptions and attitudes of students and teachers towards entrepreneurship as a preferential alternative occupation. Perceptions and attitudes, as Anastasi (1988:584) correctly observed, are a tendency to react favourably or unfavourably towards a designated class of stimuli and hence cannot be directly observed but must be

inferred from overt behaviour. Thus, to be able to access these perceptions and attitudes towards entrepreneurial occupations, teachers and students were requested to rank order a given list of occupations in what they perceived to be their order of importance. It must be acknowledged that occupations are, by their very nature, interdependent and therefore operationally integrated. This obviously poses problems whenever attempts are made at rank ordering them according to their importance. Yet, as Van Praag, (1996: 39) argues, when an individual views entrepreneurship as the best career option, it is most likely to be indicative of a willingness to start an enterprise. Consequently, the potential to be an entrepreneur is related to the perceived attractiveness of the alternatives. Furthermore, other occupations such as farming, engineering and building may not necessarily be entrepreneurial in and of themselves, but may provide incubation nests for entrepreneurial ventures. These occupations may provide what Miller, (1996:506) terms roll over-skills which develop expertise and skills necessary in the new entrepreneurial ventures and hence, the preferential positions ascribed to them subsequently assume cruciality in the development of entrepreneurship. Similar comparative preferential rank ordering items have been used by Foster (1965), Muphree, (1974), Kann, (1977), Kann et. al. (1988) and Mthunzi, (1992) in aspirational studies .

In this study, the occupations rank ordered comprised four broad bands;

- (a) the traditional professional occupations represented in this study by doctors, teachers and nurses,
- (b) entrepreneurial occupations represented by businessmen/women and self employment,
- (c) entrepreneurial incubator occupations represented by farmers, builders and industrial workers, sales persons and
- (d) office work represented by secretaries and computer analysts.

Perhaps of immediate interest is that the students' and teachers' responses revealed the correlates among the occupations themselves and to a large extent, confirmed the structural soundness of the occupational groupings adopted in this study as they revealed a strong correlation pattern as presented in Table 6.34.

Table 6.34

A Correlation Matrix Showing Occupational Correlates in Teacher Responses

Teacher	Farme	Buil	Busi	Engi	Com	Self	Doct	Ind.	Secr	Sale	Nurs
Farmer	1.00										
Builder	.616*	1.00									
Businnes	.194	.375*	1.00								
Engineer	.197	.346	.363*	1.00							
Comp. Analyst	-.010	.171	.406*	.573*	1.00						
Self Employ,	.217	.121	.642*	.114	.332	1.00					
Doctor	.170	.383	.013	.578*	.520*	-.090	1.00				
Industrial Work	.335*	.475*	.316	.497	.452	.132	.213	1.00			
Secretary	.266	.326	.403	.364	.547*	.406*	.394	.492*	1.00		
Sales Person	.330	.282	.469*	.389*	.247	.412*	.257	.450*	.231*	1.00	
Nursing	.260	.321	.268	.377	.365*	.127	.528*	.504	.32.	-.393	1.00

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

The teacher responses indicated a high correlation among medical professional occupations and engineering occupations. This could possibly be explained by the fact that these tend to need high entry points, demand high level skills, are seen as having security and they all command high social currency in Botswana today. The entrepreneurial band also shows a significant correlation between businessmen/women and self-employment at the 0.01 level of confidence . This perhaps, is obvious as business is at times taken as synonymous to self-employment and hence the correlation between those two entrepreneurial occupations. Of interest also was that responses on sales also co-varied closely with those on entrepreneurial occupations of self-employment and business enterprise. The band of incubator occupations also revealed close internal correlations. The

significance of the correlates here, is the cross validation of the classification structure of the occupations ranked.

6.5.7 Ranking occupations

A total of 127 students and 31 teachers rank - ordered twelve occupations representing the professional, entrepreneurial and incubator occupations in the order of their perceived importance. Each perceived ranking was accorded an equivalent positional value with the most important occupations receiving the least weighting. For example, if a respondent ranked teaching as the most important occupation it was accorded one point while the occupation ranked last was accorded twelve points. This, in essence, meant that those occupations whose aggregate and mean - rankings were high were the least popular occupations. The data was analysed using descriptive statistics; the mean, standard deviation, occupational hierarchical rank ordering and percentages. Correlation of rankings was carried out subsequent to descriptive statistics where relevant. Insignificant relations were ignored and neither presented nor discussed.

Both students and teachers ranked the stereotypic traditional occupation of medicine as the single most important occupation. In the case of student respondents, engineering followed the medical doctor. Engineering seems to have always had an appeal to Form 5 students in Botswana. In a study conducted by Kann, (1977), among Form 5 students in Botswana, 24% ranked it as their first preference, while 18% of the Form 3s ranked it as a second occupational option. There seems to have been very little change in attitudes towards engineering among students in Botswana. This would probably augur well for entrepreneurship as engineering would provide what Miller, (1996:506) refers to as roll over skills and contacts necessary for entrepreneurial ventures.

On the other hand teachers ranked their profession as a second preference to the medical doctor. Table 6.35 presents the rankings of the occupational preferences by students and teachers.

Table 6.35**A Composite Students-Teachers Comparative Preferential Hierarchy of Occupations**

Occupation	Students			Teachers		
	(%) Rating	Mean	Rank Order	(%) Rating	Mean	Rank Order
Medical Doctor	26.2	3.61	1	12.5	3.69	1
Engineering	19.7	4.02	2	19.0	4.22	5
Computer Analyst	19.7	4.34	3	20.7	4.75	7
Business Enterprise	15.0	4.61	4	15.8	4.17	4
Teaching	12.6	5.61	5	50.8	3.25	2
Self Employment	11.8	6.20	6	36.8	4.03	3
Nursing	1.5	6.24	7	20.5	6.52	8
Farming	5.5	7.89	8	25.9	4.36	6
Secretariat work	0.7	7.89	9	1.7	7.67	9
Sales Person	1.5	8.79	10	10.5	7.91	10
Building	1.6	9.11	11	15.5	8.15	12
Industrial Worker	0.8	9.30	12	15.5	7.91	10

Teachers N= 58

Students N= 131

The results reflect a similar scenic finding observed in a study conducted by Kann, (1977) where students in Botswana senior secondary schools were asked to rank order twenty-eight occupations. Out of these occupations, the careers of medical doctor and nurse were ranked second and third respectively. A similar hierarchical pattern emerged in the studies carried out by Muphree, (1974), and Mthunzi, (1992) on aspirational studies involving Form 4 students in Zimbabwe. In the Botswana student cohort in this study there were no significant differences in rankings related to gender and age. It is also instructive to note that in all instances there was a high consensus level on the importance of the traditional professional occupations as indicated by the low standard deviation ranging from 2.67 in the case of a medical doctor to 2.72 in nursing. This underpins the high aspirations for traditional occupations among Batswana students.

The findings on the perceptions and attitudes of teachers towards traditional occupations presented echo, albeit on a much more vibrant note, the responses given by students. The teachers also ranked the medical doctor as the most prestigious occupation. This perhaps underpins the fundamentally traditional conservative nature of the school culture in Botswana. A single major difference between the rank ordering conducted by teachers and students is that teachers ranked teaching as the second most prestigious occupation while the students opted for engineering. A possible explanation, needless to mention, is the teachers' presence in the classroom. It is important to note the singularly convergent nature of the teacher ranking as indicated by the low standard deviation. Despite the deviation in rankings of the teacher and engineer, both occupations fall virtually into the traditional occupations that tend to demand high order skills and an academic bias

Common wisdom, albeit unsubstantiated by empirical evidence, dictates that vocationally oriented students and teachers prefer occupations which have a practical vocational bias including entrepreneurial and incubator groups instead of exhibiting strong leanings in favour of professional traditional occupations. Instead, 23% of the students doing practical subjects had professional occupations as their first preferences comparing quite well with social sciences (23.4%). The findings could be seen as confirming evidence from previous studies by Psacharopoulos and Loxely, (1985), Lauglo, (1985) and Mudariki and Weeks, (1993) which indicate that when students take practical or vocational subjects in school, they view them as stepping stones towards white collar jobs. The findings confirm the postulant that there is no simplistic unidirectional linear relationship between the process of articulation and practical subject orientation. Mudariki and Weeks, (1993:A12 -24) explain the seeming articulation inconsistency as a result of the failure by students to perceive the articulation between what is taught in the vocational curriculum and their future employment, further education or integration into the community. Thus the pattern of ranking regarding professional traditional occupations remained the same despite different subject orientations and the variables of teacher and student .

Many explanations have been advanced for this apparent preference for professional occupations. Perhaps of immediate concern to Botswana would be the seeming security

and the maintenance of the status quo within the public sector which is the working plain for most professionals. Indeed, it sounds a bit cheek in tongue to categorically state that professional jobs tend to present pockets of stability and permanence in an employment terrain characterised by turbulence, fluidity and where the “only constant phenomenon is change”(Hopson and Scally, 1981:14). Yet, the very permanent and stable nature of such professional occupations tend to militate against the incubation of entrepreneurial zealotry which proliferates more in conditions of uncertainty. In Botswana, the public sector comprises the professional occupations : the medical doctors, teachers, nurses and engineers among many others. If there is truth in Van Praag’s (1996:115) prognosis, then the implication would be that traditional professional orientation among Form 5 students and their teachers militate against the acquisition of an entrepreneurial culture in Botswana.

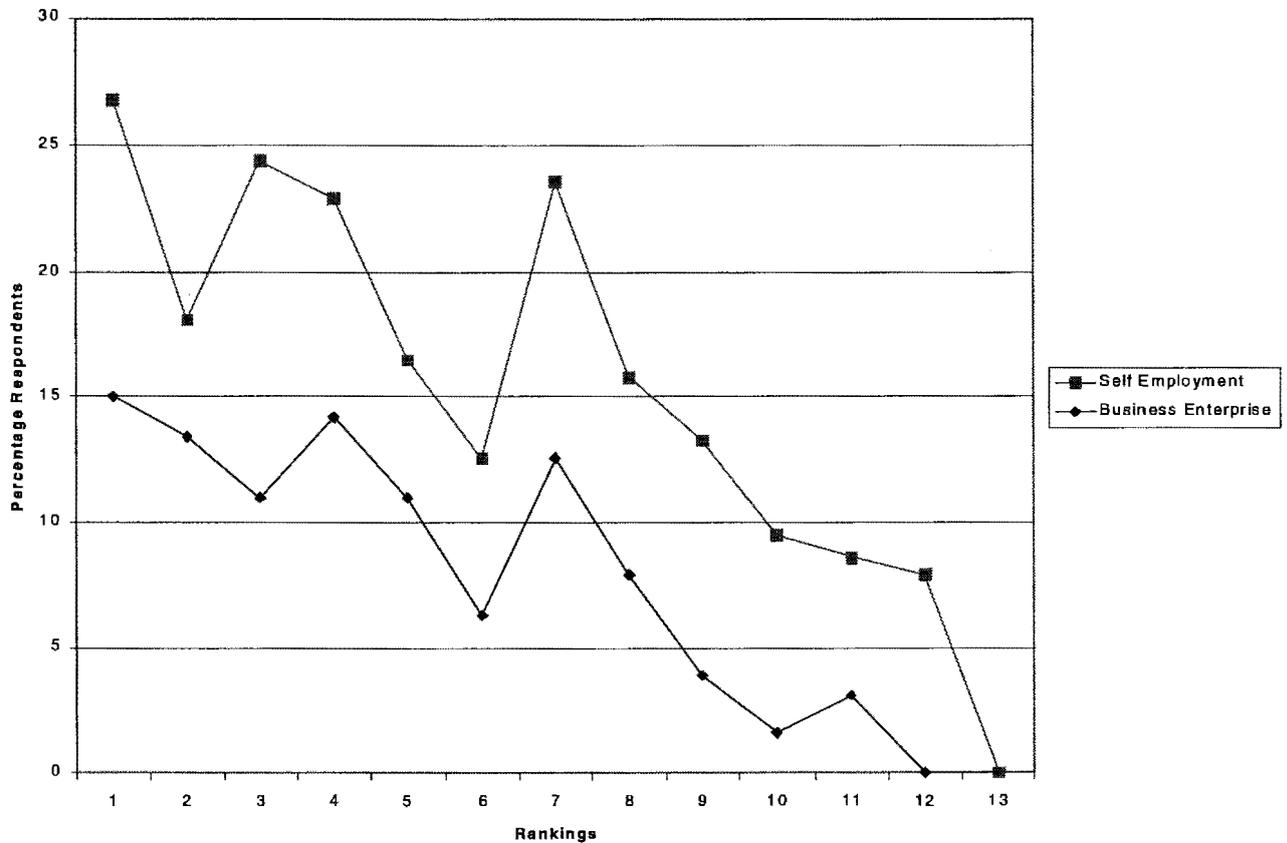
6.5.8 Ranking entrepreneurial occupations

In the entrepreneurial cluster of occupations, there was no homogeneity in ranking as was the case with the professional occupations. Students placed business ownership second while self-employment came sixth in the hierarchy of occupations. However, the ranking pattern obtained showed co-variance between the responses for both businesspersons and self-employment as reflected in Figure 6.13.

A possible explanation for the differences in ranking within the entrepreneurial cluster could be attributed to the interpretation of the terms self-employment and businessmen/women in the context of Botswana. The image of a self-employed person in Botswana is that of a street vendor with a significantly low currency value and therefore fails to appeal as an alternative source of employment. On the other hand, the image of a businessperson is that of a well to do individual often owning a stable retail enterprise and has therefore a higher currency appeal than the stable mate - the self employed vendor. This difference was not accommodated in the instruments used and hence the anomaly in the response patterns.

Figure 6.13

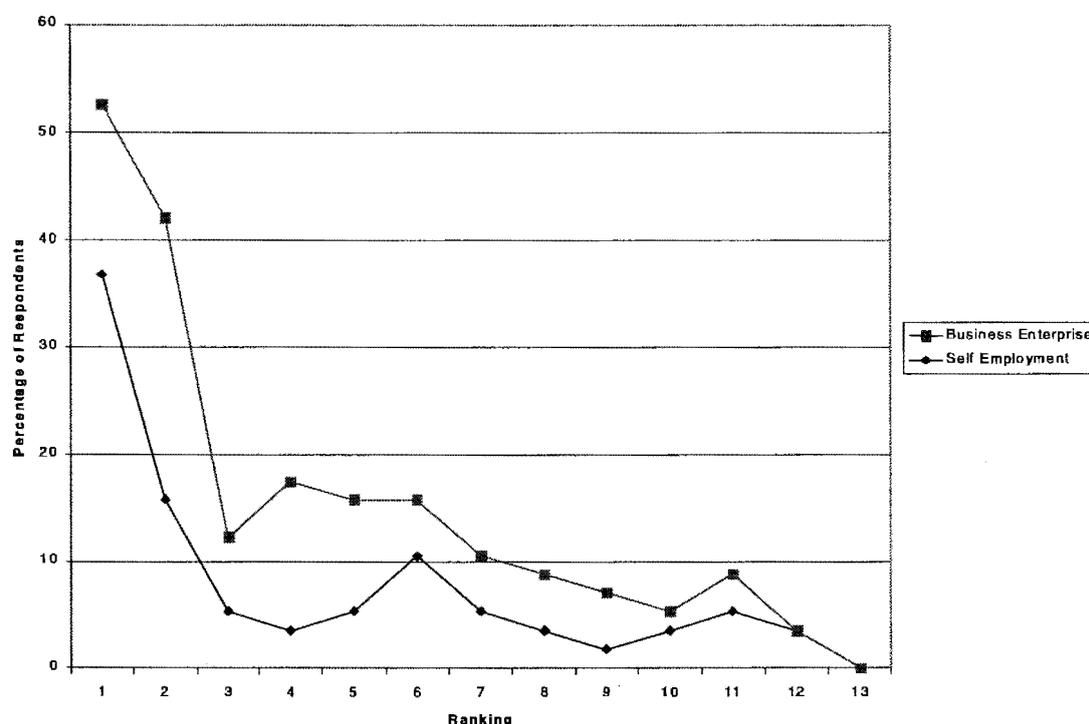
Students' Comparative Ranking Patterns of Entrepreneurial Occupations (Self Employment and Business Enterprise)



On the other hand, ranking of entrepreneurial occupations by teachers showed a stronger response bonding between self-employment and businesspersons as reflected in Figure 6.14. It could be indicative of the awareness among teachers of the close-knit relationship between self-employment and business enterprise, which was not immediately obvious to students. The graph shows a relatively high co-variation between the ranking of self-employment and business enterprise than was the case with students' response rankings. This was further confirmed by the low standard deviation values of 2.74 , which compared well with the medical doctor where the consensus level was at 2.67 standard deviation . On the other hand, self-employment received a rather high divergence value of 3.48

standard deviation perhaps confirming the ambiguity and fluidity of the term self-employment as interpreted within the Botswana context.

Figure 6.14
A Comparative Ranking of Entrepreneurial Occupations by Teachers



A strong picture which emerged was that of entrepreneurial occupations taking second position to the traditional professional occupations. Interestingly, the Government of Botswana, (1998:5) blames this state of affairs on schools:

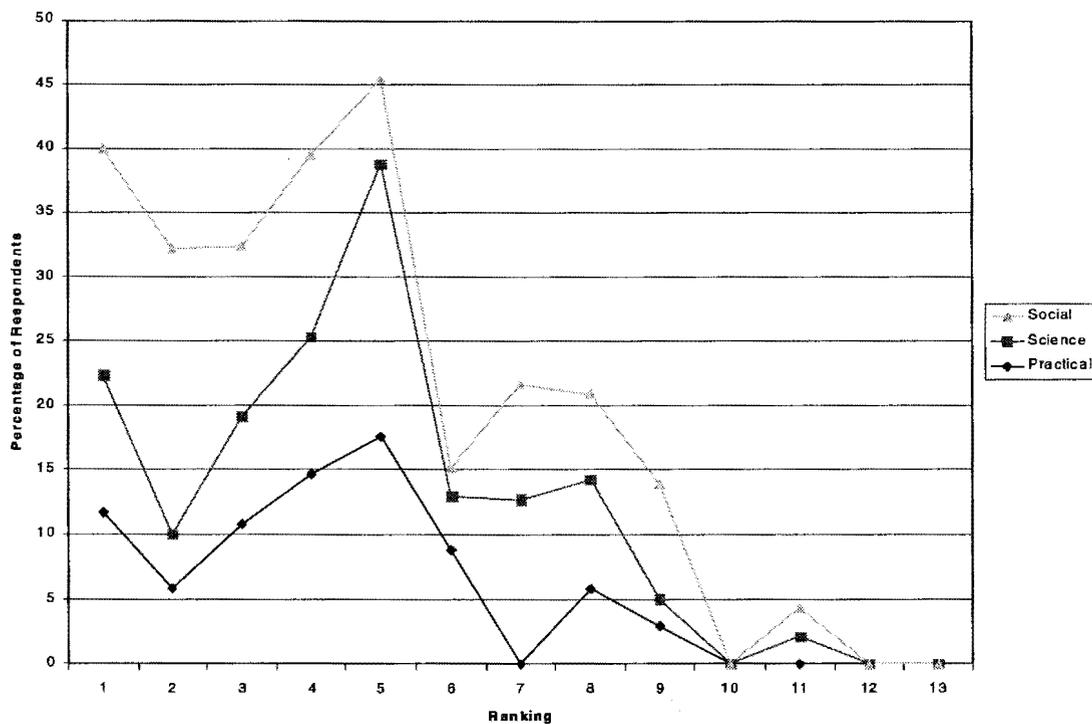
“In Botswana, as in many other countries, schools have traditionally encouraged the development of an employee culture rather than one based on self employment.”

Perhaps a broader dimension reflected could be the inherent conservatism within the students and teachers in Botswana since similar results emerged as early as 1977 in a study carried out by Kann, (1977) and later confirmed by Kann et al. (1988). This again probably serves as a reminder of the difficulty of developing what Watts, (1983:71) refers to as

“positive alternatives” in a society where education has, for along time been in collusion with industries to produce employees who are conformists (James and Leach, 1983:150). In such cases it becomes difficult to create an entrepreneurial culture as entrepreneurial occupations would be viewed as subservient “better” professional occupations .

With regard to subject orientation, a notable finding was that both social science students and teachers ranked business ownership highly compared to science and practical oriented students. The findings are presented in Figure 6.15

Figure 6.15
Ranking Response Patterns for Science, Social and Practical Oriented Students
Towards Entrepreneurial Occupations



Natural science student respondents viewed entrepreneurial occupations as belonging to the mid- quartile unlike the social science students who viewed entrepreneurial occupations as belonging to the first quartile. Those doing practical vocational subjects viewed entrepreneurial subjects as within the broad mid-ranks.

According to Van Praag, (1996:125) individuals with arts and letters oriented education are less inclined to start up as entrepreneurs. These findings although not directly disputing the allegations laid by Van Praag, seem to be indicating that social and arts oriented students indeed do value entrepreneurship as a preferential occupation compared to other occupations in the exception of professional occupations. It is instructive to note that Van Praag, (1996:125) acknowledges that there is no empirical evidence that suggests that arts or social subjects oriented students perform worse than average once they become entrepreneurs. Perhaps this could be a field for further investigation.

There are contradicting views on practically oriented vocational students' attitudes towards entrepreneurial occupations and their subsequent translation into entrepreneurs. In this study, 5% of the practically oriented student respondents ranked entrepreneurial occupations as their first preference. This seems to be consistent with the findings presented by Wenzel, (1979) in a study conducted in Middlesex County, New Jersey, which indicated that only about 9% of the persons who graduated through practical vocational programmes eventually became entrepreneurs. On the other hand, Nelson and Leach, (1983:156) have cited a study carried out by the Survey Research Centre at the University of Michigan from 1974 – 1979 where two million graduating high school seniors who had gone through vocational programmes were asked to determine the type of work they preferred. The results indicated that they strongly preferred entrepreneurial settings either working for themselves, in small groups or in enterprise. Again the area is still grey, demanding more conclusive investigations. Perhaps the inconclusive and at times contradictory nature of the findings is indicative of the comparative newness of the subject and the paucity of research in the area of entrepreneurship school interface.

In Botswana the Revised National Policy on Education, (Republic of Botswana, 1994:8-9) specifically encourages a science and vocationally based curriculum in the surmise that these orientations encourage industrial and entrepreneurial motivation among students. This, albeit covert surmise based on common wisdom, has found expression in the unequal pay structure among teachers which is biased in favour of science teachers and in the funding of students by the government in tertiary institutions where science students are

given a 100% grant while social science students are given repayable loans. The findings seem to negate the assumption underpinning these educational policies, which deliberately emphasise science and practical subjects and attempts to under-write social subjects. The seemingly philosophist predication here, is that knowledge of science and practical subjects will translate into the subject oriented occupation in parallel reminiscence with the unidirectional linear articulation predication already discussed earlier on. It is perhaps in this light that Millar, (1996; 7); Chapman, (1990:49 – 71) and Middleton, (in Mensah et. al. 1998:34) while acknowledging the benefit of a sound scientific and technical education system as advocated by for industrial development and entrepreneurship, warn against an exaggerated role of science and mathematics in the school curriculum. In fact, in the case of entrepreneurship Van Praag, (1996;125) although admitting the importance of science orientation argues that their probability to start off as entrepreneurs is not higher than average. Perhaps there is need for further investigations into this area to identify the causes for higher leanings among social science students towards entrepreneurship. Such information can contribute in the design of a relevant entrepreneurial curriculum.

An observation made from the findings was that 20.3% of the female students ranked business enterprise as the most important occupation compared to 9.6% of the male students. This seems to be a relatively new phenomenon which is also reflected in the superior numbers of women engaged in self employment compared to their male counterparts in Botswana. Table 6.36 shows the proportion of males and females engaged in entrepreneurial ventures in Botswana.

Table 6.36**The Structure of Economic Activities by Sex in Botswana**

	Total	Paid Employees	Self Employed	Unpaid work	Actively seeking work
Persons	908849	261999	47373	15328	107723
Males	420501	151278	18751	3285	54959
Females	488348	110721	28622	12042	52764

(Adopted from Labour Statistics, 1996/7 :9)

In a similar study conducted by Mthunzi, (1992) in Zimbabwe, female students ranked business ownership and self-employment on a lower rank than the boys as illustrated in Table 6.37.

Table 6.37**A Comparative Table of Rankings of Entrepreneurial Occupations by Botswana and Zimbabwean Form 5 Students**

Occupation	Botswana						Zimbabwe					
	Females			Males			Females			Males		
	Mean	Std	Rank	Mean	Std	Rank	Mean	Std	Rank	Mean	Std	Rank
Medical Doctor	3.21	2.46	1	3.61	2.45	1	4.2	.83	2	4.2	1	5
Business	4.53	2.73	3	4.64	2.40	5	2.6	0.96	21	2.9	1.20	19
Self Employment	6.34	3.42	5	5.6	3.64	6	2.9	1.44	18	3.1	1.5	17

**In the Zimbabwean means, the higher the mean value the more important the occupational perception In the Botswana means, the lower the mean value, the more important the occupational perception.

This perhaps is part of a broader emerging pattern in Botswana where girls and women in general are taking bold initiatives into what used to be male dominated entrepreneurial avenues. This again can be seen in the backdrop of the process of rediscovering a collective identity based on shared values where women are deliberately encouraged to venture into the traditional male strongholds (Presidential Task Group, 1999:19). The literature of the 80s' reveal the constraints met by women in their endeavours to penetrate the male

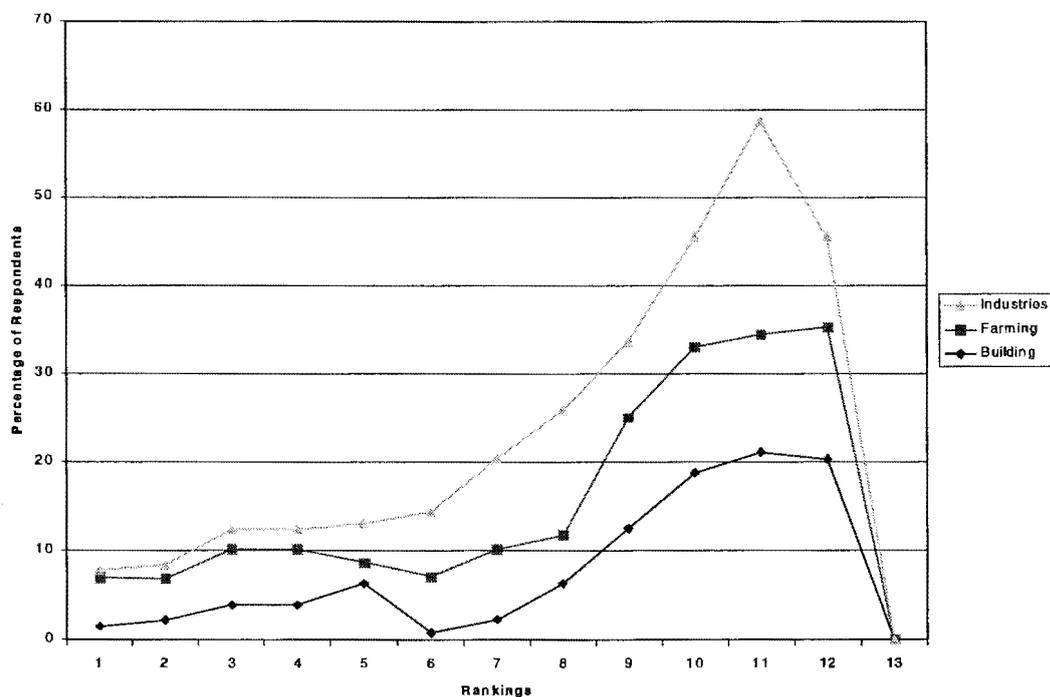
dominated entrepreneurial world . The constraints often cited include lack of capital, lower levels of education and skills training among a host of others (Bunjun and Wainaina, 1988).

6.5.9 Ranking entrepreneurial incubator occupations

The findings show this cluster of occupations as the least preferred in the occupational hierarchy among students regardless of gender, location, school status and age. The response patterns for students are presented in Figure 6.16.

Figure 6.16

Positional Rank Ordering of Entrepreneurial Incubator Occupations by Students

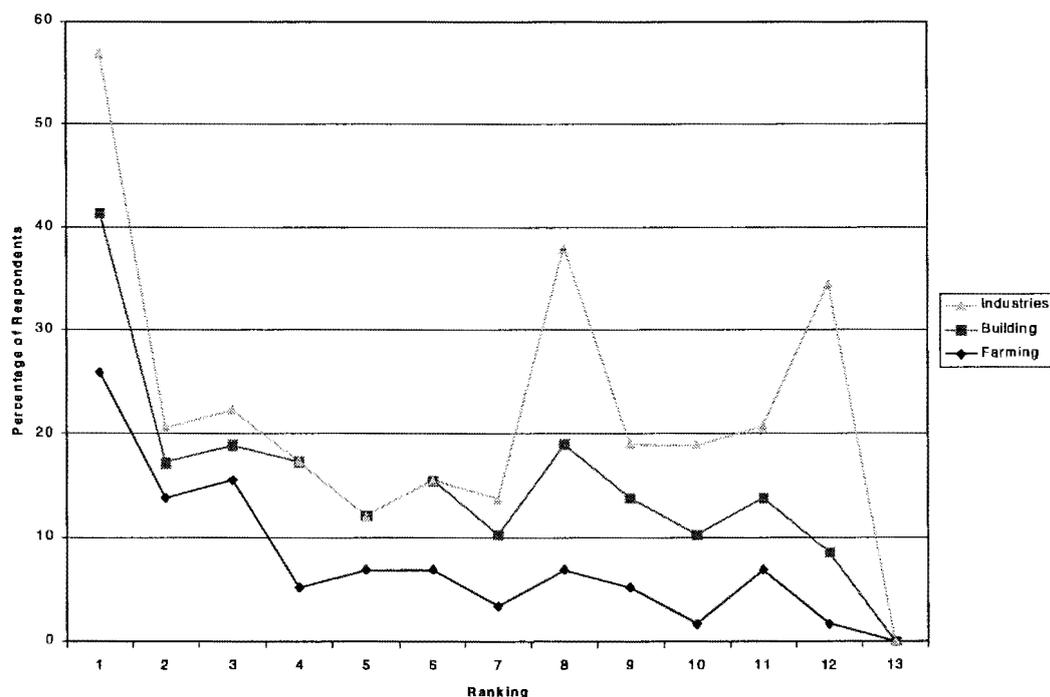


In the study, the results presented showed 45% of the students as ranking farming within the least popular three occupational preferences. Approximately one in every two students viewed agriculture as of low status and therefore undesirable as a potential occupation . The findings clearly depict agriculture as unpopular in Botswana. This is a new

development since Kann, (1977) and Davis, (1986) showed Batswana students as placing a high premium on agriculture. Yet on the other hand Foster, (1965) and Muphree, (1974) had observed a similar dislike for agriculture in their earlier studies in Ghana and Zimbabwe respectively. There could be many explanations for these variations in the popularity of agriculture including the relatively low currency value of agricultural occupations in Botswana and the irrelevant theoretical approach to teaching agriculture in schools cited by Weeks and Mudariki, (1993:A12-33). The implications are that agriculture although clearly earmarked as a breeding bed for entrepreneurs in Botswana may fail to meet the expectations because of its lack of appeal to potential entrepreneurial cadres.

The teachers also ranked the incubator occupations lowly as presented in the figure 6.17.

Figure 6.17
Positional Ranking of Incubator Occupations By Teachers



However, a major difference between the teachers' ranking and that of students was that teachers clearly demonstrated a preference for farming compared to other entrepreneurial incubation occupations. There could be a myriad of reasons for this difference. Perhaps

major among them could be that most adult Batswanas are part-time farmers keeping cattle or owning plots in the rural areas. In this case, it would be logical for them to see farming as an important alternative occupation.

Despite the positive preference shown by teachers towards agriculture the lack of popularity of agriculture shown by students should be seen as cause for concern for Botswana whose future development policies have placed a heavy premium on diversification through these incubator occupations. Of great significance in the development of entrepreneurship and entrepreneurial ventures in Botswana is Agriculture. Jefferies, (1994:A7-30) envisages a diversification of agriculture to include a wide range of commercial activities including dairy, poultry, horticulture, fish farming and bee keeping among a host of other ventures. Furthermore, the Ministry of Commerce and Industry, (1997:25) and the SADC Review, (1998:136) view agriculture as the underpinning cradle for Botswana's entrepreneurs which will "represent the principal demand for small scale enterprises". SADC Review, (1998:136) also mentions latent entrepreneurial openings in hides, edible vegetable oil and the exploitation of meat products including the manufacture of pet feeds. The government of Botswana is also encouraging crop farming ventures in Pandamatenga in the Chobe region where some 2500 hectare have been identified for development. The Tuli Block, the Melapo and the Nokaneng flats have been identified as possible areas for irrigation ventures. Vegetable growing has already been pioneered in large villages in the eastern part of the country. In essence, agriculture is viewed as the pivotal incubator for nascent entrepreneurs in Botswana. It is in this field that Botswana hopes to realise the aspirations of Vision 2016 of adopting strategies to bring the unemployment rate down and produce entrepreneurs who will create employment through the establishment of new enterprises (Presidential Task Group, 1999:11) The success of the realisation of these ideals is largely dependent on the attitudes of the prospective entrepreneurs towards agriculture.

Building, a stable mate of agriculture and a government envisaged incubation seedbed was also rejected by students as a potential occupation preference. According to Jefferies, (1994:A7-3) in the past building construction was seen as third to mining and in the provision of employment in Botswana. It is therefore considered as one of the key

industrial sectors. Further more, the construction industry has the latent potential of employing large numbers of people because of its labour intensive characteristic. Thus, its potential as a breeding nest for entrepreneurship is large. However, like its stable mate agriculture it lacks the appeal to the students who are the prospective entrepreneurial cadres. The immediate implications would probably be a limitation to entrepreneurial development through the construction industry as the incubator. In fact the findings, in a way explains the over subscription of Zimbabwean workers in the construction industry as generally observed in Botswana.

Thus the study shows entrepreneurial occupations as lagging behind the traditional occupations in popularity with the implications that despite the political enunciations and aspirations for an entrepreneurial culture in schools, it has only been rhetoric. The entrepreneurial incubators which have been hailed as cornerstones in the transition to employment creation lag even further behind in popularity. This could be seen as heavily militating against entrepreneurial development in Botswana.

E Entrepreneurial Curriculum Implementation Requisites: **Teaching/Learning Approaches and Instructional Materials**

6.6 Entrepreneurial curriculum implementation requisites

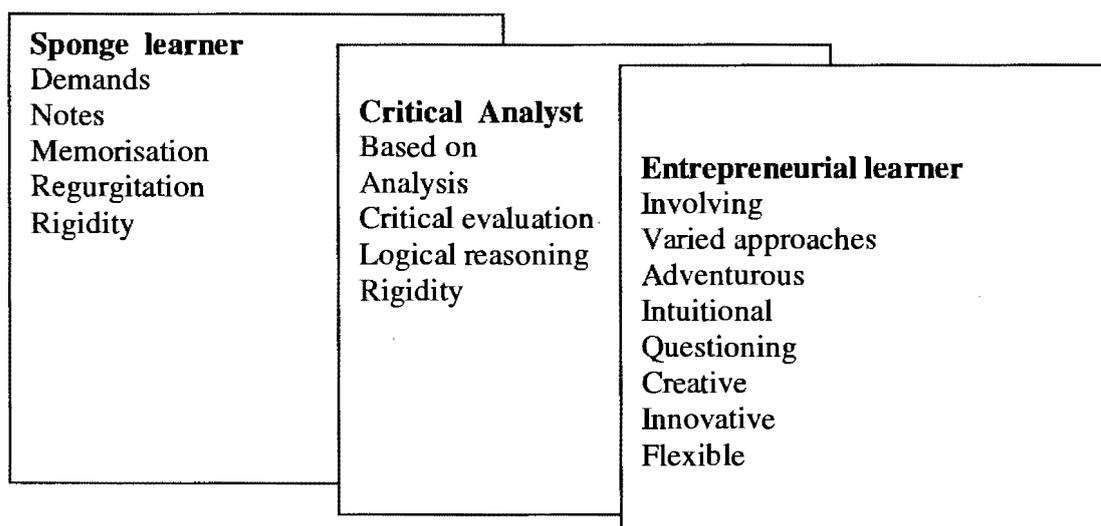
The pedagogy adopted within an educational institution largely defines the nature of the resultant attributes fostered in that institution. For instance, Wellington, (1993:33) listed learner autonomy, self reliance, student - centred, out of school learning, experiential active learning, field and work place learning as pedagogical approaches that form the core of a support system for what he termed “new vocationalisation”. He also listed teacher-centred, subject centred, pursuit of knowledge, passive learning and memorising as support systems for traditional education. Gibb, (in Maas, 1996:5) posited that traditional methods of pedagogy cannot be effective in the training of young entrepreneurs. Gouws, (1997:10) proposed the use of methods that are closely associated with reality which can give students the opportunity to acquire directly, relevant knowledge of entrepreneurship while

Rabbior, (in Kent, 1990: 56–65) and Haven, (1998:83) have gone further and presented some guidelines for entrepreneurship training which included different approaches to problem solving, accepting divergent answers, giving frequent feedback, autonomous learning and experiential learning, intuition, creative thinking and daring to be different among a host of others.

In consonance with the above discussion, this study investigated the teaching/learning approaches considered as important by students and teachers in Botswana in order to find out if they were consistent with the entrepreneurial attributes fostering pedagogy as posited by Rabbior (in Kent, 1990: 56 – 65); Wellington, 1993:33); Gouws, (1997:10) and Haven, (1998:85). In order to investigate the teaching / learning approaches, this study conceptualised learning personality styles as classifiable into three main learning camp-styles as shown in Figure 6.18.

Figure 6.18

A Conceptualisation of the Triad Teaching / Learning Approaches



The sponge learner camp comprised the traditional learners who show a preference for massive note-making, use of rote learning and an extensive reproduction of notes while the critical analyst camp comprised those who believe in the supremacy of critiquing, analysing and logic. The third camp; the entrepreneurial style, centralised flexibility,

questioning intuitiveness, creativity, and innovativeness. Students and teacher respondents were requested to rate the importance of each of the learning/teaching strategies on a five-point sliding scale of very important, important, uncertain, not important and not at all important. To analyse the data, the responses were accorded values on a five-point scale with the most important accorded the lowest numerical value.

6.6.1 Teachers' attitudes towards entrepreneurial enhancing teaching/learning approaches

The results of the teachers' ratings of different instructional delivery strategies are presented in Table 6.38. Ninety two percent of the teacher respondents rated the use of varied approaches of instruction as the single most important approach to teaching. They also indicated, albeit on a comparatively modest scale, the importance of such strategies as critical analysis (91.4%) creative learning (90.7%), and the use of imaginative learning (89.6%). What was strikingly evident, was the high degree of consensus on the overall importance of all the teaching / learning approaches presented in the sample.

Table 6.38
Teachers' Ratings of Teaching/Learning Approaches

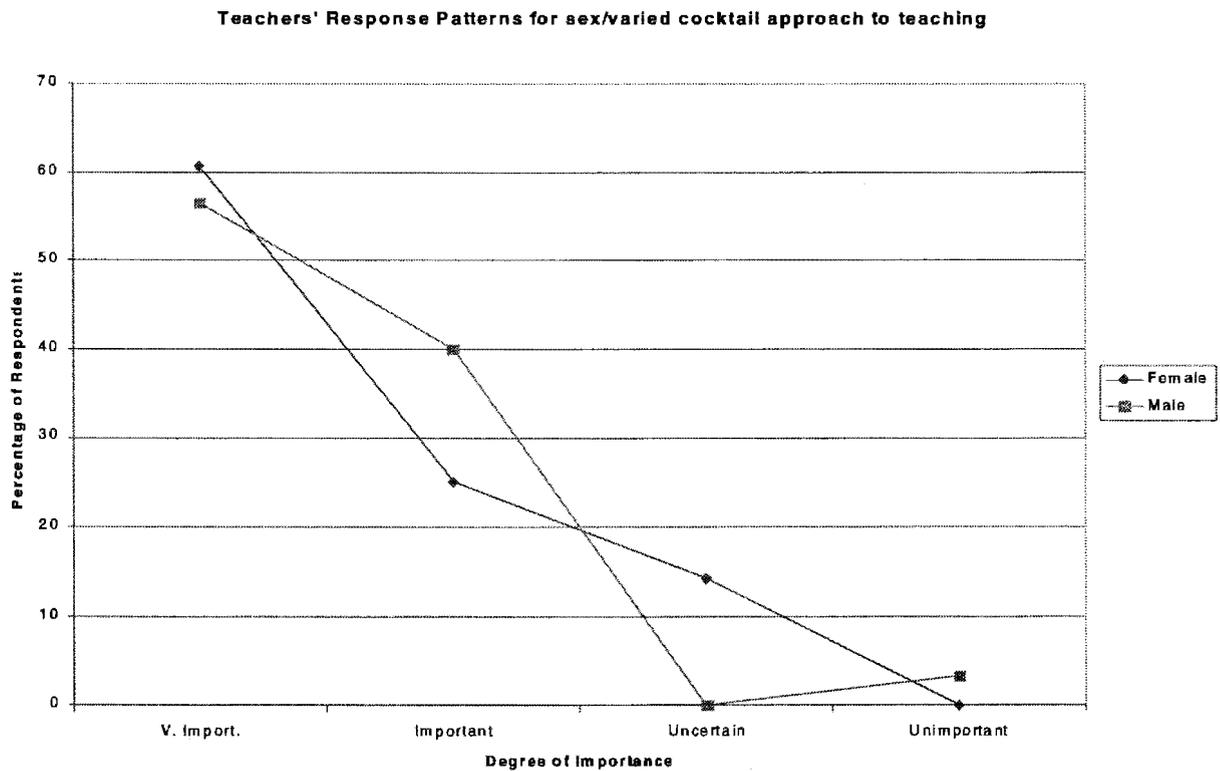
Teaching/Learning Approaches	Mean (1-5)	Std. Deviation	Important (%)	Undecided (%)	Unimportant (%)
Varied approach to learning	1.517	.7069	92.4	6.9	1.7
Critical analysis	1.706	.8379	91.4	3.4	5.1
Creative learning	1.722	.8990	90.7	1.9	7.5
Imaginative learning	1.844	.9697	89.6	3.4	6.9
Description of processes	1.862	.8261	88.0	6.9	5.1
Autonomous learning	2.000	.8786	81.0	12.1	7.9
Detailed plans	2.258	1.0355	69.0	17.2	13.7
Accuracy	2.482	.9955	62.1	17.2	20.7
Experiential learning	2.775	3.1514	69.0	19.0	8.6
Intuitional learning	2.775	1.1554	51.7	20.7	27.5
Feedback	3.275	1.1516	29.3	29.3	41.4

(N = 59)

Cross tabulation of responses by the sex variable indicated that 56% of the male teacher respondents and approximately 60% of the female teacher respondents identified the varied approach to teaching as the most important strategy. Figure 6.19 shows the distribution of responses on the importance of the varied cocktail approach to learning based on sex. Actually, it was interesting to note the very high ratings of both male and female teacher respondents (96.6% and 93.2% respectively) who viewed the varied approach to teaching/learning as at least important further emphasising the consensus in the ratings. Other variables such as age, experience, and status had insignificant differences regarding the importance of the varied approach to teaching /learning.

Figure 6.19

Teachers' Ratings of the Varied Approach to Teaching/Learning by Sex



A cause for concern was the rather disappointing rating on feedback. Teachers perceive feedback as virtually the least important in the teaching/learning process. Yet, Thorndike, (191935); Skinner, (1950); Gagne, (1985) and Gagne and Driscoll, (1988) have extolled the pivotal nature of feedback to the successful accomplishment of the learning process. Kuriloff, et.al. (1993:24) have exhorted the need for feedback particularly among entrepreneurs:

“Entrepreneurs seek immediate feedback on their performance. They want prompt, accurate data on the results they are getting. It doesn’t seem to make any difference whether the information they get is good or bad; they are stimulated by it to pour more energy into accomplishing the task.”

Given the above scenario, getting feedback should be seen as an important element in creating an environment that purports to foster entrepreneurial attributes. In fact, feedback provides an important practical dimension in that it helps in decision making; whether to continue in the same direction, make changes or abandon the enterprise. It can also act as a standard for assessing possibilities of success or failure. In the case of success, feedback invariably reinforces the zeal to achieve and increases the probability of an action being repeated if done well previously. In the absence of feedback there exists a real danger of inhibiting the development of an entrepreneurial culture in schools.

A strong message emanating from the findings seemed to be that teachers in Botswana view the varied approach to teaching as the most important instructional delivery strategy. The other methods considered individually were perceived as of relative importance when compared to the whole. It is instructive to note that what the teachers are calling for are basically the same teaching approaches strongly advocated for by Kent, (1990:21); Rabbior, (in Kent: 1990:56 –55); Gibb (in Maas, 1996:5) and Haven, (in Mensah et.al.1998: 85). These are the instructional strategies, which are consonant with the inculcation of entrepreneurial skills and attributes. For instance, Haven, (in Mensah et.al.1998:81-86) has strongly advocated for fluidity in the teaching approaches to allow for creativity and changes within the learning/teaching environment.

There seems to be no controversy regarding the importance of using the varied instructional approach to teaching per se. The real contentious and cogent issue is whether teachers actually use varied teaching approaches in schools thus facilitating the acquisition of entrepreneurial skills and attributes or, the approach is perceived as an ideal lying on the outskirts of learning, unattainable and yet deserving of aspirations. To ascertain if teachers applied varied teaching approaches in the classrooms, they were asked how frequently they changed their teaching environment, sitting positions, visited the library and taught outside the school timetable. In essence, these items were aimed at identifying classroom dynamism meant to reveal the teaching approaches obtaining in the classroom situation in contrast to the ideal teaching strategies aspired for. To analyse the data, each response was accorded a numerical value on a five-point scale increasing inversely with the degree of frequency. For instance, a response of “very often” was accorded a numerical value of one point while a response of “never” was accorded a numerical value of five points. The results of the teachers’ responses are presented in Table 6.39 as percentage ratings indicating the frequency of occurrence on a three-tier scale of “often”, “rarely” and “never”.

The results indicate that 47.3% of the teacher respondents rarely ever change their sitting positions. A plausible inference would be that teachers keep the same position when teaching for most of the time! In order to conceptualise and better appreciate the implications, it is important to understand the politics of teacher-position in class. The teachers’ commanding sitting position in class, often in front and central situated, allegorises the class as a vehicle and the teacher as the driver. It emphasises the dimension of teacher control perhaps more than that of the teacher as a participant facilitator. Tshireletso, (1999:2) has aptly summed it up as:

“Classroom organisation (in Botswana schools) is organised in a vertical line of authoritative transmission ... the pattern in class legitimises the teachers’ position of authority. It is symbolic of the old tabula-rasa philosophy where learners are devoid of any worthwhile knowledge and need to be filled with new knowledge to transform them”

Table 6.39**Teachers' Responses on the Frequency of Changes in teaching/Learning Environments**

Dynamism Index	Often (%)	Rarely (%)	Never (%)
Exploit opportunities in class	71.1	25.3	3.3
Changing the learning environment	63.1	32.1	5.0
Teaching outside the timetable	52.4	43.9	3.7
Library visits	30.2	40.8	29.0
Changing the students position	25.4	66.0	3.3
Surprise lessons	23.6	69.3	6.7
Changing the teacher's position	22.7	47.3	30.5

(N = 58)

The image created is consistent with the monological knowledge transference model described by Tabulawa, (in Mensah et.al.1998:1-14) and Maroatona, (in Mensah, 1998: 87:95). Tabulawa, (1997:189) for instance, has argued that classrooms in Botswana are excessively teacher driven and are authoritarian in nature. Of interest though, is that the subtly rigid morphology, which seemed to emerge from the findings is inconsistent with the varied approaches method of learning. Thus, the conceptual image that was revealed by the findings is essentially in praxis with rigidity and therefore an antithesis of flexibility required for the acquisition of entrepreneurial attributes.

A clearer picture of fixed rigidity can also be gleaned from the permanence of the students' positions. According to the findings of this study, 66% of the students rarely ever change their sitting positions. The implications could possibly be that the students remain where they are virtually throughout the course. In that case, the rigid nature of the students' position diametrically opposes the fluidity inherently required in the nurturing of entrepreneurial skills and attributes. In fact, the "important" varied approaches to teaching/learning cannot take root under mummified rigid classroom conditions. For instance, team work, a requisite entrepreneurial skill advocated for by Hopson and Scaly, (1981:16), thrives best in a fluid positional morphology, which allows for intra-movements within the class. Furthermore, it was noted that 3.7% of the teachers never taught outside the timetabled periods. Yet, entrepreneurial activities require extended working times and it would be difficult for students to develop these attributes unless they learn to work outside the school timetable. The results also indicated that 69.3% of the teachers rarely ever present a surprise lesson. Havens, (in Mensah et.al. 1998:85) has strongly advocated for flexibility and surprises in teaching if schools are to nurture such attributes as creativity, innovation and risk taking. In essence, the picture, which emerged from the findings, was not that of teachers using varied approaches to learning but rather, a drab rigid approach determined by the school timetable, with no surprises, no changes, punctuated by a few visits to the school library. There seemed to be a polarisation in the perceived important teaching method and its application.

There was little or no evidence revealed by this study to support a linear articulation from the aspired for teaching methods and classroom dynamism. A plausible interpretation could be that teachers aspire for varied teaching methods but are themselves embroiled in a stagnant, unchanging rigid scenario. Tabulawa, (in Mensah, 1998:101) has correctly pointed out that "Teaching in Botswana schools is still didactic and authoritarian, with little or no recognition of the learner's potential to actively construct classroom knowledge". Many reasons have been submitted for the status quo including lack of resources, poorly trained teachers, large class sizes and the examination oriented education system. Studies by Prophet and Rowell, (1990) and Fuller and Snyder, (1990) have shown this fixation with sustenance of the status quo reinforced by a culture of authoritarianism (Tabulawa,

1997:189). A logical conclusion would probably be that teachers in Botswana recognise the value of using teaching strategies, which could enhance the adoption of entrepreneurial skills and attributes. However, the recognition of the importance of these teaching approaches has not yet been translated into classroom application. In the actual classroom situation, teachers still use the teacher-centred approaches which inhibit the acquisition of entrepreneurial skills and attributes.

6.6.2 Students' attitudes towards entrepreneurial enhancing teaching/learning approaches

Like the teachers, student respondents indicated that the type of learning activity they valued most was the varied approach to learning where a variety of methods were used to arrive at an answer. The results of the ratings are presented in Table 6.40.

As already stated, the results echo the perceptions of the teachers who viewed a varied cocktail approach to teaching as the single most important teaching strategy and the same method has been suggested as suitable for the acquisition of entrepreneurial skills and attributes by Gibbs, (1986), Gouws, (1997) and Havens (in Mensa et al, 1998). Sixty percent of the male and fifty five percent of the female student respondents rated the varied approach method of learning as the most important reflecting a high degree consensus regardless of gender.

Table 6.40**Students' Ratings of Learning Approaches**

Learning Approach / Activity	Mean Rating	Std. Deviation	Important (%)	Undecided (%)	Unimportant (%)
Varied approach	1.5267	.7052	93.9	3.1	3.0
Creative work	1.7874	1.0361	85.0	7.1	7.8
Analysing processes	1.9612	.7846	79.1	17.1	3.9
Working using detailed plans	2.0305	.8407	77.1	16.0	6.9
Following instructions	2.0992	1.1290	71.0	16.0	13.0
Using imagination	2.1496	1.0395	70.1	17.3	12.6
Critical work	2.2102	1.2079	68.8	14.8	16.4
Working using flexible plans	2.2344	1.0385	63.4	14.1	12.5
Getting the correct answer	2.3230	1.096	60.6	17.5	17.5
Learning through intuition	2.6929	1.886	43.3	27.6	28.3
Autonomous learning	2.7287	1.3506	48.9	18.6	32.6

(N= 132)

As in the variable of sex, there were no significant differences between student responses by subject orientation in relation to the rating of varied approach to learning. Perhaps of essence here, was the high level of consensus regardless of the variables be they the school status, subject orientation, sex or age.

Second to the varied approach to learning, the students indicated a strong preference for creativity. Schumpeter, (1934); Miel, (1961) and recently, Gibb, (1986); Kuriloff, et. al., (1993) and Ndzingo and Chinyoka, (1998) have identified creativity as one of the fundamental indices of entrepreneurship. In Botswana's case, Havens, (in Mensah et.al.1998: 83) strongly arguing for creativity in teaching, has posited that although students like creative work, they emerge from the primary school system without having their creativity fostered to its maximum capabilities.

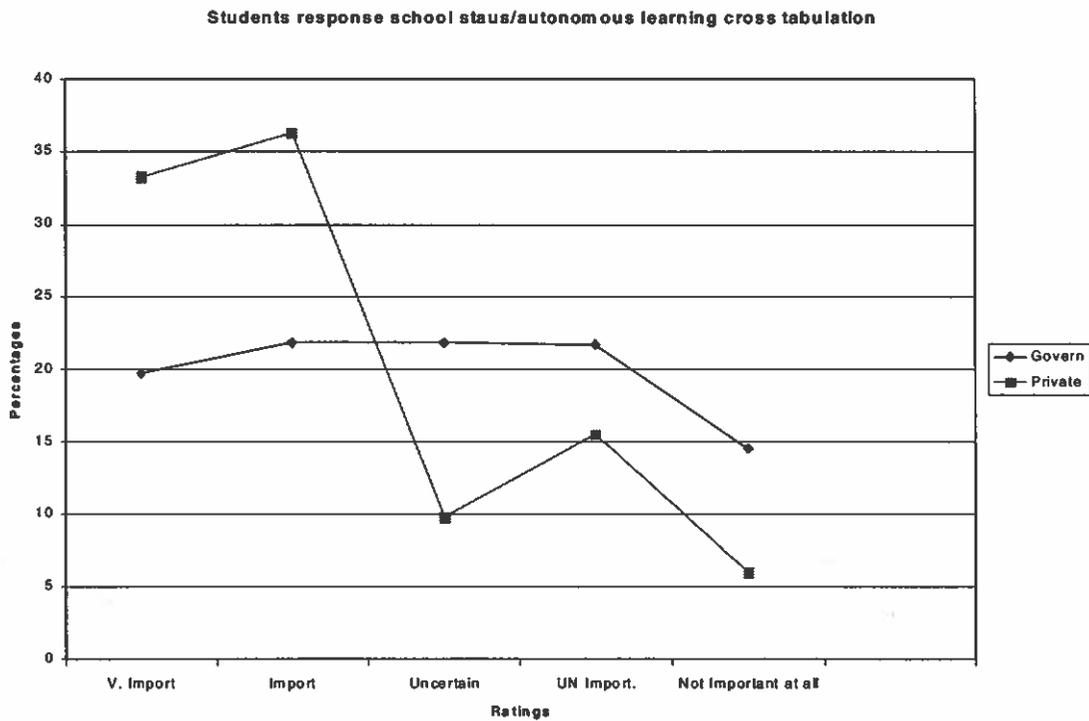
An issue of primary concern is that students considered autonomous learning and intuitional learning as of least importance in the hierarchy of learning approaches. Perhaps this was to be expected in view of the teacher centred approaches reflected as obtaining in senior secondary schools in the previous findings. The teacher dependency syndrome is a logical articulation of a monological approach to teaching observed and criticised by Maroatona, (in Mensah et al. 1998:88) where he argued that teaching in Botswana is perceived as monological with the teacher being the sole narrator of knowledge. In this instant, learners are expected to receive, memorise and retrieve the chunks of knowledge as and when required of them by the sole proprietor of knowledge- the teacher. In the absence of the teacher, the learning process is rendered dysfunctional. Tabulawa, (in Mensah et. al.1998:2) has gone further to allege that there is no culture of autonomous learning in Botswana. Thus, the results of this study in a way, reflect the continued sustenance of the status quo in the teaching /learning strategies in secondary schools in Botswana which invariably nurtures non-entrepreneurial traditional academic attributes.

A finding that is diametrically opposed to autonomous learning was the relatively high rating for conformist tendencies of following instructions. Sixty percent of the student respondents considered getting the correct answer and following instructions as most important. It must be acknowledged that there is obvious satisfaction to be derived from getting a correct answer but it remains doubtful if the end result of learning should solely concern itself with just getting the correct answer or alternatively, the ability to follow instructions. A high rating for such conformist attributes necessarily creates a conflict situation for the inculcation of entrepreneurial attributes because central to the acquisition of entrepreneurial attributes is creativity, innovation and autonomous learning. These

attributes can correctly be seen as antithesis of conformist learning with its indices of rote learning, regurgitation, over-concern with following instructions and getting the correct answer. It becomes doubtful, therefore, that the creative learning which the students rated highly is in fact, inculcated and nurtured in secondary schools in Botswana.

Of interest, perhaps, was a modest difference observed based on the variable of school status as presented in Figure 6.20.

Figure 6.20

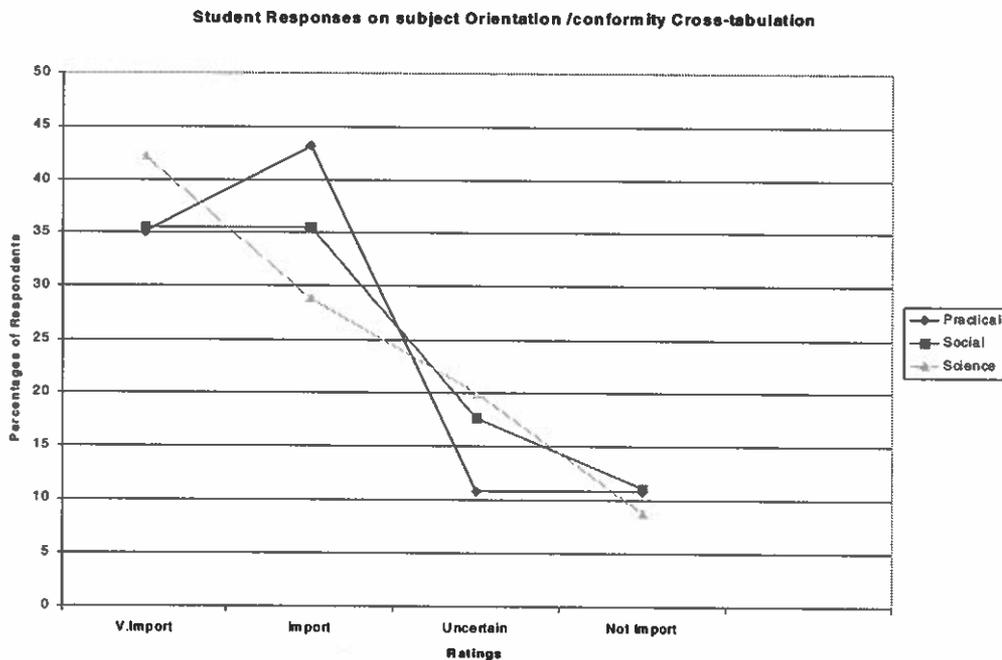


Student respondents from private schools seemed to attach a comparatively higher premium value to autonomous learning compared to their counterparts in government schools. This could possibly be explained by the fact that most students in private schools tend to do work on their own. In some cases learning is done under a mentor rather than a teacher. The mentor provides guidance and acts as a facilitator while the whole learning process rests with the student. In traditional classrooms, students develop authority dependency learning that education means listening to the teacher tell them what to do and

what things mean (McLaren and Leonard, 1993:29). Hence, the dislike of autonomous learning in government schools could be a function of the teaching methods applied.

A result, which seems to tie up with earlier findings was that science oriented students tend to value following instructions. This is in line with the earlier findings, which showed the social science oriented students to be rating creativity as more important than analysis of processes. In this instant, science oriented students seemed to value following instructions and conformity in general as presented in Figure 6.21 below.

Figure 6.21



A synopsis of the findings on the attitudes of students towards different learning approaches would probably be that first, students in senior secondary schools in Botswana value the varied approach to learning where they use various methods to arrive at an answer. Secondly, students view creative work as an important mode of learning. Thirdly, carrying out analysis, following instructions, getting the correct answers and critical work are also important albeit on a comparatively lesser scale. On the other hand students do not seem to place much value on autonomous and intuitional learning. This seemed to be particularly true to students in government schools.

After identifying those learning approaches, which students aspired for, the study attempted to find out if these were the approaches students experienced in the classroom environment. According to Halstead and Taylor, (1996:3) the values that students inculcate are those that teachers choose to permit and encourage in the classroom through the teaching methods used, language and responses given. In a study to determine the potential for change within industries, Millar and Freisen, (in Livesay, 1995:277) used factory dynamism as an index for estimating the potential for change within the firms. The items used by Millar and Freisen were adapted to the classroom situation and used in estimating classroom dynamism. Thus, in order to find out if the students experienced varied learning approaches in the classroom, they were asked, for instance, how frequently they changed their sitting positions, teacher's table, learning environment, visited the library, made surprise educational presentations in class and learnt as individuals in and outside the timetabled periods. To analyse the data, each response was accorded a numerical value on a five-point scale decreasing inversely with the degree of frequency. As was the case with the analysis of teachers' responses, a "very often" was accorded a single point while a "never" was accorded five points. Percentages were presented in three groups of "frequently", "rarely" and "never".

The results are tabulated in Table 6.41. It is important to note here that there was no approach which was described as being used "very often" in the above mean values as indicated by the absence of mean values ranging from 1-1.99. A method which students often used when learning seemed to be brainstorming. The analysis showed that 76% of the student respondents often brainstormed in class with only a paltry 10.2% claiming not to have been involved in brain storming sessions. Brainstorming is important in the development of entrepreneurial skills and attributes as it helps in the generation of new ideas. In the process of brainstorming, the prospective entrepreneur expresses his/her views to others and gets immediate feedback on their potential viability and worthy. In the same process there is the potential of developing a positive networking team, which may act as a sounding board for new ideas. The same network can assist in the realisation of

innovations both for individual entrepreneurs and corporate intrapreneurs. This perhaps, can be seen as a positive experience for entrepreneurial development of the students.

Table 6.41
Students' Responses on Classroom Dynamism

Indicators	Mean (1-5)	Std. Deviation	Frequent (%)	Rarely (%)	Never (%)
Brainstorm on a topic	2.100	.9713	76.1	13.1	10.2
Visit the library	2.5692	4.1108	65.4	22.3	10.7
Change learning environment	2.8154	1.5137	46.1	21.5	31.5
Make your own decisions in class	2.849	1.1517	51.2	32.8	16.1
Get information from another school	2.9462	1.1433	40.0	27.7	32.3
Autonomous learning	2.9769	1.4966	46.9	16.2	36.9
Make a surprise class presentation on a topic of your choice	3.0703	1.1784	32.1	34.4	33.6
Change sitting position	3.1374	1.3687	32.1	26.7	41.2
Change position of teacher's table	4.3206	.9629	4.6	16.8	78.6

(N= 131)

Further statistical analysis showed that 65.4% of the student respondents visited the library while 10.7% never visited the library. This is cause for concern as the capacity to access information is pivotal to the success of an entrepreneurial culture in Botswana. For example, the Ministry of Commerce, (Republic of Botswana, 1999:4) has cited most small-scale entrepreneurs in Botswana as failing to succeed because of failure to access information on sources of finance that are open to entrepreneurs. In their study of rural women in Kenya, Wanaina and Bunjun, (1988) concluded that the largest problem facing women entrepreneurs was failure to access information relevant to their enterprise. Mbaakanye, (in Crowder, 1984:240) and Chinyoka, et. al., (1998:17) also emphasised the need for entrepreneurs to access and utilise information so as to improve the performance

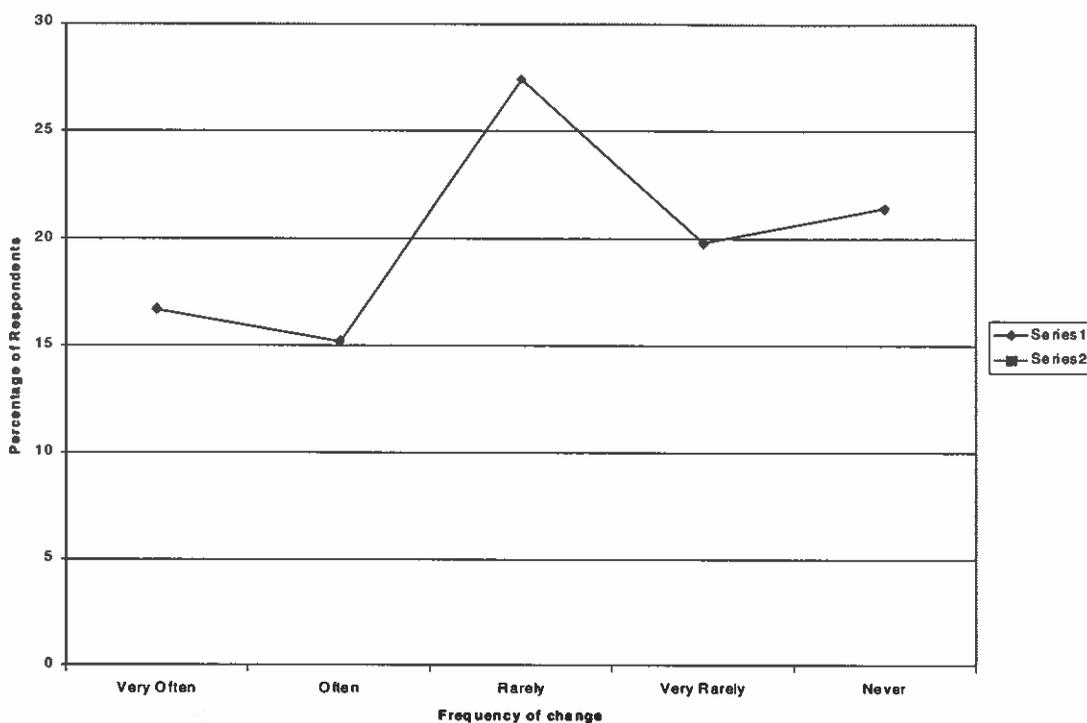
(Republic of Botswana, 1998:1) there is need to develop a capacity to access and utilise information. In the school situation, the library is the first depository of information and students need to inculcate a culture of accessing the information and hence the need to develop a culture where accessing information is taken as of prime importance.

The statistical analysis in the students' responses on changing the learning environment also revealed that 46.1% of the respondents often change their learning environment. However, of concern is the 31.5% of the respondents who never change their learning environments. This is further aggravated by the very high percentages of the students who never change their sitting positions (41.2%). According to Tshireletso, (1999:2) the rigid sitting pattern in class legitimises and emphasises the teacher's authority in class. It makes it difficult for students to share in decision making, leading the dialogue and making an impact on the course of study (McLaren and Leonard, 1993:29).

Figure 6.22 shows the students' response distributions to changing sitting positions in class. The semi-permanent nature of the sitting positions confirms the results attained from the teachers' responses. Only 32.1% of the students indicated that they often change their sitting positions compared to 41.2% who either rarely change or never change their sitting positions.

Figure 6.22

Distribution of Responses to Changes in the Sitting Arrangements in the Classroom.

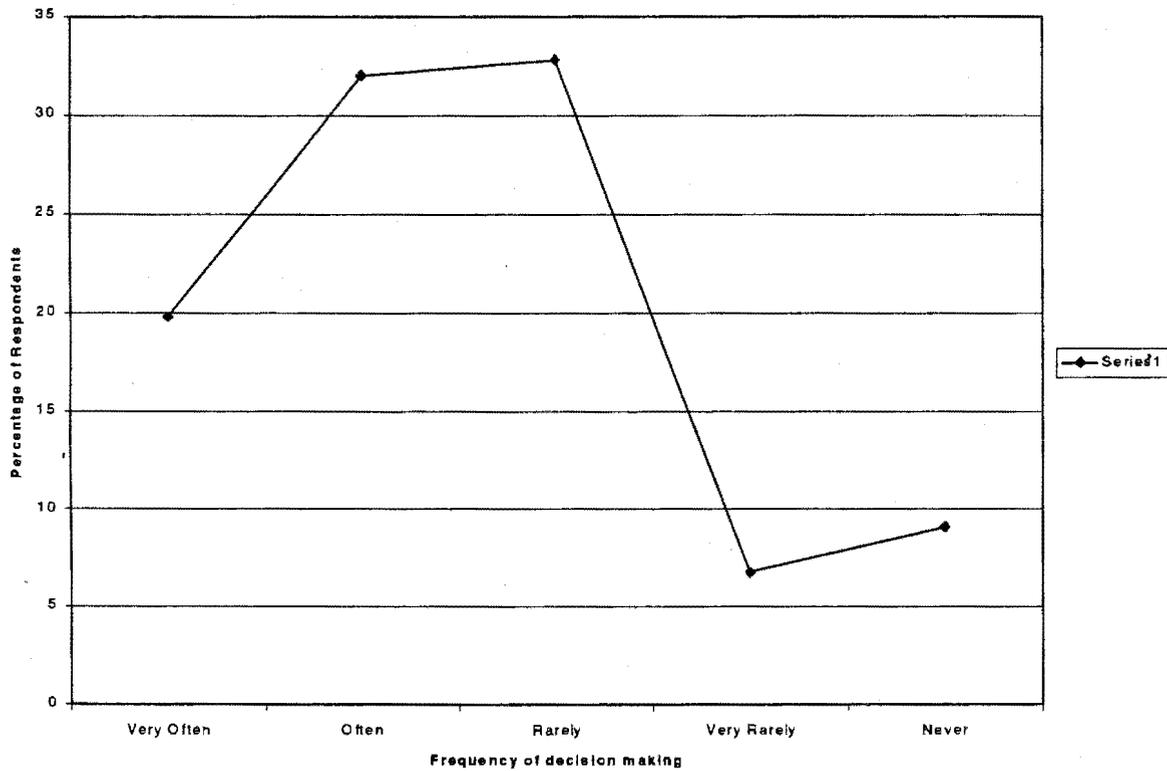


A similar picture emerged regarding intra-school networking as only 37.9% of the student respondents often got information from other schools and 56% were limited to information within the school. This seemed to indicate that there is very little intra-school networking among senior secondary schools in Botswana. An issue of importance in entrepreneurial activities is not only the ability to access information but also the creation of useful networks. Birley, (1985), studied the role of networks in the founding of new firms by sampling 160 firms in Indiana and found that entrepreneurs relied heavily on informal networks. In a separate study, MacMillan, (1983) also identified networking as an important element in business start-ups. One of the methods of developing varied networks is through the interaction among schools. In the process of intra-school interaction, information is passed from one school to the other and opportunities are identified and exploited by the learners within a similar group of networking schools.

Of concern in the findings was the indication that students hardly ever make their own independent decisions in class as indicated in Figure 6.23.

Figure 6.23

Response Distribution Patterns for Autonomous Decision Making in Class



Fifty one percent of the student respondents indicated that they frequently make individual decisions in class while 32.8% indicated that they rarely ever do so. If there is truth in these findings, the contention raised by Tshireletso, (1999:2) that classroom teaching in Botswana “is organised in a vertical authoritative transmission” is very cogent and relevant. It clearly smacks of the tabula rasa philosophy, which has been heavily criticised by philosophers such as Freire, (1970:59-60) as:

“An act of depositing, in which students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues commands and makes deposits which the students patiently receive, memorise and repeat.”

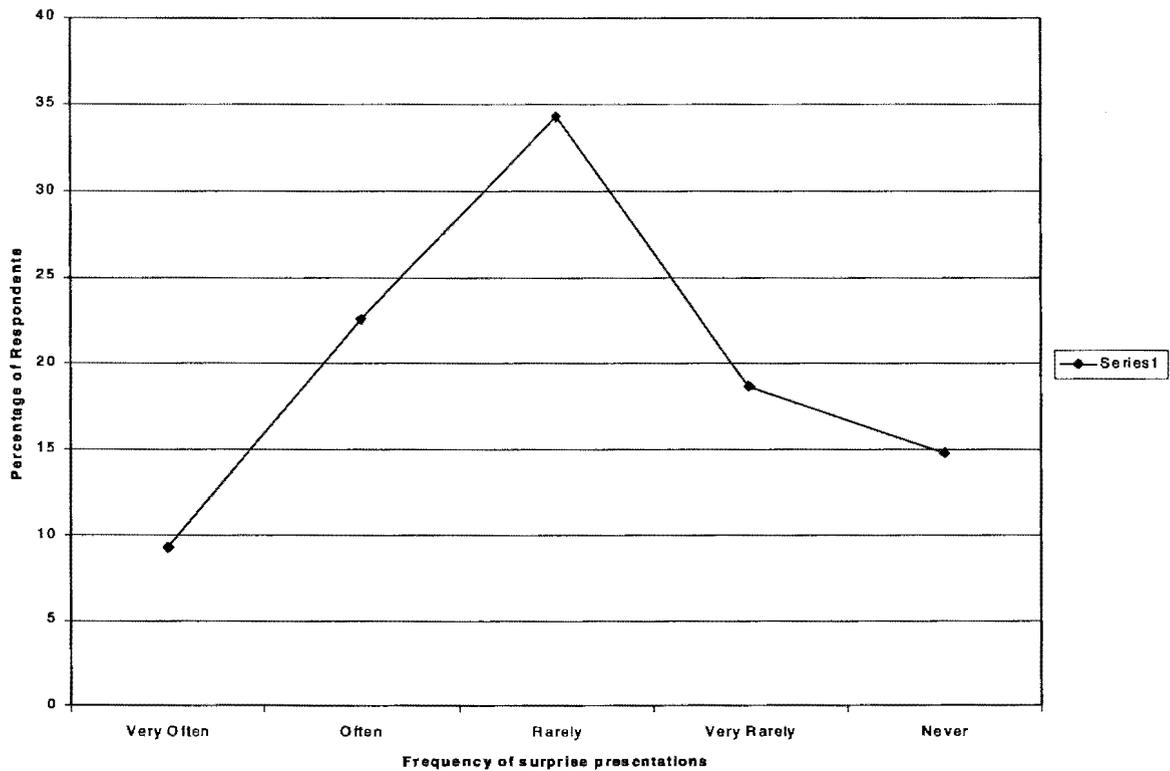
In such a classroom, the student is silent (Maroatona, in Mensah et al. 1998:88) making no individual decision and totally forfeiting the potential for individual expression. The zeal for interaction with knowledge to create personalised meaning gradual loses its luminescence and dies out. With the zeal for interacting with knowledge gone, also goes creativity and the potential for innovation.

Autonomous learning and decision making form an integral part of entrepreneurial development. It seems logical to argue that if the learner does not interact with knowledge and make personalised decisions the learner has no room for developing creativity and innovation for “creativity and innovation co-exist and co-vary strongly with autonomy, thought and independent decision making” (Tshireletso, 1999:3). Thus, if the learning environment in the senior secondary schools in Botswana promotes the nurturing of entrepreneurial attributes, the expectations would be a frequent use of autonomous learning and decision-making in the classroom. The findings in the study showed both autonomous learning and decision making as phenomena rarely experienced by learners in the classroom hence negating the allegation that learning in Botswana nurtures entrepreneurial attributes.

Havens, (in Mensah, et.al.1998: 1-9) has insisted that an element of surprise must exist in a classroom that purports to be inculcating entrepreneurial attributes. Perhaps interwoven with this element of surprise is flexibility. The results presented in Figure 6.24 showed that students in Botswana Senior secondary schools hardly ever make surprise presentations. This echoes the responses given by the teachers who also revealed that they hardly ever present surprise lessons. The picture that emerges is one of stern rigidity where all things ought to be in place and done and played by the rules.

Figure 6.24

Student Response Patterns on Surprise Presentations



In summation, the findings on classroom dynamism indicated that students do attend the library and change their learning areas. However, what is cause for concern were the relatively large percentages, which do not frequent the library nor change their learning environment. The findings also showed that students hardly ever got information from other schools. In addition, the student responses indicated no changes in their sitting arrangements and that of their teachers. Gagne and Driscoll's, (1988:152) postulant that "the days of fixed seating of students in classrooms are long gone" certainly does not seem to apply to Botswana's situation. This confirms the responses reported by the teachers. A great cause for concern was probably the lack of opportunity for students to make their own decisions and learn on their own. In such conditions it becomes doubtful if the classroom environment can be seen as supportive of the acquisition of entrepreneurial skills and attributes.

6.6.3 Entrepreneurial attributes as determinants for instructional material selection

Central to the implementation of any teaching/learning approaches and the subsequent acquisition of entrepreneurial attributes is the nature of instructional support material operational within a particular learning/teaching environment. In most cases, new curricular necessarily defines and adopts its own delivery systems inherently embodied in itself (Mthunzi, in Mensah, 1998:225). Similarly, the nurturing of an entrepreneurial culture demands the use of learning materials which are themselves, conducive to the proliferation of the intended attributes. Mangan, (1993) has argued that British colonisers for instance, used instructional materials whose content, language, images and representations portrayed British values as superior to those of the colonised people. As a result, the colonised people tended to adopt and incorporate the British culture at the expense of their own cultural beliefs, norms and values. Furthermore, according to Farrel, (1993:331) textbooks help professionalise the teacher and raise achievement. In the classroom, they allow teachers to diversify their teaching repertoire and work with small groups of individual students. In a classroom with no textbooks, for example, about the only teaching learning style possible is the teacher lecture and group recitation and rote memorisation. Inferring from this postulant, the nature of instructional material used in schools is bound to impact on the inculcation or rejection of entrepreneurial attributes. Based on similar reasoning, this study attempted to depict the profile of a good instructional text as perceived by students and teachers in senior secondary schools in Botswana. The respondents were asked how they would rate a text that emphasised traditional academic characteristics such as the provision of detailed notes, definite answers, examination type questions, and emphasis on facts and accuracy against a text which emphasised the acquisition of entrepreneurial attributes such as the use of many different approaches, a variety of exercises, emphasis on ideas, imagination and individual work.

6.6.4 The teachers' profile of a desirable school text

Table 6.42 presents the characteristics of what teacher respondents considered as a good school text. Teachers perceived a good instructional material as one that suggests many different approaches, has many different exercises, allows students to work on their own and emphasises ideas and imagination.

Table 6.42
Teachers' Responses for the Characteristics of a "Good Instructional Text" for
Students in Senior Secondary Schools in Botswana

Text Characteristics	Mean (1-5)	Std Deviation	Agree (%)	Undecided (%)	Disagree (%)
Suggests many different approaches	1.5424	.5966	94.9	5.1	0.0
Emphasises ideas and imagination	1.6271	.7404	96.6	3.4	0.0
Emphasises individual work	1.6326	.7532	94.6	3.4	2.0
Has many different exercises	1.6441	.6092	96.6	1.7	1.7
Allows students to find answers on their own	1.6441	.7373	91.6	5.1	3.4
Emphasises facts and accuracy	1.6949	.8357	89.9	3.4	6.8
Has examination type of questions	1.7119	.7440	89.9	6.8	3.4
Emphasises team work	1.7532	1.3422	70.8	10.2	20.00
Gives detailed notes on topics	1.9492	1.0574	69.7	6.8	13.6
Gives definite answers	2.5932	.9670	56.0	22.0	22.0

(N=59)

Basically, what the teachers profiled as a good instructional text was a replica embodying the ideal instructional text set for the acquisition of entrepreneurial attributes as given in the broad teaching strategy guidelines by Robbior in Gouws, (1997:10). Lowly rated as shown in table 6.42 was a text, which gave detailed notes, definite answers and emphasised facts

and accuracy of information. A major weakness of this study with a bearing on the results was that it only depicted the profile of an ideal instructional text but could not show whether the instructional texts in schools had these desired attributes. There is always a possibility that what is actual obtaining in schools does not necessarily reflect the aspired for ideals as already shown in the case of teaching/learning approaches where the ideal teaching approach was not the method used in the classroom. There seems to be a need for further investigation of this aspect in a different study which can actually find out the nature of learning materials used in secondary schools in Botswana. Perhaps, it should be observed that teachers basically considered the sample characteristics as important. The differentiating factor was mainly the degree of importance. Actually, similar response distribution patterns emerge among the various characteristics.

The analysis of the teachers' responses on a "good student's text" based on gender indicated that about 16.6% of the male teacher respondents tended to view the availability of notes in a text as comparatively unimportant compared to 10% of the female respondents. Perhaps reciprocating the same issue from a slightly different perspective, 85% of the female teacher respondents felt that notes were essential in a good text for students in senior secondary schools. This was considerably higher than the 73% male respondents who also viewed notes as an essential aspect of a good school text. A tentative conclusion would most likely be that female teachers believe that notes are important in any instructional material.

As was the case with notes, 57% of the female teacher respondents viewed getting the correct answer as important compared to 53.3% of the male teacher respondents. A relatively high percentage (30%) of the male teacher respondents viewed getting the correct answer as unimportant. An interesting tentative conclusion regarding the gender variable would probably be that female teachers value notes and correct answers in a school text comparatively more than their male counterparts. A possible tacit inference would be that probably male teachers are most likely to recommend learning texts that are more inclined to the development of entrepreneurial attributes than academic traditional attributes. An inverse of the same conclusion would be that female teachers probably have a higher

likelihood of prescribing texts which have a strong academic flavour compared to their male counterparts.

On the subject orientation variable, an unexpected finding, which emerged, was that teachers of practical subjects seemed to consider notes as important in a school text. The philosophist contention conventionally held is that social science students are the ones who relate most closely to notes.

The findings relating to subject orientation could be summed up as that practical subject teachers seemed to value detailed notes in instructional materials while science teachers value diversity of materials and exercises in a learning text. A tacit tentative conclusion would also be that science teachers lean towards the acquisition of texts, which encourage entrepreneurial attributes than teachers for social and practical subjects. This is certainly in line with the nature of science subjects which encourage experimentation and autonomous work comparatively more than social sciences. However, the expectations for practical subjects would have been the preference of a more hands on type of school text in line with the nature of the subject objectives rather than one which carried detailed notes. Perhaps this disjunction lies with the methods used for teaching -practical subjects in schools in senior secondary schools in Botswana. Brown and Duguid, (1989:32) have attempted to explain a similar phenomenon as follows:

“The break between learning and use, which is captured by the folk categories “know what” and “know how” may well be a product of the structure and practices of our education system. Many methods of didactic education assume a separation between knowing and doing, treating knowledge as an integral, self-sufficient substance, theoretically independent of the situations in which it is learned and used.

This separation of formal acquisition of knowledge and experiential learning fails to provide a linear continuum between what practical subjects purport to do and what obtains in a classroom situation. Whatever the reason, entrepreneurial attributes cannot readily

develop conjointly with rote learning, which co-exists with detailed notes. Invariably the development of entrepreneurial attributes and skills suffers under such conditions.

6.6.5 The students' profile of a desirable school text

The students' idea of what comprises a good school text seemed to be an inverse of the one prescribed by the teachers. The student respondents percentage ratings, mean values and standard deviations are presented in Table 6.43.

Table 6.43
Students' Responses for the Characteristics of a "good instructional" Text in Senior Secondary Schools in Botswana

A good school text:	Mean (1-5)	Std Deviation	Important (%)	Undecided (%)	Unimportant (%)
Gives detailed notes on topics	1.3740	.6603	95.6	2.4	2.0
Gives definite answers	1.4308	.8733	83.1	9.2	7.7
Has examination type of questions	1.4885	.8073	92.3	3.8	3.8
Allows students to find answers on their own	1.6441	.7373	67.3	16.0	15.6
Has many different exercises	1.6769	.8646	89.2	5.4	5.3
Emphasises facts and Accuracy	1.6949	.8357	83.0	11.5	5.4
Suggests many different approaches	1.8770	.8505	82.5	12.1	5.4
Emphasises ideas and imagination	2.2154	.9563	70.8	19.2	10.0
Emphasises team work	2.2248	1.1127	71.3	12.4	16.3
Emphasises individual work	2.2462	.1.0496	68.4	16.9	14.6

(N = 131)

Students identified the possession of detailed notes as the most important characteristic in a school text. According to the student respondents, the text must also have examination type

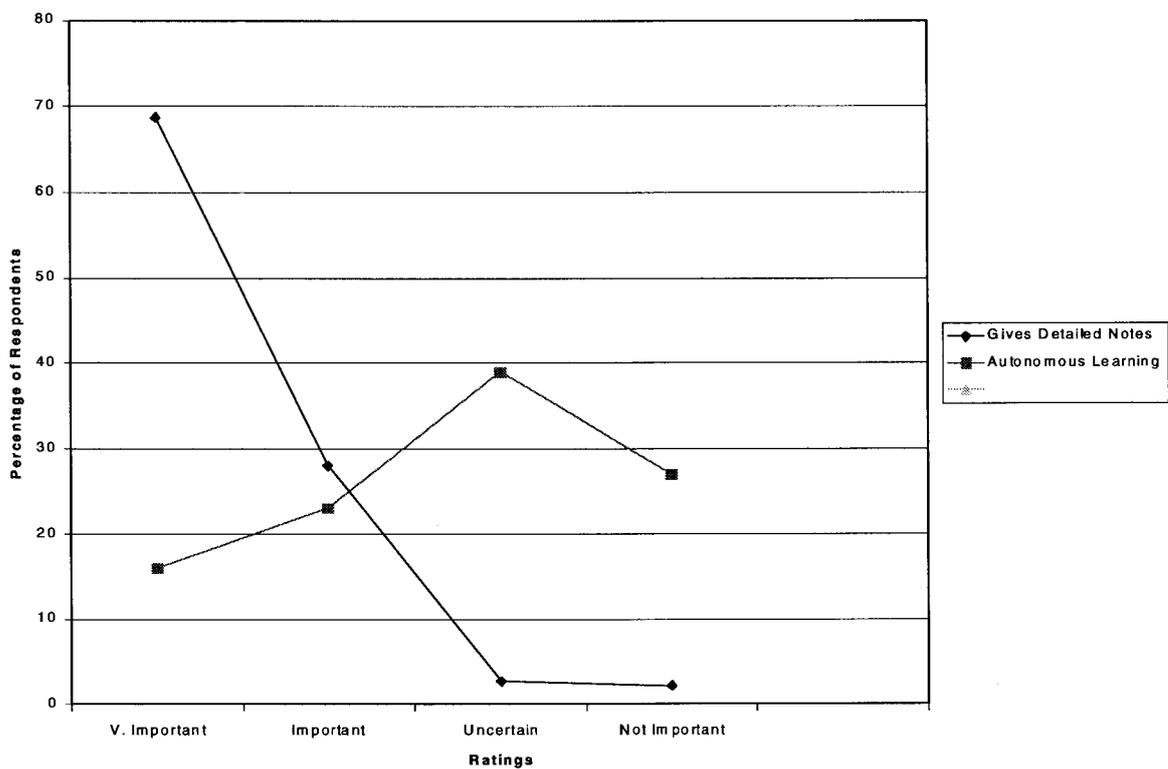
of questions and give definite answers. Similar response patterns emerged for almost all the academic oriented characteristics with over 75% of the respondents viewing them as important while the least rated were entrepreneurial oriented aspects.

Figure 6.25 shows the response distribution patterns for the ratings on detailed notes, and examination questions (academic oriented activities) in comparison to individual work and imagination (entrepreneurial oriented characteristics). The characteristics, which were viewed by students as important, were largely those, which are associated with the acquisition of traditional academic attributes. The characteristics associated with the acquisition of entrepreneurial attributes were lowly rated. For example, the suggestion of many different approaches, emphasis on ideas and imagination, teamwork and autonomous work were ranked at the bottom of the hierarchy. This consolidates the previous findings which showed that students rate autonomous learning very lowly.

The result indicated that students did not consider instructional material, which emphasises autonomous learning as important. Fifty percent of the students either indicated that they were uncertain or that the characteristic was not important. A tacit implication is probably that students in Botswana senior secondary schools are not in favour of autonomous learning. Hornaday and Aboud, (1971) investigated the relationship between the need for achievement, locus of control and entrepreneurial activities. His studies revealed that “entrepreneurs had a high need for achievement and an internal locus of control” (Jennings, 1994:168). Borland, (1975), further examined the characteristics of many management students who intended to be entrepreneurs and she reported that students with a high need for achievement and an internal locus of control had a higher expectancy of starting a company. Bridge, et.al. (1998:45) concluded that autonomy co-exists with the locus of control which involves control of events beyond the individual’s immediate existence. Viewed from that perspective, a restriction on autonomy may promote the development of individuals who view their lives as externally controlled and cannot, under that premise, be seen as enterprising believing that what ever position they are in is determined by fate. Such a status quo sustaining attitude cannot promote the acquisition of entrepreneurial

attributes. Autonomy, therefore, is an indispensable, integral part of an entrepreneurial culture.

Figure 6.25
Comparative Student Response Patterns of “Detailed Notes” and “Learning on Their Own”



What clearly emerged from the findings is that students prefer school texts, which relate to the development of academic attributes with notes, examination questions and answers. When considering a text, they would most probably select those with an academic-cum-examination bias rather than those relating to entrepreneurial bias.

6.6.6 Correlation between the teacher and student respondents' perceptions on the profile of a good instructional material for senior secondary schools.

There was an obvious divergence of profiles in what the teachers perceived as a good instructional text and what their students perceived as a good text. Some of the reasons for the divergence of attitudes could probably be sought in the fundamental aspirations of the students as opposed to the teaching ideals held by the teachers. Students in Botswana are mainly concerned with passing examinations (Colclough in Crowder, 1984:257). Passing examinations commands a high currency value as it often acts as a getaway to formal employment. These examinations call for the traditional academic attributes such as recall and the reproduction of notes. In this context, it is only logical that students concern themselves more with the memorisation of notes than with the acquisition of entrepreneurial attributes. In this light the means justify the end. On the other hand, teachers probably view education from a much broader perspective encompassing a whole range of educational objectives which are not solely focused on examinations and hence the divergence of focus. It could be argued that such a divergence of perspectives cannot promote the acquisition of entrepreneurial attributes in schools and is a subject for further investigation in future.

F Schools and Industrial Entrepreneurial Curriculum Profiles- Educational level Entry Point and Target Learners

6.7 School and industrial profiles of an entrepreneurial curriculum

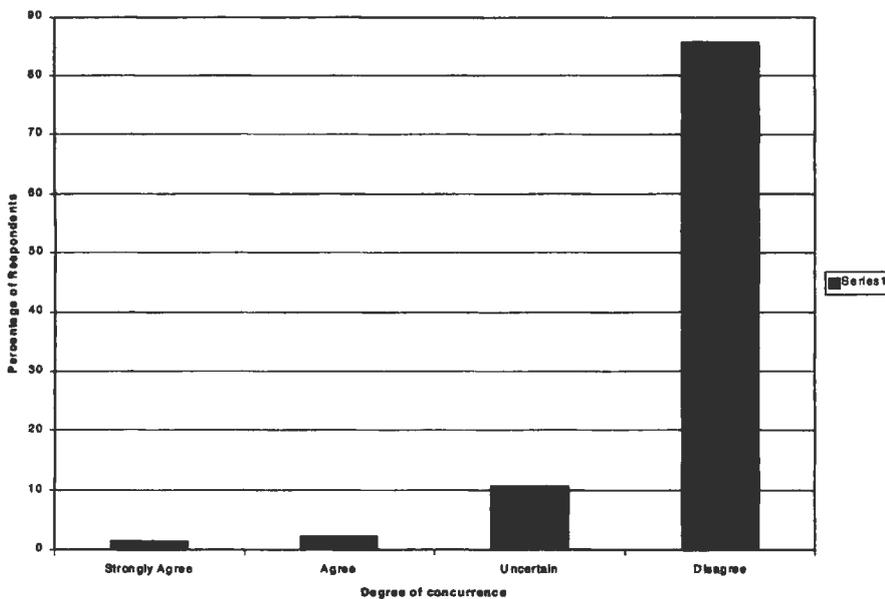
A fundamental concern in this study was the identification of entrepreneurial curricular landmarks embracing the ideals of the students, teachers and the industrialists, which could be used as beacons around which a relevant entrepreneurial curriculum could be woven.

To arrive at a tentative prototype framework the research-collected data on such issues as the level at which entrepreneurship could be introduced in schools, what it should comprise of and to whom it should be targeted. The study therefore attempted to answer such questions as “ What do students, teachers and industrialists perceive as a relevant curriculum?” “ At what level should it be introduced in schools?” “What form should it take?”

6.7.1 Introducing an entrepreneurial curriculum in schools

When asked the question “should entrepreneurship be introduced into the school curriculum?” Eighty-two percent of the student respondents indicated that it should be introduced in the school curriculum. Only 1.5% “strongly” agreed that it should be excluded from the school curriculum (Table 6.26).

Figure 6.26
Students’ Response to the Exclusion of Entrepreneurship from the Curriculum



A hefty 85% of the students felt that entrepreneurship should form part of the school curriculum. In a similar investigative survey, Gouws (1997:5) recorded a 100% “yes”

response to the question whether entrepreneurship education should form part of the school curriculum. The results are indicative of a felt need for an entrepreneurial curriculum within the education system. This need has translated into various, often poorly co-ordinated, enterprise programmes in universities, technical colleges and secondary schools “young enterprise, mini enterprise, events and initiatives” (Wellington, 1993:34).

Teacher respondents also strongly felt that an entrepreneurial curriculum should be introduced in schools. They indicated that entrepreneurial studies should interface with the school curriculum preferably, as part of Business Studies. Echoing the teachers’ responses, 90% of the industrialists “strongly” supported the introduction of an entrepreneurial curriculum in schools. Only 9.4% indicated their disagreement with the introduction of an entrepreneurial curriculum.

There seemed to be a strong consensus on the need for an entrepreneurial curriculum from both the school and industrial arenas. The support of the teachers and industrialists for the introduction of an entrepreneurial curriculum concurs with the sentiments expressed by Fiddy, (1983:158), that if specific characteristics are essential to business success, then the education of the potential entrepreneurs should not wait until they are adults and have left school by which time many would probably have acquired non-entrepreneurial habits. Strongly concurring with this perspective, Cronje, (1996:17-18) posits that:

“... the only place of learning for the majority of the population is the school. If we miss the opportunity to catch potential entrepreneurs in the educational net which the school provides, we forever forego the opportunity to develop their entrepreneurial potential.”

6.7.2 The format for an entrepreneurial curriculum

When asked what form an entrepreneurial curriculum should take the students’ responses echoed the teachers’ responses. Table 6.44 presents the responses of students on the nature of the aspired for entrepreneurial curriculum.

Table 6.44**Students' Responses on the Preferred Form of an Entrepreneurial Curriculum**

Implementation form	Agree (%)	Undecided (%)	Disagree (%)
Part of Business Studies	87.0	5.3	7.6
Part of Guidance & Counselling	62.9	15.2	28.8
An enrichment subject	52.3	17.4	21.2
Examinable subject	51.1	15.3	33.6
Extra-curricular activity	40.9	25.8	33.3
Infused throughout the curriculum	32.3	21.4	46.6
An examinable core subject	30.7	23.8	45.4

(N= 131)

Eighty seven percent of the student respondents indicated that an entrepreneurial curriculum should be taken as part of Business Studies. The findings compare well with the results observed in the study carried out by Gouws, (1997:5) where 68.7% of the respondents preferred entrepreneurial education to be implemented as a subject. This can be seen as a linear translation of the students' image of an entrepreneur as associated with a business. From the image perspective, it becomes logical to view entrepreneurial education as associated with Business Studies. A major weakness of this perspective is that it only caters for a few students within the school system who may opt for Business Subjects allowing large bodies of potential entrepreneurs to filter through the school system undetected.

Interestingly, 100% of the industrialists strongly perceived an ideal entrepreneurial curriculum model as one that attaches entrepreneurship to Guidance and Counselling with the Business Studies model taking the second position. Students and teachers, on the other hand, had placed the Guidance and Counselling attachment as the second preferential

model. The argument of limited influence would apply equally well to the infusion into Guidance and Counselling. While Guidance and Counselling is provided for in the curriculum in Botswana secondary schools, it is still in its infancy with an allocation of a single period of forty minutes per week. It still suffers from skilled human power shortages and its effectiveness is still an issue of conjecture.

Eighteen percent of the student respondents indicated that they disagreed with the implementation of an entrepreneurial curriculum as an examinable subject. This is in line with the current entrepreneurial curriculum model presented in the Junior Achievement Botswana, (1994:1) where entrepreneurial education is viewed as utilitarian and non-examinable accomplishing its mission by:

Developing in young people an understanding of the basic concepts of business and economics and the relationship to their life experiences, developing life skills such as decision making, problem solving, teamwork, leadership, initiative and creativity and developing positive attitudes towards entrepreneurship and self reliance.”

Furthermore, literature presented earlier on predicted that students would prefer an infusion type of implementation. The results, however, indicated that approximately 50.0% of the students disagreed with the idea of infusion. This could possibly be explained in terms of the obtaining system where entrepreneurship in secondary schools in Botswana is presented as only a small part of either Guidance and Counselling or Business Studies.

On the other hand, teachers viewed the infusion model as the second best to the attachment to Business Studies. Table 6.45 shows the teachers' responses on the nature of the entrepreneurial curriculum. The teachers' images of an entrepreneurial curriculum are in line with the entrepreneurial curriculum interface suggested by Nelson and Leach, (1983:158 –160) where entrepreneurial programmes comprise a strong career awareness element with a sharp focus on general information regarding self-employment. On the other hand, the industrialists seemed to reject the idea of infusing entrepreneurial education throughout the curriculum. Perhaps the fear of infusing entrepreneurial education lies with

the possibility of the subject being subsumed in the curriculum and failing to win prominence because of its thin superficial spread throughout the curriculum.

Table 6.45

Teacher Responses to Entrepreneurial Curriculum Interface

Curricular Interface	Agree (%)	Undecided (%)	Disagree (%)
Business Studies	81.4	10.2	3.4
Guidance & Counselling	53.6	17.9	28.6
Extra-curricular activity	52.7	17.5	29.9
Enrichment subject	50.9	15.8	33.3
Infusion	49.0	18.9	32.1
Examination subject	45.0	14.3	41.1
Examinable Core subject	26.8	26.8	46.4
Exclusion	12.7	20.0	57.2

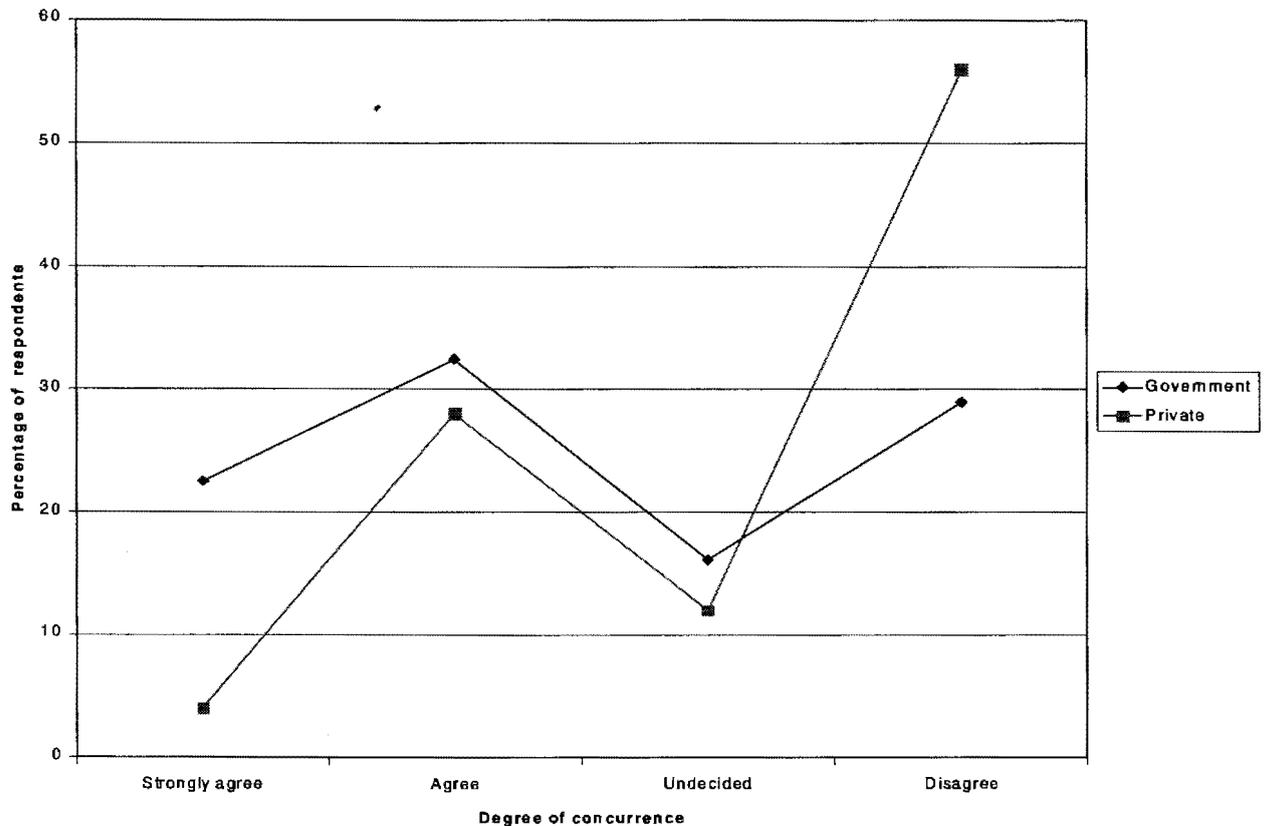
N= 58

Of great concern was that about 50.9% of the teacher respondents felt that entrepreneurial studies should be an optional non-examinable subject. The weakness of this model is that subjects, which are labelled as non-examinable in secondary schools in Botswana invariably, take a peripheral position and are not taken seriously by both the teachers and the students. If entrepreneurial education is solely viewed as an enrichment subject its chances of survival in the competitive school timetable would be minimal. The school timetable for senior secondary schools as defined in the Curriculum Blueprint, (Curriculum Development and Evaluation, 1997:11) offers only four- forty minutes per week for enrichment subjects.

A modest difference was observed in the format of an entrepreneurial curriculum between the responses from teachers in government and private schools. For instance, a higher

percentage of teacher respondents in government schools indicated a preference for an entrepreneurial curriculum which was in the form of an examinable subject. (Figure 6.27).

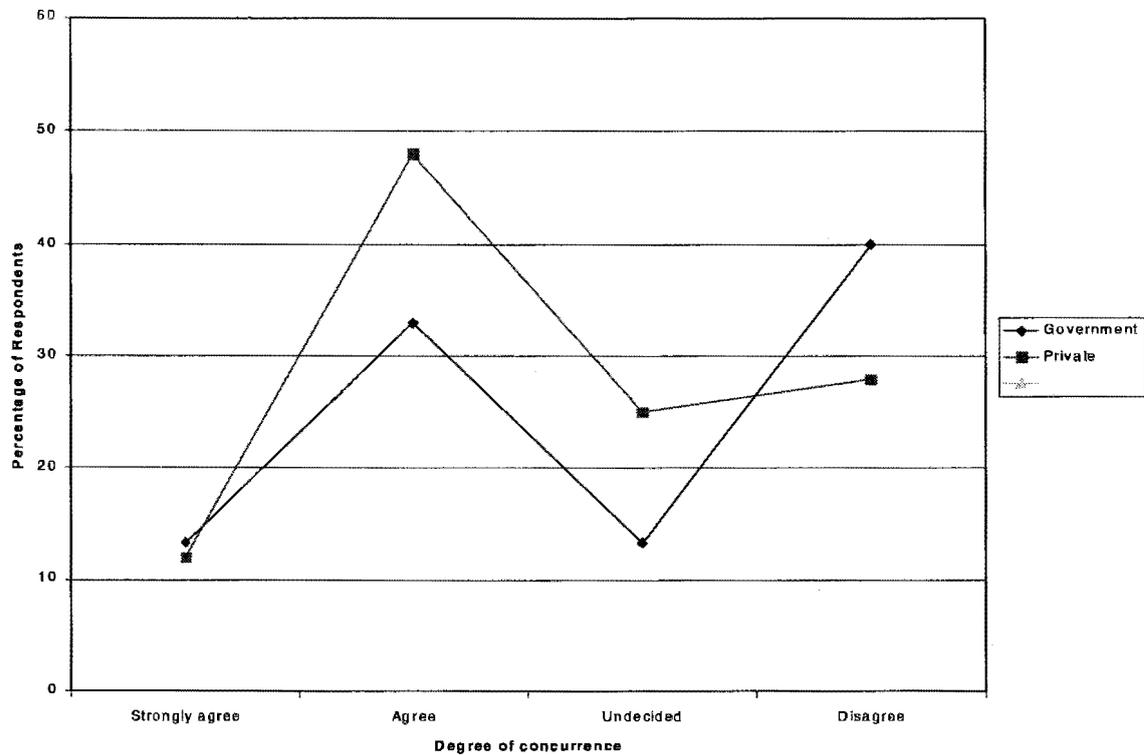
Figure 6.27
Government and Private Schools Teachers' Responses Towards an Examinable A Entrepreneurial Curriculum



There was an apparent polarity between the responses from the private and government schools with government schools calling for an entrepreneurial curriculum that takes an assessed form while the private schools called for one that assumes an enrichment form. Directly related to this, was the fact that teachers in private schools showed a strong preference for an enrichment version of an entrepreneurial curriculum (Figure 6.28).

Figure 6.28

Responses to Entrepreneurial Curriculum as an Enrichment Subject by Teachers in Government and Private Schools



Tentative conclusions drawn from the findings would probably be that teachers would like to see an entrepreneurial curriculum included in the school curriculum. They would like to see the curriculum as either a part of Business Studies or infused in the curriculum. Teachers also strongly indicated a preference for entrepreneurial education as a non-examinable enrichment subject. Private schools came up strongly in favour of a non-examinable curriculum compared to respondents in government schools who seemed to be in favour of an examinable entrepreneurial education.

6.7.3 Educational levels for introducing an entrepreneurial curriculum

Respondents were requested to state how far they agreed with the curriculum entry points of pre-primary, primary, junior secondary, senior secondary and tertiary levels using a five

point sliding scale of strongly agree, agree, undecided, disagree and totally disagree. Percentage responses were calculated to analyse the data.

Seventy two percent of the student respondents indicated that they would like to see entrepreneurial education introduced first at the junior secondary school level. Other fairly acceptable entry levels were the senior secondary school (67.2%), college (52.3%) and the university level (47.6%). At the same time, the students clearly indicated that they disagreed with the notion of introducing entrepreneurial education at either pre-school (72.9%) or primary school level (64.6%).

Table 6.46
Students' Responses to Preferred Entry Points for an Entrepreneurial Curriculum

Entry Level	Agree (%)	Uncertain (%)	Disagree (%)
Senior Secondary	67.2	5.4	26.3
College level	52.3	5.3	42.3
University level	47.6	6.1	45.2
Junior Secondary	72.0	6.2	20.6
Upper-Primary	45.2	20.7	30.0
Lower Primary	22.8	12.3	64.6
Pre-school	13.6	12.30	72.9

(N=131)

The preferences in Table 6.46 could be attributed to the nature of the curriculum obtaining in schools which introduces an element of entrepreneurial education at senior secondary school level. It is only logical therefore, that students draw their conclusions from their own experiences.

The teachers' responses on the entry levels for an entrepreneurial curriculum are presented in Table 6.47. Almost identical to the students' responses, the findings indicated that about 59.3% of the teacher respondents would like to see an entrepreneurial curriculum introduced at the junior secondary school level. Targeting secondary school students could probably prove useful. Van Praag, (1996:56) reported carrying out a study based on the bi-variate probit model on the National Longitudinal Survey of Youth (NLSY) of about 1200 respondents. He concluded that an overwhelming number of young men earlier targeted at secondary school level were willing to become entrepreneurs after completing their school programmes while those above 23 were less willing to become self employed. Yet contrary to Van Praag's findings, studies by Hearlan, (1988) have shown that youth are more inclined towards salaried jobs at that stage as they have little managerial experience and qualifications.

Table 6.47

Teachers' Responses to Entry Levels for an Entrepreneurial Curriculum

Entry level	Agree (%)	Undecided (%)	Disagree (%)
Senior Secondary	67.6	5.1	37.3
Tertiary	35.6	11.9	52.5
Junior Secondary	59.3	11.9	18.6
Upper Primary	38.9	6.8	54.2
Lower primary	20.2	10.2	69.5
Preschool	11.9	11.9	76.2

N =58

There was a striking consensus on the entry level for entrepreneurial education. Eighty seven percent of the industrialist respondents also indicated that the most appropriate level for introducing an entrepreneurial curriculum was at the junior secondary school level while a hefty 78.1.1% registered disagreement with introducing entrepreneurial education at the pre-school level. The industrialists (Table 6.48) also indicated that the tertiary level

was not a suitable point of entry for entrepreneurial education. For the industrialists, the appropriate level for introducing an entrepreneurial curriculum was clearly at junior certificate level.

Table 6.48

Industrialists' Responses to Entry Levels for an Entrepreneurial Curriculum

Entry level	Agree (%)	Undecided (%)	Disagree (%)
Junior Secondary	87.3	0	12.5
Senior Secondary	78.2	9.4	12.5
Upper Primary	49.3	40.6	9.4
Lower primary	29.3	9.4	59.4
Tertiary	28.1	18.8	53.1
Preschool	12.5	9.4	78.1

(N= 34)

A debatable feature of the findings is probably the high percentage of the industrialists, teachers and students who “disagreed” with introducing an entrepreneurial curriculum at the pre-school level. Abosi and Kandji- Murangi, (1995:15) and Setabo, (2000:9) have argued that the pre- school and primary school ages are the best stages at which young children learn to make choices of particular activities, which seem more attractive to them. At that stage, young children would start developing a culture of creativity and innovation. As was the case with the pre-school responses, respondents disagreed with the introduction of entrepreneurial education at the lower and upper primary school levels respectively. In fact, it seemed as if the consensus was that an appropriate entrepreneurial curriculum should be introduced at the junior or senior secondary school level. A strong concern regarding the findings would be that most respondents clearly underplay the importance of early childhood learning in the inculcation of entrepreneurial values. Perhaps it would be timely to consider what Bar-On and Jacquis, (1999:16) point out that:

“Society transmits its values through its children, beginning from infancy. Early education is therefore important in maintaining the culture of specific communities, particularly where there is concern that crucial values are being eroded.”

It is important, therefore, that when attempting to develop an entrepreneurial culture it be introduced at the pre-school level. Jarvis, (1993:3) concurring with the above postulant, makes a clear case for an early introduction of an entrepreneurial curriculum as providing children with the opportunity to “become independent, thinking adults who are more likely to cope with problems and failure, and who regard difficult tasks more as a challenge than barriers.”

Another disappointing indication was the rejection of an entrepreneurial curriculum at the primary school level. This negates the spirit of Botswana’s Educational Philosophy for “Kagisano”, (Republic of Botswana, 1977:53) which emphasises the overall importance of primary education in the inculcation of desirable attributes amongst which are entrepreneurial attributes:

“Irrespective of its condition, primary education is the most important of all stages of education. This is true in several senses. In contemporary Botswana, there are ten times as many primary schools as secondary and the primary schools reach out into communities which are as much as 200 miles from the nearest secondary school...It is in the primary school years, influenced to an important degree by school itself, that the child’s character and abilities take shape many of the habits and attitudes of a lifetime are formed.”

As cited above, a larger pupil reservoir would be netted through the primary school sector than through the secondary school system. It must be acknowledged that not all children can be entrepreneurs but, any early exposure to entrepreneurial culture can only bear positive fruits. It is at this time, therefore, that children can be exposed to an entrepreneurial activities if an entrepreneurial culture is to develop in Botswana. Perhaps as Wellington, (1993:34) proposes “the introduction of enterprise in all its forms” should not be limited to an age or ability range. In that case, it must permeate the whole school curriculum from the primary, through the secondary to the tertiary sector.

6.7.4 Target groups for an entrepreneurial curriculum

To identify the target group for an entrepreneurial curriculum, respondents were provided with the statement: “As part of the school curriculum, entrepreneurial courses should be introduced to all students, a few selected students, slow learners and those doing practical subjects, social sciences and pure sciences?” The respondents were requested to indicate the degree of concurrence with each of the statements. To identify the most preferred participatory group, mean values, based on an inverse scale of 1-5 and percentages were calculated.

Table 6.49 presents teacher responses on target groups for in an entrepreneurial curriculum.

Table 6.49

Teachers’ Ratings of Potential Learner Participants in an Entrepreneurial Curriculum

An entrepreneurial curriculum should be introduced to:	Mean (1-5)	Standard deviation	Agree (%)	Undecided (%)	Disagree (%)
all learners	1.9831	1.1816	76.3	11.9	11.9
Commerce students (social)	3.0169	1.4913	45.7	13.6	40.7
Practical subjects students	3.1356	1.4439	38.9	15.3	55.7
Pure science students	3.7069	1.2141	19.0	19.0	62.1
Selected learners	4.0862	1.0807	10.3	17.2	72.4
Intelligent learners	4.1186	1.0015	10.2	13.6	76.8
Slow learners	4.3898	.8308	3.4	6.8	89.8

(N = 59)

The teachers seemed largely to agree that an entrepreneurial curriculum should be offered to all students. It should not be selective in terms of ability and therefore, should target

neither the intelligent nor the weaker students. There is a high level of concurrence between the teachers' ratings and those cited by Coles and Macdonald's (in Wellington, 1993:34) "enterprise for all." This could be viewed as a positive step in that in most developing countries, courses, which have a utilitarian bias, are often relegated to weaker students and they subsequently fail to win acceptance because of the low social status accorded to them (Moorad, et.al. 1994).

Of interest are the large percentages of teacher respondents indicating their disagreement with targeting only slow learners (89.8%) and intelligent learners (76.3%). It is also instructive to note that a sizeable 40.7% of the respondents indicated their disagreement with targeting only commercial subjects as is the case obtaining in senior secondary schools in Botswana. In essence, the teachers clearly announced that an entrepreneurial curriculum should be targeted to all students. This could be seen to consolidate what Wellington (1993:34) alleged when he claimed that enterprise has been targeted to all strata of learners and has not been limited to an age or ability range and "the move has been from vocationalism for some to enterprise for all".

In their responses, students also indicated that an entrepreneurial curriculum should cater for all students regardless of their ability and orientation. Table 6.50 presents the students' responses regarding target groups for an entrepreneurial curriculum. Perhaps of great interest here was not so much the target groups per se, but what the students felt should not be the target group. The students indicated disagreement with offering an entrepreneurial curriculum to only a few select individual students. Similarly, a hefty 76.1% indicated that entrepreneurial curriculum should not be targeted for intelligent students. According to the results orientation should not be an issue in who should go through an entrepreneurial curriculum. Basically, they in tandem with their teachers, agreed that entrepreneurial education should be for all.

Table 6.50**Students' Responses on Target Groups for an Entrepreneurial Curriculum**

Target Group	Agree (%)	Uncertain (%)	Disagree (%)
All students in school	51.1	9.0	18.1
Those doing commerce	34.1	13.7	41.9
Those doing practical subjects	31.9	20.6	44.2
Those doing social sciences	30.4	20.6	48.8
Those doing sciences	11.3	18.3	68.1
Intelligent students	10.9	11.5	76.1
Only a few selected students	10.6	9.9	79.8
Slow learners	10.5	14.3	73.2

(N = 131)

Regarding the target group, the industrialists indicated two major preferences: that an entrepreneurial curriculum be introduced to all students on a non-selective basis (Table 6.51), or that it be targeted to those doing science subjects.

Table 6.51**Industrialists' Responses on Target Learner Preferences**

Target Group	Agree (%)	Uncertain (%)	Disagree (%)
All students in school	96.9	3.1	0
Those doing sciences	79.2	9.4	12.4
Those doing Commerce	50.0	28.1	18.8
Those doing practical subjects	48.5	36.4	12.1
Those doing social sciences	33.3	27.3	36.4
Intelligent students	31.3	28.1	37.6
Only a few selected students	12.1	36.4	45.5
Slow learners	3.1	46.9	46.8

(N= 34)

This could be viewed as a positive indication in that new curricular that is offered to weaker students or purely social oriented students tend to lose status value in Botswana. A case in point was Education with Production which failed to gain support because of its perceived lowly status. Offering an entrepreneurial curriculum to science students would enhance its currency value as the science subjects are perceived to be inherently superior to other subjects in Botswana.

A synoptic image of a relevant curriculum emanating from the students', teachers' and industrialists' responses is that of a curriculum introduced at the junior secondary school level targeting all the students. Another competitive model is the one that targets Commerce students mainly. If the model allows for selection of the target group, then science-oriented students would be targeted.

6.8 Conclusion

The chapter focused on the analysis and presentation of results. The results were not only presented, but were also discussed in the backdrop of obtaining literature. The chapter analysed and presented images associated with entrepreneurs by students and teachers. Furthermore, an analysis and presentation was made in relation to attitudes of students, teachers and industrialists towards entrepreneurial attributes. A comparative analysis of the students and teachers' preferences to teaching methods and instructional material was presented and discussed. The summary of conclusions to these and other issues examined in this chapter and the rest of the study are given in Chapter 7.

Chapter 7

Summary of Findings, Recommendations and Conclusions

7.1 Introduction

The final chapter opens with a restatement of the purpose of the study followed by a summary of the findings, recommendations and conclusions. The summary is presented in the context of the purpose of the study and the literature review whilst the format adopted closely reflects the research questions outlined in the first chapter. As an inferential sequel to the synopsis of the conclusions and as part of the recommendations, a tentative theoretical framework for a relevant entrepreneurial curriculum based on the findings and literature review is proposed. In addition, areas of further research are identified for possible future investigation. Finally, the chapter closes by delineating and analysing both the methodological and theoretical limitations of the research study.

7.2 Restatement of the purpose of study

The primary objective of carrying out this study was to investigate consonance or disjunction between the entrepreneurial attributes inculcated in senior secondary schools and those required in the manufacturing industries in Botswana. In essence, the investigation sought to find out if there was a match or mismatch between the attributes and skills inculcated in schools and those required in Botswana's industries. To sharpen research focus, the broad purpose was staggered into three specific objectives, namely to establish whether or not:

- (a) senior secondary schools in Botswana are supportive of the acquisition of entrepreneurial attributes,

- (b) industries require and are supportive of individuals exhibiting entrepreneurial skills and attributes and
- (c) there is consonance or disjunction between the attributes inculcated and promoted in schools and those required in Botswana's industries.

7.3 Summary of findings and conclusions

The summary of findings and conclusions epitomise the presentation given in the previous chapter. Thus, included in the summary are the students' and teachers' images of entrepreneurs, attitudes towards entrepreneurial attributes in schools and industries, entrepreneurial attributes as factors for social acceptance, the reward and penalty system, entrepreneurial attributes as determinants for instructional material selection, industrial dynamism, recruitment and progression in schools and industries. Also presented in the summary are the teachers' and students' attitudes towards entrepreneurial oriented occupations as alternative preferential occupations. The implications and recommendations are presented as part of the suggested theoretical framework of an entrepreneurial curriculum.

7.3.1 Images and perceptions of entrepreneurs among senior secondary school students and teachers in Botswana

Evidence from the study seemed to suggest that students and teachers in senior secondary schools in Botswana perceive an entrepreneur or entrepreneurship as comprising a bi-perceptual dimensional image. The first perceptual image is that of an entrepreneur as associated with a business as reflected in the works of Davids, (1963); Howell, (1972); Thorn and Ball, (1981); Birch, (1982) and Ndzingo and Chinyoka, (1997). The second perceptual image is that of an entrepreneur as associated with psychological traits as profiled by McClelland, (1961); Brockhaus and Howitz, (1986) and Gartner, et.al. (1989). There was a strong positive correlation in the students' and teachers' perceptual images of an entrepreneur.

An interesting finding was that students and teachers in Botswana do not relate entrepreneurship as a subject to entrepreneurship as operant outside the school parameters. This seems to suggest a lack of linear articulation between what is learnt at school and what happens outside the school. The findings seem to suggest an over-concern with an academic acquisition of knowledge, which is compartmentalised and kept solely for use within the school boundaries. Such isolated academic knowledge on its own, cannot translate the recipients into entrepreneurs.

Variables such as age, sex and location had little or no significant influence on the image perceived in the exception of subject orientation. Students with a practical subject orientation tended to perceive entrepreneurship as associated with failure while social and natural science oriented students perceived it as associated with success. This finding refutes the fundamental assumption underpinning Botswana's Revised National Policy on Education, (1994) which is predicated on the common belief that a practical oriented curriculum necessarily leads to the development of entrepreneurially oriented individuals. In the light of this finding, it remains doubtful if the mere introduction of practical subjects into the school curriculum can lead to the development of an entrepreneurial culture.

7.3.2 Attitudes of senior secondary school students, teachers and industrialists towards entrepreneurial attributes

There seems to be a clear consensus among students, teachers and industrialists on the importance of inculcating confidence in students in Botswana. The findings concur with the results of the study carried out by Chinyoka et.al. (1998) which also found that Botswana bankers, accountants, officers in government ministries and entrepreneurs rated confidence as the most important attribute to be inculcated among learners and would-be entrepreneurs. An explicit implication is that a relevant consonantal entrepreneurial curriculum should be interwoven around confidence building. On a lesser scale, there was also a consensus on the importance of developing common sense among learners.

Besides confidence and common sense, there was no agreement on the importance of other attributes. Teachers supported the inculcation and development of creativity and being imaginative while students and industrialists supported the inculcation of conformist attributes such as intelligence and following instructions. In the light of the apparent disjunction in attitudes towards attributes, Moorad, et.al. (1994) could be vindicated for recommending a broad based education system in Botswana catering for both entrepreneurial and traditional academic traits.

Other factors such as age, sex and status of the school failed to yield observable differences. In fact, it seemed as if the only variable with considerable influence on attitudes towards attributes was subject orientation. In terms of subject orientation, practical subject teachers seemed to value academic oriented attributes comparatively more than entrepreneurial attributes. Inversely, social science teachers seemed to value entrepreneurial attributes far above the traditional academic oriented attributes.

7.3.3 Entrepreneurial attributes as determinants for social acceptance in schools and industries

At least two dimensions emerged from the findings relating to entrepreneurial attributes as factors for social acceptance among students. First, the study revealed significant co-variations in social acceptability levels in the responses on individuals who work alone, make autonomous decisions, are persistent and have non-conformist tendencies at 0.01 level of significance. The findings confirm the existence of a strong positive correlation among entrepreneurial attributes observed by Stewart, (1996). There was also a significant negative co-variation between the autonomous loner and the conformist, the independent thinker and the populist decision maker at 0.01 level of significance. The social elite also negatively correlated with the loner at 0.05 level of significance.

Secondly, students and teachers in senior secondary schools in Botswana seemed to accept colleagues who exhibit traditional conformist oriented personalities more than those who exhibit entrepreneurial oriented personalities. The most popular personality

was the social elite who mixes easily with others followed by the conformist and the populist. Those exhibiting entrepreneurial attributes such as the non-conformists, autonomous decision makers and loners received the least ratings. Clearly, acceptance levels were markedly higher for colleagues who show traditional conformist attributes compared to those who show entrepreneurial personalities. It could be concluded that students and teachers with entrepreneurial attributes are not easily accepted by their colleagues in senior secondary schools in Botswana. This militates against the acquisition of an entrepreneurial culture in senior secondary schools in Botswana.

Industrialists, on the other hand considered personal management attributes such as efficient time management, the ability to follow instructions from management, persistence in work and the ability to make logical decisions as important attributes for social acceptance within the industrial environment. In essence, the industrialists admired those employees who exhibit conformist tendencies and are productive. On an inverse scale, industrialists revealed a dislike for employees who exhibit entrepreneurial attributes such as autonomous decision making, asking difficult questions and using intuition for decision making.

There was a clear consensus among students, teachers and industrialists regarding social acceptance of individuals possessing entrepreneurial attributes. Students, teachers and industrialists show a comparative dislike for individuals who exhibit entrepreneurial attributes. In the case of industries, the findings confirm the postulants advanced by Moore, (1983); Geneen, (1984); Sinetar, (1985) and Nielson, et.al. (1985) that companies find it difficult to accept entrepreneurs. In conclusion, evidence from the study suggests that entrepreneurs are not easily accepted in senior secondary schools and manufacturing industries in Botswana.

7.3.4 Rewarding and penalising for entrepreneurial attributes in schools and industries

Evidence from the study showed that teachers believe that they reward students for entrepreneurial attributes more than they do for traditional academic attributes. The most important entrepreneurial attribute worth rewarding, according to the teachers, is creativity followed by being imaginative. On the other hand, risk taking was seen as not worth rewarding. However, there was no evidence from the study to indicate whether or not the teachers actually reward students in the classroom situation for entrepreneurial attributes. The findings revealed a dichotomy between the teachers' social rejection of individuals with entrepreneurial traits and the reward system. What they seemed to be saying was that while they do not like entrepreneurial personalities, they are, however, prepared to reward individuals for possessing entrepreneurial skills and attributes.

Contrary to the teachers' perceptions of the reward /penalty system, students believed that they were not rewarded for entrepreneurial activities but rather, that they were rewarded for conformism. The findings confirm the literature assumptions advanced by Tabulawa (1998:1-15) and Maroatona, (in Mensah et al, 1998:87-90) which have consistently alleged that teachers in Botswana reward students for conformism. To a lesser extent, the students indicated that they were also rewarded for creativity.

Literature had predicted that teachers in senior secondary schools in Botswana punish students for articulating entrepreneurial attributes and specifically, for divergence of opinion. The study did not bear out these allegations. Instead, the results from both student and teacher respondents showed that teachers in senior secondary schools in Botswana are tolerant of divergent opinion, getting wrong answers and being adventurous. It must be acknowledged though, that in a few instances teachers indicated that they do punish students for divergence of opinion and failure to get the "correct answer". Both students and teachers seemed to concur that in secondary schools in Botswana, students are not penalised for divergence of opinion, failure to get the correct answers and for asking difficult questions.

The results of the study showed Botswana's industries as rewarding employees mainly for persistence and following management instructions. To a much lesser extent, employees are rewarded for discussing new issues, showing intelligence and for being creative. On the extreme end of the continuum, management seemed to penalise risk taking and lack of productivity.

There seemed to be a mismatch in the reward system in schools and industries. In industries employees are rewarded for conformism while in schools teachers reward for entrepreneurial attributes. Creativity, highly rated in literature as worth rewarding, was highly rated mainly by teachers while students and industrialists rated it as very low. An attribute, which seemed to have drawn a general consensus, was risk taking. All the groups felt that risk taking should not be rewarded. On the punishment system in schools and industry, there was a general consensus that these institutions do not punish individuals for the possession of entrepreneurial attributes in the exception of risk taking. The disjunction in the reward system is indicative of a mismatch in what is done in school and industry.

7.3.5 Attitudes of teachers and students in senior secondary schools towards entrepreneurial oriented teaching learning/approaches

Theoretically, teachers in Botswana viewed the varied approach to teaching as the single most important instructional delivery strategy. The different methods considered individually, were viewed as of relative importance when compared to the varied approach learning/teaching strategy. The teaching methods that the teachers in senior secondary schools in Botswana seemed to be in favour of were basically the same teaching approaches as those suggested for the acquisition of entrepreneurial attributes by Kent, (1990:21); Rabbior, (in Kent: 1990:56 –55); Gibb (in Mass, 1996:5) and Haven, (in Mensah et.al.1998: 85). They advocate for fluidity, creativity, innovativeness and changes within the learning/teaching environment.

Although the teachers identified the varied approach to teaching/learning method as the most important, the teachers' responses on classroom dynamism failed to bear out the actual application of the method in classroom situations. The findings on classroom dynamism were not consistent with using varied approaches to learning but rather, they portrayed a drab rigid approach determined by the school time table, with no surprises, no changes, punctuated by a few visits to the school library. There seemed to be a dichotomy between the perceived important teaching method and its application. There was little or no evidence in this study to support a linear articulation from the aspired for teaching methods and classroom dynamism. The findings seemed to confirm the results of the studies by Prophet and Rowell, (1990) and Fuller and Snyder, (1991) which have shown classroom teaching in Botswana schools as having a fixation for using traditional teaching/learning methods, and a sustenance of the status quo reinforced by a culture of authoritarianism.

Students also indicated a preference for the varied approach to learning. Interestingly, they also rated the creative approach as second in importance in the hierarchy of learning methods. Works by Schumpeter, (1934); Miel, (1961); Gibb, (1986) and Ndzingo and Chinyoka, (1997) have all emphasised the importance of creativity in entrepreneurship. Introducing a note of dichotomy, however, was that students also rated conformist learning approaches as of relative importance. A high rating for such conformist approaches necessarily creates a dichotomous situation for the inculcation of entrepreneurial attributes since creativity, innovation and autonomous learning are central to the acquisition of entrepreneurial attributes and are therefore mutually exclusive of conformist learning approaches. Arguably, these attributes can be perceived as an antithesis of conformist learning with its indicators of rote learning, regurgitation, over-concern with following instructions and getting the correct answer. It becomes doubtful, therefore, that the creative learning which the students rated highly was in fact, inculcated and nurtured in secondary schools in Botswana.

The findings on classroom dynamism indicated that students attend the library and change their learning areas in line with the varied method approach to learning albeit on a modest scale. However, what was of great concern was the relatively large percentage,

which neither frequented the library nor changed their learning environment. The findings also indicated that students hardly ever got information from other schools. In addition, the student responses revealed no changes in their sitting arrangements and that of their teachers. Gagne and Driscoll's, (1988:152) postulant that "the days of fixed seating of students in classrooms are long gone" certainly did not seem to apply to Botswana's situation. Of great concern was the lack of opportunity for students to make their own decisions and learn on their own. In such conditions it is doubtful if the classroom environment can be seen as supportive of the acquisition of entrepreneurial skills and attributes.

Theoretically, teachers and students accept the importance of using the varied approach to learning, which enhances the inculcation of entrepreneurial attributes. However, indicators of classroom dynamism revealed very little evidence of the use of the varied methods approach to learning. There seemed to lack an enabling environment for the use of such methodology in the classroom situation.

7.3.6 The profile of a good school text

Teachers profiled a good instructional text as one that encourages the inculcation of entrepreneurial attributes similar to the profile advanced by Robbior (in Gouws, 1997:10). Lowly rated was a text, which gave detailed notes, definite answers and emphasised facts and accuracy of information. The sex variable revealed that female teachers tended to profile a notes-based text as a comparatively good student text. The findings based on subject orientation showed practical subject teachers as attaching more value to a text that gives detailed notes while science teachers valued diversity of materials and exercises. A possible conclusion could be that science teachers prefer instructional texts, which encourage entrepreneurial attributes compared to social, and practical subjects teachers. This is certainly in line with the nature of science subjects that encourage experimentation and autonomous work comparatively more than social sciences. The findings differed from literature predictions in relation to practical subjects

where a preference for a more hands on type of school text in line with the nature of the subject objectives was expected rather than one, which offered detailed notes.

Students identified detailed notes as the most important characteristic of a good school text. To the student respondents, a good text had to have examination type of questions and give definite answers to questions. However, such a text is unlikely to be an archetypical text for the inculcation of entrepreneurial attributes. The type of text idealised by students is certainly suitable for the traditional blind acquisition of knowledge and not for the reconstruction of knowledge for creativity and innovation. The findings also showed that students disliked texts, which encouraged autonomous learning.

What came out clearly was that the teachers' ideal of a good instructional text was one that encouraged the acquisition of entrepreneurial attributes. On the other hand, students clearly preferred a school text that encouraged traditional academic rote learning. The divergence of profiles can be explained in the context of the perceived importance of examinations as posited by Colclough (in Crowder, 1984:257) where passing examinations is seen as the-end-all of all learning in Botswana. Divergence of perspectives cannot be seen as promoting the proliferation of an entrepreneurial culture in the classroom.

7.3.7 Skills and attributes considered as important for employment purposes by students, teachers and industrialists

According to the findings, the teachers perceived the possession of confidence as the single most important attribute to be considered when recruiting for new employees followed by honesty and creativity. Interestingly, teachers also rated autonomous work as an important attribute for employment purposes. Close to these, was the ability to work well as a member of a team. In essence, teachers believed that school leavers should be employed on the strength of their entrepreneurial personality qualities. Surprisingly at the bottom end of the rung was the ability to communicate well in English and the capacity for mathematical computation, which teachers tend to emphasise in the

classroom teaching in schools. The students' responses closely echoed those of the teachers. They indicated that they should be employed not on the strength of doing well in academic work as would have been expected, but on the strength of their personality attributes. Students also viewed autonomous work as important for purposes of getting employment.

The industrialists, on the other hand, indicated that what they looked for in school leavers were personal management skills including honesty and obedience and certainly not entrepreneurial attributes. Interestingly, they did not seem to value such entrepreneurial attributes as creativity, autonomous work and confidence which students and teachers believed were important. The results of the findings on the recruitment requirements of Botswana industrialists concur with the findings of the Welsh survey (in Wellington, 1993:82), which showed American employers as looking for personality management traits comparatively more than entrepreneurial attributes.

The study revealed a mismatch in what the curriculum in Botswana envisages, what students and teachers believe to be important for employment purposes and what the industrialists are looking for when recruiting new employees. The senior secondary school curriculum in Botswana emphasises passing English and Mathematics in schools (Curriculum Development and Evaluation, 1997), students and teachers believe that confidence, creativity and the capacity to work independently are the most important factors for employability while on the other end, the industrialists primarily look for people with good personal management skills. Sadly, the attributes, which the industrialists seem to be looking for, are not directly taught in schools, but are assumed to be passed on through the unplanned hidden curriculum.

7.3.8 Industrial dynamism

The findings regarding industrial dynamism revealed that there are very few changes and innovations in Botswana's industries. Those few innovations are invariably small, management driven and emanate as repercussions of changes in the market arena. The results are strongly reminiscent of the findings of the study carried out by Miller and Friesen, (1982) on industrial dynamism where they concluded that some industries resist change and innovate only when there are under market pressure. It was also observed that there is little room for individual entrepreneurship in Botswana's industries. Most industries indicated that they use teamwork for entrepreneurial activities. The findings are interesting in the light of the literature, which had predicted employees as playing a vital role in initiating change and innovation. What came out strongly was that industrialists do not like changes and spontaneity and neither do they encourage employees to be creative. It seemed as if the call for entrepreneurial oriented school leavers quoted extensively in the literature review is plain rhetoric on the part of the industrialists. Industrialists in Botswana do not consider entrepreneurial attributes when recruiting for new employees.

7.3.9 Entrepreneurial attributes as factors for progression

The findings showed that students in senior secondary schools in Botswana consider honesty, confidence and communication skills as the most important determinants when selecting individuals for positions of responsibilities and leadership in school. Entrepreneurial attributes such as creativity, autonomous decision-making and flexibility were considered as unimportant as determinants for selection. Similarly class performance was not considered as an important determinant for selection to positions of responsibility in class. The sex variable revealed female students as considering control over others as an important element in the selection of individuals for leadership roles. There were no clear observable differences due to variables such as age, school position and subject orientation.

The teachers in secondary schools also indicated honesty and confidence as important determinants for leadership within the school. They rated entrepreneurial attributes as relatively important in the exception of intuitional decision-making which was seen as unimportant as a determinant for responsibility in class. Social science teachers came out strongly in favour of entrepreneurial attributes as determinants for positions of responsibility in class compared to practical and science teachers.

Industrialists showed a strong preference for promoting employees who are honest, obedient and do their tasks well in concurrence with the postulant advanced by Watson, (1982:6) that employers prefer to keep and promote a loyal workforce than take those who may soon leave in search of new pastures. Creativity, although relatively important, played a subservient role to the conformist traditional attributes for promotion purposes. Surprisingly, flexibility was rated comparatively lowly as a determinant for progression contrary to the literature predictions on its importance as posited by Hopson and Scally (1981:14) among many other writers.

7.3.10 Perceptions and attitudes of students and teachers towards entrepreneurship as an alternative preferential occupation

Both students and teachers ranked the stereotypic professional occupations of medicine, teaching and engineering as the most preferred in the hierarchy of occupations. The results were similar to those observed by Muphree, (1974); Kann, (1977) in Botswana and Mthunzi, (1992) in Zimbabwe. Practical oriented students and teachers also ranked professional occupations highly clearly negating the predictions of the Revised National Policy on Education, (Republic of Botswana, 1994) which envisages an increase in preference for entrepreneurial occupations by increasing dosages of practical subjects in the national curriculum. The findings confirmed the conclusions drawn by Psacharopoulos and Loxely, (1985); Lauglo, (1985) and Mudariki and Weeks, (1993) that there is no linear articulation from vocational subject orientation to a preference of a practical occupation. Actually, social science students seemed to value entrepreneurial occupations more than the practically oriented students in line with the results of the

study carried out by Wenzel, (1979) which showed “arts and letters” students as being more receptive to entrepreneurial activities. The study also revealed that more Batswana female students in senior secondary schools prefer entrepreneurial occupations compared to males. The findings negate earlier findings by Mthunzi, (1992) in which less female students preferred entrepreneurial occupations compared to their male counterparts in Zimbabwe.

Entrepreneurial incubator occupations of agriculture, industry and building construction received the lowest preferential ratings. Agriculture, which was predicted in the literature review as having the highest potential for generating entrepreneurial activities in Botswana, was viewed as comparatively unimportant in the occupational hierarchy. This seems to be a new development since Kann (1977) and Davies, (1988) had earlier on found that Batswana students considered agriculture as an important preferential occupation. Similarly, Muphree, (1974) after studying Zimbabwean students concluded that they considered agriculture as an important preferential occupation. However, in Ghana, Foster, (1965) found that Ghananian students ranked agricultural occupations very lowly. Interestingly, although the teachers rated other incubator occupations lowly they showed a marked preference for agriculture. The low preferential ratings of incubator occupations in Botswana clearly undermine the hopes of turning agriculture, construction and manufacturing industries into seedbeds for the proliferation of entrepreneurial skills.

7.3.11 The profile of an entrepreneurial curriculum as perceived by students, teachers and industrialists in Botswana

The study showed that students, teachers and industrialists concurred on the need for introducing an entrepreneurial curriculum in schools. The suggested entry point was the junior secondary school level targeting all students as a non-examinable programme. Another seemingly accepted alternative was an infusion with Commerce. If selection was to be a feature of the programme, then intelligence was to be considered as strong selection criteria.

7.4 Implications and Recommendations: Towards a theory of an entrepreneurial curriculum?

The implications of this study can be seen as a tentative, albeit modest, elementary step towards the development of a theory of an entrepreneurial curriculum. It is, therefore, imperative at this juncture to briefly reflect on the issue of theory itself in order to identify what sense of the word theory can be reasonably applied to the central concerns of an entrepreneurial curriculum as observed in this study. Nagel, (1961:9) outlined four dimensions of theory as: a system of universal statements, a statement based on empirical verification for acceptability, factors which constitute determinants of the phenomena investigated and as a set of related ideas and concepts. For curriculum purposes, Urebvu, (1985:15) has suggested that the most suitable among the four dimensions is one that brings together ideas and concepts and attempts to reveal the nature of the phenomenon. Similarly, the dimension of theory adopted in this study is one that projects ideas and related concepts gleaned from the study. After all, as Urebvu, (1985:15) correctly observed, “most central questions of curriculum are normative in the sense that they involve choices among many competing value options”.

The theoretical framework guiding the obtaining curriculum in Botswana’s schools as indicated in the findings of this study, projects the acquisition of traditional academic conformist attributes and skills. It is informed by the theory of linear articulation, which assumes a direct transformation from the acquisition of practical skills to utilisation of the same skills. It is based on the assumption of an educated individual as having a mastery of information, facts and knowledge, able to critique, analyse and reproduce what has been learnt. The teaching learning strategies are those that centralise the teacher, enhance teacher authority and monologise the process of learning. The reward system is one that sees value mainly in conformism. As a challenge to the obtaining curriculum theoretical framework, this study proposes a theoretical framework of an entrepreneurial curriculum

that embodies a triad equi-projection of entrepreneurial attributes and skills, academic knowledge as obtaining in schools and self management skills as required in the industries. It is predicated on the assumption of the teachability of entrepreneurial attributes and personal management skills. The theoretical framework centralises consonance in entrepreneurial perceptions and proposes a reward, penalty and progression system that is consistent with the acquisition of entrepreneurial skills and attributes. It further centralises entrepreneurial oriented teaching/learning strategies and the enhancement of entrepreneurship as an occupational preference. Table 7.1 presents a comparative theoretical framework of the envisaged entrepreneurial curriculum and the “old” framework currently obtaining in senior secondary schools in Botswana as evidenced by the findings of this the study.

Table 7.1

A proposed comparative theoretical paradigm of a relevant entrepreneurial curriculum

Curricular characteristics	Traditional paradigm	Proposed entrepreneurial paradigm
Epistemology	Reductionist.	Constructivist.
Knowledge	Transferred in its totality from teacher to students and sustained through memorisation, regurgitation and fear of failure.	Negotiated and reconstructed through students and teacher experiences and constantly in flux, lessons through success and failure.
Knowledge utility	Reproduced undigested and non-utilitarian.	Recreated and sourced for a specific utilitarian purpose.
Key attributes	Critiquing, analysis and conformity.	Confidence, creativity, innovativeness and self-autonomy.
Entrepreneurial images and perceptions	Monological entrepreneurial content infused into Commerce and selective.	Bi-conceptual image: as attributes taught in entrepreneurial education to all students and as business enterprise focussing on entrepreneurial skills.
Pedagogical focus	Examination oriented content taught, self-management and interpersonal skills assumed	Non-examinable, self-management, interpersonal, entrepreneurial attributes and skills directly taught

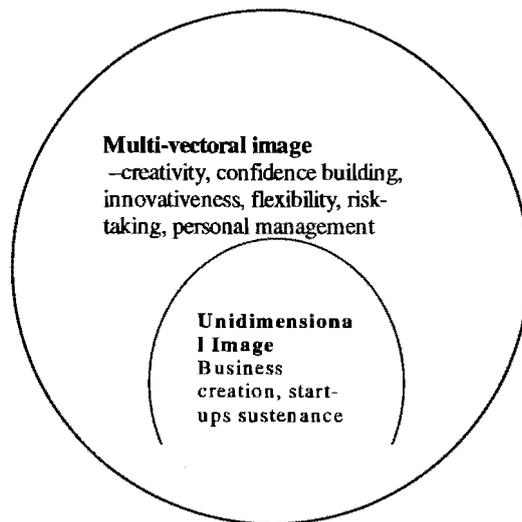
	in hidden curriculum.	and not assumed.
Learning/ teaching approaches	Teacher centred, subject centred, teacher as subject expert, passive participation by students.	Teacher as part of networking, individual and teamwork, investigative, experiential, and active participation by students.
Classroom dynamism	Rigidity in learning environment, schedules, timetabling, rooms, teacher/ student positions and courses.	Flexibility in learning environment, schedules, timetables, teacher/students positioning and modules.
Teaching/learning materials	Content based, examination, notes and correct answer oriented.	Varied “know-how- what and where ” activity oriented, profiling and monitoring.
Reward/penalty system	Conformity, analysis, critiquing and regurgitation rewarded.	Creativity, confidence, autonomy, risk taking and self-management skills rewarded.
Team dynamics	No individual accountability, no networking between classes, schools and industries.	Individual accountability, class, interclass, inter-school and industrial networking.
Articulation	Disjunction between school curricular and industrial requisites.	Consonance between school curricular and industrial employer/employment, self-employment needs.
Projected utilitarian expectancies	Professional employment.	Formal employment, self-employment, employment in incubator occupations.
Devolution of power	Teacher has power, exercises power, authority and control.	Individual learner is empowered, power sharing among students.

Evidence from this study indicated that students and teachers have a bi-perceptual image of entrepreneurship. This bi-perceptual image raises the possibility of developing an entrepreneurial curriculum model, which builds on the already ingrained image (Figure 7.1). Such a curriculum would deliberately focus on both the unidirectional and multi-vectoral conceptions of entrepreneurship. The curriculum could be operational on two concentric dimensions. The inner ring dimension could focus on the unidimensional image dealing with business creation, start-ups and sustenance while the outer ring

dimension captures the entrepreneurial skills and attributes representing the multi-vectoral image. Core to the unidirectional concentric dimension would probably be business enterprise while the multi-vectoral conception could be dominated by the psychological constructs of confidence, creativity, innovativeness, and risk taking.

Figure 7.1

A conceptual configuration of a bi-perceptual entrepreneurial curriculum model



Other issues, which could be included in the outer ring curriculum, could probably be issues pertaining to, among many others, personal management, interpersonal management skills, achieving and planning. The direct teaching of these personal and interpersonal management skills could help circumvent the disjunction between the industrial requisites and the school nurtured attributes. It would be important that entrepreneurial attributes, personal management and productivity skills are taught directly and not left to the vagaries of an ill defined hidden curriculum as is the case in the obtaining traditional curriculum. In the implementation strategy, direct teaching should be preferred over proxy teaching of entrepreneurial attributes.

In the implementation stage, it would be necessary for the reward system to emphasise entrepreneurial attributes such as creativity, innovativeness, risk taking adaptability and confidence. In the proposed curriculum model, enterprising acts would be rewarded. In

order to create consonance between what happens in schools and what the industries need, both the school and the industry would have to adopt a rewarding system that shares a lot of commonalities. It would also be important that the industrialists sit in the curriculum developing organs of centrally designed curricula to develop consonance between what schools teach and what the industries require.

From the findings of this study, a relevant entrepreneurial curriculum would adopt learning teaching strategies, which would centralise varied approaches to learning and teaching methods. The methodology would allow for extensive investigation, experiencing both success and failure, and should not be limited to academic theoretical successes. In the envisaged methodology, the learner becomes the investigator and the teacher becomes part of the network, which assists in the attainment of set targets. In the envisaged curriculum model, there should be no wrong or right answers; instead, emphasis should be on the acquisition of experiences gained in identifying and exploiting openings and in the subsequent investigation of issues. The proposed methodology can only be operational where there is optimum classroom dynamism. The classroom would have to be transformed into a hub of activity. The often taken for granted issues such as teacher and student class position, silence in class, teacher authority and the overly concern with critiquing would have to give way to creativity, innovativeness and indeed, taking risks. The learning areas would not be limited to the classroom as is the case presently. The place and time should be determined by the nature of the learning area. Students would need to be liberated from the bondage of a mono-class-learning culture, which is a predominant feature of Botswana's senior secondary schools. Networking, in class, within classes and within schools would have to be developed. The students would have to develop a culture of "knowing where and how" to get and use information rather than piling up tonnes of non-utilitarian knowledge specifically preserved for regurgitation in the examination room and to be immediately forgotten there after. The issue should not be solely what the child knows, but rather, whether the child knows where and how to get and use relevant information.

An important implication would be a commonality of aims and objectives in schools and industries. The attainment targets within the school curriculum should translate into usable qualities and competencies that facilitate entry into industries or into self-employment. In essence, there should be a triad consonantal match between what the school views as desirable, what the industries view as desirable for recruitment purposes and what entrepreneurs have seen as desirable for starting, and sustaining an enterprise.

7.5 Suggestions for further research

The results of this study suggest many dimensions for further research. However, the suggestions offered here have been restricted mainly to methodological, topical and theoretical dimensions only. These were felt to be the fundamental areas of focus for future investigations.

7.5.1 Direction for future methodological research focus

The investigation carried out in this study was mainly cross-sectional in nature. It captured issues as obtaining and could only depict processes in partiality. It therefore excluded the influence of time and had no capacity to give a complete picture of processes as they unfolded. It could not for instance, determine whether learnt entrepreneurship can be as sustainable as socially inculcated entrepreneurship. It could only reflect aspects of entrepreneurial processes. There is a need therefore, to carry out longitudinal studies, which can observe entrepreneurial processes unfolding and have the capacity to capture changes occurring over a period of time. For instance, longitudinal studies could be able to determine causal relationships which this study could not do. Longitudinal studies could also provide answers to questions of articulation. For instance, do students who participate in entrepreneurial curricula translate into entrepreneurs? Does subject orientation affect performance in entrepreneurship? These and many other similar questions can only be answered through longitudinal studies.

Another suggestion is that future studies on entrepreneurial curricula need to create informational depth. Surveys have a tendency of providing extensive lateral data scattered over a miscellany of issues. This is a necessary step prior to theory formation but, as the subject matures, there is need to supplement the lateral spread with depth. In this study, for example, many aspects of school/ industry /entrepreneurship interface were covered. These have the strength in terms of breadth of informational spread but they cannot boast of depth. Perhaps, it would be profitable at this juncture, to suggest qualitative approaches to act as part of triangulation and at the same time attempt to achieve depth and verification of the empirical quantitative data collected. Case studies, when used in longitudinal studies would provide useful confirmatory data capturing aspects, which surveys would probably miss out.

7.5.2 Direction for further theoretical research

Another useful approach would probably be studies that attempt to produce theoretical data, which could ultimately be empirically tested and developed as school/industrial entrepreneurial interface theories. To be able to do that there is need to first clearly delineate indicators for entrepreneurial skills and attributes. For instance, a recurring problem encountered in this study and strongly cited by Raizen, (1989:10) was the difficulty in differentiating entrepreneurial skills from the traditional ones, which schools have been indirectly passing on through the hidden curriculum. While Stewart, (1996) has come out with entrepreneurial correlates, what still proliferates the entrepreneurial psychological landscape is a multitude of attributes. There is a real danger of literary classifying every desirable attribute as entrepreneurial. For instance, Ndzinge and Chinyoka, (1997) have mentioned virtually all the desirable attributes as entrepreneurial. Are all desirable attributes entrepreneurial? A possible source of the problem for the failure to delineate these attributes could be the difficulty of defining entrepreneurship. Many researchers have pointed out the futility of attempting a profile of an entrepreneur. However, for a clearer delineation, ease and commonality of usage and a better understanding of its characteristics and indexes, there is need to arrive at a working theoretical consensus on what is meant by entrepreneurial attributes.

7.5.3 Suggested topic areas for further research

The topic areas suggested in this study include an investigation into the nature of the school tailored entrepreneur, the process of learning entrepreneurial skills and attributes in schools and increasing consonance between schools and industries. These broad areas can be approached from a multiplicity of perspectives and portray the newness of the field of study.

(1) The nature of the school tailored entrepreneur

An interesting topic, which could provide worthwhile information on school entrepreneurship interface, would be an investigation of school-learned entrepreneurship. What research has only identified is that entrepreneurial attributes can be taught. There is presently a paucity of information on the exact nature of the school tailored entrepreneur and how it should be taught. Is school tailored entrepreneurship sustainable after school? What enabling environmental prerequisites are essential for its sustenance? The investigation would lend itself to issues of articulation. It would provide enlightening answers to sustainability, impact of subject orientation, entry point and content issues.

(2) The process of acquiring entrepreneurial attributes in schools

In this area researchers could concern themselves with such issues as the learning/teaching methodology. What are the most effective teaching methodologies for the acquisition of entrepreneurial attributes? What is the impact of different methodologies on the learning and sustainability of the acquired entrepreneurial attributes? Researchers could also investigate learning styles among entrepreneurs. Do prospective entrepreneurs for example, exhibit similar or different learning styles from the rest of the students? What should be the nature of the content for an entrepreneurial curriculum? Related to learning/teaching styles would be studies investigating the use of materials in schools for the transmission of entrepreneurial attributes.

(3) Attaining consonance between school and industrial perceptions

The study attempted to find out if what the schools inculcate is what the industries need. In this study, the focus was mainly on students and teachers excluding a whole myriad of other curricular issues, which could impinge on the acquisition of entrepreneurial attributes. In the industries the study concentrated on management. There is a whole lot of school and industrial environmental issues which were left untouched. For instance, in the industries, the perceptions of employees were not tapped. The whole authority structure both in the industries and schools was not investigated. To attain consonance, there is need to investigate the areas more comprehensively than was done in this study. Perhaps, this is where in depth case studies would yield detailed information and expose environmental conditions which surveys may find difficult to unearth.

7.6 Limitations of the study

The fundamental limitations associated with this study can be viewed as belonging to two broad genera: limitations associated with the research methodology and the theoretical limitations imposed by the nature of the research problem. Of the two types, of greater and more immediate import to this study were the methodological problems inherent in an investigative survey of this nature. These were considered important in that they had ample latent capacity to limit the usefulness and the validity of the findings of the study.

7.6.1 Methodological limitations

A major limitation of this study was the extensive use of the Likert scale. The use of the Likert scale, as a form of an ordinal scale, could only collect limited non-parametric parametric data. In a way, this probably reduced content validity of the data collected. Further more, the scale could not indicate how much more favourable one index was than another (Burns, 1998:461). The implications are that in this study, the level of direction and intensity could only be limited to the non-parametric non-quantifiable measures..

Another concern in this study was the indirectness of measurement. As Anastasi, (1988:584) has observed, "attitudes cannot be directly observed, but must be inferred from indicators". There is always a remote possibility of misrepresentation of what is

intended to be measured by a given indicator, which may negatively impact on construct validity. Also inherent in the methodology used in this study were statistical limitations in cases where correlation was sought. There is always the probability of a relationship relating to a third variable (Burns, 1998:214). A high correlation between items could therefore be a result of a third unknown variable. The correlates have been seen in the light of associations and not causal in any way although indicative of an underlying covariance either existing between the variables or tied together by a third variable.

7.6.2 Theoretical limitations

A problem closely related to the theoretical aspect of the methodology was the difficulty of delineating between entrepreneurial attributes and conformist attributes. Some of the attributes tended to be ambivalent fitting in both camps. In such situations it became very difficult to draw anything more than tentative conclusions. In situations of ambivalent attributes it is advisable in this study to treat the results with caution. Perhaps future investigation should be preceded by a clear delineation of entrepreneurial attributes in relation to conformist and academic attributes.

7.7 Conclusion

In conclusion, the objective of this study was to find out if the schools promoted the development of entrepreneurial attributes and if Botswana's industries needed individuals with entrepreneurial attributes. It thus investigated consonance between what the school nurtured and what industries required. There was little consonance in the attributes inculcated in schools and those required by industries as indicated in the summaries of the findings and conclusions presented in this chapter.

The chapter also suggested methodological approaches and areas for further research emphasising the need for a closer investigation into articulation issues and the sustainability of school acquired entrepreneurship. Among the suggested methodological approaches were longitudinal studies for issues of articulation and case studies for in-

depth information. Research aimed at theory building was also recommended. Areas for future research were suggested namely: understanding the school tailored entrepreneur, the process of acquiring entrepreneurial skills and attributes and developing consonance between schools and industries. These were meant to provoke thought so that the phenomenon of a school grown entrepreneur could be further investigated and better understood. This, in turn would inform, entrepreneurial curricula such that the products produced are individuals who are adaptive and responsive to economic needs of the twenty first century

In this study, a bi-perceptual curriculum model was suggested in consonance with the bi-perceptual conceptions already ingrained in students and teachers in senior secondary schools. In the model, the curriculum would deliberately focus on the unidirectional and the multi-vectoral conceptions of an entrepreneur. In that sense, the curriculum would address business creation, start-ups and sustaining of business enterprise. The second dimension would comprise the direct learning and a deliberate inculcation of psychological correlates of creativity, innovation, internality of locus of control and the development of a propensity for taking calculated risks. Also included in the model would be direct teaching of personal management skills as required by industrialists. The pedagogy adopted would emphasise the investigation and identification of venture opportunities. The reward system would enhance the acquisition of the central entrepreneurial attributes.

Evidence from the study seems to indicate that the current Revised National Policy on Education's (Republic of Botswana, 1994) strategy of increasing the number of entrepreneurs through diversification into practical subjects in the school curriculum is unlikely to yield large numbers of entrepreneurs to eradicate the looming unemployment problem in Botswana. The practically oriented products, can at best, fit into the existing formal employment or worse still, revert back to the traditional academic thrust and professional occupations as observed in this study and other similar studies by Psacharopoulos and Loxely, (1985); Moorad et.al. (1993) and Mudariki and Weeks, (1993). If the school curriculum is to produce products that will not only fit into the

existing formal employment sector, but can create employment through venture creation as envisaged by Kilby, (1971); Birley, (1987); Reynold, (1987) and the Presidential Task Group, (1999), then it is imperative that the school curriculum be designed such that it deliberately attempts to satisfy the demands of the employers and at the same time translate the recipients from mere linear depositories of knowledge to creative kaleidoscopic thinkers and innovators.

REFERENCES

- Abosi, C.O. (1998)** "Remedial Teaching; A getaway to effective Teaching and learning in schools" in Mensah, J. Yandila, C.D. Monakwena, P. O'Mara, F.R. (eds) *Improving Education Quality for Effective learning: The Teacher's Dilemma*, Gaborone, Ministry of Education, 81 – 86.
- Abosi, C.O. and Kandjii-Murangi, I. (1995)** *Education in Botswana- A reading Text*, Gaborone, Macmillan.
- Achola, P. and Kaluba H. (1989)** "School production units in Zambia: an evaluation of a decade of presidential experiment" in *Comparative Education* 25 (2) 168.
- Adler, M.J. (1981)** *Six Great Ideas*, New York, Macmillan.
- African Advisory Board (1941)**, The Minutes for the Meeting of the African Advisory Committee held at Kanye, National Archives, Gaborone.
- Ahmed, S.U (1984)**"N Ach, Risk Taking Propensity, Locus of Control, and Entrepreneurship" *Personality and Individual Differences* 6, 781 -782.
- Aiken, M. and Hage, J. (1971)** "The organic Organisation and Innovation" *Sociology* 5 63 –82.
- Ajzen I. and Krells, D. (1994)** "Attitudes, Theory and Measurement: Implications for Survey Research" in Borg I. and Mohler, P, (1994) *Trends and Perspectives in Empirical Research*, Berlin, New York. Walter de gruyter, 250 –261.
- Anastasi, A. (1988)** *A Psychological Testing*, 6th Edition, New York, London, MacMillan Publishing Company.
- Anderson, C.R. (1977)** "Locus of Control, Coping Behaviours and Performance in Stress: Longitudinal Study" *Journal of Applied Psychology*, Vol. 62, 446 -51.
- Anderson, G. (1990)** *Fundamentals of Educational Research*, London, New York, The Falmer Press.
- Anyon, J. (1980)** "Social Class and Hidden Curriculum at Work" in *Journal of Education*, 162, 1067-92.
- Apple, M.W. (1979)** *Ideology and Curriculum*, London, Routledge and Kegan Paul.

- Apple, M.W. (1990)** "The Politics of Official Knowledge in the United States" *Journal of Curriculum Studies*, July-August 377-383.
- Arrow, J. K. (1982)** "Innovation in Large and Small Firms" in Ronen J. (ed) *Entrepreneurship*, Lexington, Massachusetts, Lexington Books.
- Ashston, D. and Green, F. (1996)** *Education, Training and the Global Economy*, Cheltenham, Edward Elgar Publishing Limited.
- Bacchus, K. (1988)** "The Political Context of Vocationalisation of Education in Developing Countries" in Lauglo, J. and Lillis, K. (eds) *An International Perspective*, London, Pergamon Press 31-44.
- Bantock, G.H. (1975)** "Towards a Theory of Popular Education" in Golby, M. Greenwold, J. and West, R. (eds) *Curriculum Design*, London, The Open University Press.
- Barmash, I. (1971)** *Welcome to our Conglomerate- You are Fired*. New York, Delacombe.
- Bar-On, A.B and Jarquis. M. (1999)** A report on the Teachers' Welfare in East Africa, Nairobi, Unisaid
- Barreto, H. (1989)** *The Entrepreneur in Micro Economics: Theory, Disappearance and Explanation*, London, Routledge.
- Barrow, R. (1975)** *Moral Philosophy for Education*, London, George Allen and Unwin.
- Barrow, R. (1976)** *Plato and Education*, London, Routledge and Kegan Paul.
- Barrow, R. (1984)** *Giving Back Teaching to Teachers: A critical introduction to theory*. Sussex, Wheatsheaf Books.
- Beachamp, G.A. (1981)** *Curriculum Theory*, Itasca III, Peacock.
- Becker, G. S. (1964)** *Human Capital*, New York, National Bureau of Economic Research.
- Bell, J. (1992)** *Doing Your Research Project*, Philadelphia, Open University Press.
- Benedict, R. R. (1988)** "Enterprise High: Where students profit from education" *The Entrepreneurial Economy*, May, 1988.
- Benson, M. (1960)** *Tshekedi Khama*, London, Faber and Faber.

- Best, J.W. and Kahn, J.V. (1989)** *Research in Education*, Englewood, Cliffs, New Jersey, Prentice Hall.
- Biemans, W. G. (1992)** *Managing Innovation within Networks*, London, Routledge.
- Birch, D. L. (1982)** *The Job Generation Process*, Boston, Massachusetts, Study on Neighbourhood and Regional Change.
- Bird, J. (1989)** *Entrepreneurial Behaviour*, Glenview III, Scott, Foreman.
- Birley, S. (1985)** "The Role of Networks in the Entrepreneurial Process" in *Journal of Business Venturing*.
- Birley, S. (1987)** "New Venture and Employment Growth", *Journal of Business Venturing* 2 (2) 155 – 165.
- Birmingham Teacher Education College, (1997)** Information Leaflet.
- Block, Z. and Stumpf, S. A. (1992)** "Entrepreneurship education research: Experience and Challenge" in Sexton, D. L. and Karsada, J. D. (eds.) *The State of the Art of Entrepreneurship*, PWS – Kent, Boston, 17 – 42.
- Blomstorm, M. and Mellor, P. (1991)** *Diverging Path; Comparing a Century of Scandinavian and Latin American Economic Development*, John Hopkins.
- Borg, I and Mohler, P. (1994)** *Trends and Perspectives in Empirical Research*, Berlin, New York, Walter de Gruyter.
- Borg, W.R. and Meredith, D.G. (1989)** *Educational Research: An Introduction*, London, Longman.
- Borland, C. (1975)** Locus of Control, Need for Achievement and Entrepreneurship, A Doctoral Dissertation, University of Texas at Austin- *Dissertation Abstracts, International*, 36, 771(A)
- Botswana, Government, (1977)** *Education for Kagisano, Report of the National Commission on Education*, Gaborone, Government Printer.
- Boyatzis, R. (1982)** *The Competent Manager*, New York, Wiley.
- Boyd, R.F. (1973)** *The Education of the West*, New York, McGraw Hill.
- Bozeat, R. G. (1998)** "Creativity – The Missing Link" in Mensah et al. (eds) *Improving Education Quality for Effective Learning: The Teachers' Dilemma*. Gaborone, Government Printer. 123 – 125.

- Bridge, S. O'Neil, K. and Comie, S. (1998)** *Understanding Enterprise, Entrepreneurship, and Small Business*, Wiltshire, MacMillan Press Limited.
- Brockhaus, R. H. (1975)** "Risk Taking Propensity of Entrepreneurs", *Proceedings of the Academy of Management* (457-460).
- Brockhaus, R.H. (1980)** "Risk Taking Propensity of Entrepreneurs; *Academy of Management Journal*, 23, 509-20.
- Brockhaus, R. H. and Howitz, P. S. (1986)** "The Psychology of the entrepreneur" in Sexton, D. and Smilor, R. (eds) *The Art and Science of Entrepreneurship*, Cambridge M.A. Ballinger, 25 – 48.
- Brown, J.S. Collins, A. and Duguid, P. (1989)** "Situated Cognition and the Culture of Learning" in *Educational Researcher*, 18 (1), 32-42.
- Buchanan, D. and Boddy, D. (1992)** *The Expertise of Change Agent*, Hemel Hemstead, Prentice Hall.
- Bull, I. Thomas, H. and Willard, G. (1995)** *Entrepreneurship Perspectives on Theory Building*, Oxford, Pergammon.
- Bull, I and Winter, R. (1991)** "Community Differences in Business Birth and Business Growth" *Journal of Business Venturing*, Vol. 6 No 1, 29 – 43.
- Burchfield, S. (1994)** *Research for Education, Policy and Planning in Botswana*, Gaborone, Ministry of Education.
- Burgelman, R.A. (1984)** "A Process Model of Internal Corporate Venturing in the Major Diversified Firm" *Administrative Science Quarterly*, 28, 223 – 44.
- Burns, T. and Stalker, G. M. (1961)** *The Management of Innovation*, London, Tavistock, Publications.
- Burns, R.B. (1998)** *Introduction to Research Methods*, Melbourne, Longman.
- Butts, R.F. (1973)** *Public Education in the United States*, New York, Holt, Rinehart and Winston.
- Bygrave, W.D. and Hofer, C.W. (1991)** "Theorising About Entrepreneurship" *Entrepreneurship Theory and Practice*. 16 (2) 13-22.
- Byram, M. (1979)** *Report from Matsha Community School*, Gaborone, Government Printer.

- Caird, S. (1988)** *A Review of Methods of Measuring Enterprising Attributes*, Durham University Business School.
- Caird, S. (1991)** “The Enterprising Tendency of Occupational Groups” *International Small Business Journal*, Vol. 9, 75 – 81.
- Caird, S. (1994)** “How important is the Innovator for the Commercial Success of Innovative Products in SMEs?” *Technovation*, Vol. 14, 81.
- Campbell, A. (1979)** *A Guide to Botswana*, Gaborone, Winchester Press.
- Campbell, D.T. and Stanley, J.C. (1963)** *Experimental and Quasi-Experimental Designs for Research*, Houghton Mifflin Company.
- Cantillon, R. (1990)** “Essay on the Nature of Commerce” in Casson, M. (ed) *Entrepreneurship*, Aldershot, Edward Elgar Publishing Company.
- Carland, J. Hoy, F. Boulton, W. and Carland, J. (1984)** “Differentiating Entrepreneurs from Small Business Owners” A Conceptualisation” *Academy of Management Review*, 354 – 359).
- Carsrud. A. Olm, K. and Eddy, G. (1986)** “Entrepreneurship: Research in Quest for a Paradigm” in D. Sexton, R. Smilor (eds) *The Art and Science of Entrepreneurship*, Cambridge M.A. Ballinger. 367 – 378.
- Casson, M. (1990)** *Entrepreneurship*, Aldeshot, Edward Elgar Publishing Ltd.
- Castro, C. and Alfthan, T. (1992)** “ Vocational Education and Training, International Differences” in Alkins, M.C. (ed) *Encyclopaedia of Educational Research*, New York, Macmillan, 1509-1516.
- Central Statistics Office, (1992)** Gaborone, Government Printer.
- Central Statistics Office, (1993)** Gaborone, Government Printer.
- Central Statistics Office, (1995)** Gaborone, Government Printer.
- Central Statistics Office, (1998)** Gaborone, Government Printer.
- Central Statistics Office, (1999)** Gaborone, Government Printer.
- Chakarupa, R. (1986)** “ Views of Science held by Batswana Students: An exploratory Study” *Boleswa Educational Research Journal*, 4, 22-30.

- Chakarupa, R. (1991a)** “Exploring Conceptions of Motion and Force: The Case of Pre-Service Science Teachers in Botswana” *Boleswa Educational Research Journal*, 8, 40-48.
- Chakarupa, R. (1991B)** “Issues in the learning of Science in Botswana Secondary Schools” *Pula Journal of Southern African Studies* 8. Study” *Boleswa Educational Research Journal*, 4, 22-30.
- Chambliss, J. J. (1971)** *The Origins of American Philosophy of Education*, The Hague, Martinus Nijhoff *Research*, 8 40-48.
- Chapman, D. (1990)** “The Role of Educational Management Systems in Improving Educational Quality” in Chapman, D. and Carries, C. *A Global Perspective*, New York, Greeward Press.
- Chapman, D. (1991)** “The Overselling of Science Education in the Eighties” *School Science Review*, March, 1991, 72 (260), 49 71.
- Charles, C. M. (1995)** *Introduction to Educational Research*, New York, Longman.
- Chilisa, B. (1987)** “Who gets ahead in Education: A cross sectional survey of Primary JSEL Project Management Committee Report.
- Chilisa, B. and Yodder, J.H. (1989a)** Input/output Measures of School Results: Towards A Model of Academic Effectiveness” A paper presented at the Symposium On Educational Research in the SADC region, Gaborone.
- Chinyoka, S.V. (1993)** Factors contributing to the non-graduation of entrepreneurs in Industrial Estates – The Case of Botswana. Proceedings of the University of Swaziland Conference on Small Business Development and Economic Transformation, Manzini, Swaziland.
- Chinyoka, S.V. (1997)** “*Small Entrepreneurs ‘ skills: Reflections on Botswana and Zimbabwe Survey Data*” Proceedings of the Southern African Entrepreneurship and Small Business Association Conference, Victoria Falls, Zimbabwe.
- Chinyoka, S.V. Iwisi, D.S. Moeti, N. and Ronan, N.J. (1996)** “An Empirical Study of The Small Entrepreneurs’ Skills: A Case Study of Botswana” Proceedings of the International Council of Small Business Southern African Conference, Malelane, South Africa.
- Chinyoka, S.V. Ndaba, J. and Mudariki, T. (1998)** *Do they have what it takes? A Case Study of Botswana’s Small Entrepreneurs ‘ Skills*, Gaborone, University of Botswana.

- Chinyoka, S.V. and Ndzinge, S. and (1997)** *Small Business – A Guide*, Gaborone, Mmegi Publishing House.
- Chisman, D. (1987)** *Practical Secondary Education, Planning, for Cost Effectiveness in Less Developed Countries*, London, Commonwealth Secretariat.
- Chittipedi, K. and Wallet, T.A. (1991)** “Entrepreneurship and Competitive Strategy for the 1990s” *Journal of Small Business Management*, 29 (1) 94-98.
- Chusimir, L. H. (1988)** “Entrepreneurship and MBA degrees: How well do they know each other?” *Journal of Small Business Management*, Vol. 26, No.3 July, 71 – 74.
- CIDA (1989)** Malawi Natural Resource College, Impact Evaluation.
- Clarcken, R. H. and Omara, F.R. (1987)** “Social Studies in Botswana” A paper presented at the Botswana Educational Research Association Conference, Gaborone.
- Clawson, D. (1980)** *Bureacracy and the Labour Process- The Transformation of US Industry 1860 – 1920* New York, Monthly Review Press.
- Claydon, L. (1977)** *Curriculum and Culture; Schooling in a Pluralist Society*, London, Unwin.
- Cloninger, S.C. (1996)** *Personality Description, Dynamics and Development*, New York, W. H. Freeman and Company, New York.
- Coffield, F. (1990)** “Hunting a Heffalump in the World of Enterprise Industry” *Independent*, 29 August, 1990.
- Cohen, L. and Manion, L. (1989)** *Research Methods in Education*, London, Croom Helm.
- Collins, O. F. Moore, D. G. and Unwalla, D. B (1964).** *The Enterprising Man*, East Lansing, Michigan, Michigan State University.
- Coombe, C. (1988)** *A Survey of Vocationally oriented Education in the Commonwealth*, London, Commonwealth Secretariat.
- Cooper, A. C. (1985)** “The Role of Incubator Organisations in the Founding of Growth Oriented Firms” *Journal of Business Venturing*, Vol. No.1, 75 – 86.
- Cooper, A. C. and Dunkelberg, W. C. (1981)** “A New Look at Business entry: Experiences of 18 as Entrepreneurs” in Vesper, K. (ed) *Frontiers of Entrepreneurship Research*, Wellesley, M.A. Babson College 1 –20.

- Cooper, A. C. and Dunkelberg, W. C. (1987)** “Enterprise Research: Old Questions, New Answers and Methodological Issues”, *American Journal of Small Business* 11 (3), 11 – 23.
- Copa, G. and Copa, P. M. (1992)** “Vocational Education” in Alkin M.C. (ed) *Encyclopaedia of Educational research*, Sixth Edition, New York, Macmillan, 1500 -1509.
- Cronje, C. (1996)** Entrepreneurship Education in South Africa. Paper delivered at the Independent Schools Council Seminar in Johannesburg.
- Crowder, M. (1984)** *Education for Development*, Gaborone, Ministry of Education.
- Curriculum Development and Evaluation, (1997)** *Curriculum Blueprint for Senior Secondary Schools*, Gaborone, Ministry of Education.
- Daft, R. L. and Becker, S. (1978)** *Innovation in Organisations*. New York, Elsevier.
- Dale, R. (1985)** *Education, Training and Employment: Towards a New Vocationalism?* Oxford, Pergamon Press.
- Damapour, F. (1987)** “The Adoption of Technological Administrative and Ancillary Innovations: Impact of Organisational Factors” *Journal of Management* 13, 675 – 88.
- Dana, L. P. (1993)** “An Enquiry in Culture and Entrepreneurship; Case Studies in Montreal” *Journal of Social Business and Entrepreneurship*, 10 (4) July – September.
- Davies R. (1988)** *The Poor Boy Cannot Read: Some Results of the Need Assessment of English Language Proficiency Project*, Gaborone, JSEIP.
- Davies, L. G. and Gibb, A.A. (1991)** *Recent Research in Entrepreneurship*, Aldershot, Gower Publishing Company.
- Davis, R. (1987)** “The Influence of Social Context on Aspirations of Primary School Children in Botswana”, *Boleswa Educational Research Journal*, Vol. 5.
- Davis, D. Morris, M. and Allen, J. (1991)** “ Perceived Environmental Turbulence and Its Effects on Selected Entrepreneurship, Marketing, and Organisational Characteristics in Industrial Firms” *Journal of the Academy of Marketing Science*, 19 (1) 43-51.
- Dearden, R.F. (1968)** *The Philosophy of Primary Education*, London Routledge and Kegan.

- De Carlo, J. and Lyons, P. (1979)** “A comparison of selected personal characteristics of Minority and Non-minority Female Entrepreneurs” *Journal of Small Business Management* 17 (4) 22 –29.
- De Largy, P. (1987)** *Real Enterprise*, Athens, Georgia. Real Enterprise.
- De Wet, J.J. Monteith, J.L. Steyn, H.S. and Venter, P.A. (1981)**, Ndvorsigsmetodes in die opvoedkunde, Durban, Butterworth.
- Denison, E. (1979)** *Accounting for Slower Economic Growth; The United States in the 1970s*, Washington, Bookings Institution.
- Department of Economic Development, (1987)** *Building a stronger Economy: The Pathfinder Process*, Belfast, Department of Economic Development.
- Deraniyagala, C. Dore, R. and Little, A. (1978)** *Qualifications and Employment in Sri-Lanka, Education Report No.2*, Sussex, Institution of Development Studies.
- Dixon, P. (1965)** “The Khama Pattern”, *Teacher Education, Volume 6*, No. 2 99-103.
- Doll, R. (1965)** *Curriculum Development*, Chicago, University Press.
- Donckels, R. and Mieltien, A. (1990)** *New Findings and Perspectives in Entrepreneurship*, Aldershot, Gower Publishing Company.
- Dore, R. (1986)** *The Diploma Disease*, London, George Allen and Unwin.
- Dougherty, C. (1985)** *Cost Effectiveness of National Training Systems in Developing Countries: Issues, Options and Priorities*, Washington D.C. World Bank.
- Dreesbach, L.E. (1992)** “ School Leavers’ Education Levels Declining, Complains the Employers”, *Die Welt*, 29 July.
- Drucker, P. F. (1985)** *Innovation and Entrepreneurship*, London, Heinemann.
- Ducette, M. (1974)** Exhibit 9.2 in Jennings, D. F. (1994) *Multiple Perspectives of Entrepreneurship: Text, Readings and Cases*, Cincinnati, South Western Publishing Company, 164.
- Duncan, R.B. (1976)** “The Ambidextrous organisation: Designing Dual Structures for Innovation” in Killman, R. H. et al. *Management Organisation* (ed) New York, North Holland.
- Duncan, S. (1988)** *Partners inCchange - Industry Collaboration*, London, SDC Publications, Longman.

- Eagly, A.H. and Chaiken, S. (1993)** *The Psychology of Attitudes*, Fortworth, TX
Harcourt, Brace Javanovich.
- Eastwood, H. (1995)** "Step Towards Winning" *Enterprise*, September – October.
- Eckstein, N.A. and Noah, H.J. (1987)** "Business and Industry Involvement with Education" in *International Perspective*, London, Pergamon Press.
- Fafunwa, B. (1986)** "African Education in Perspective" in Fafunwa, B. and Aisiku, J.U. (eds) *Education in Africa, A Comparative Survey*, London, Unwin.
- Farrell, J.P. (1993)** "International Lessons for School Effectiveness: The View from the Developing World" in Farrel, J.P. and Oliveira, J.B. (eds) *Teachers in Developing Countries: Improving Effectiveness and Management Costs*. Washington, D.C. world Bank, EDI Seminar Series.
- Fiddy, R. (1983)** *In Place of Work, Policy and Provision for the Young and the Unemployed*, Lewes Sussex, The Falmer Press.
- Fiddy, R. (1986)** "Education for Employment and Unemployment: Is this the age of the Trained?" in Wellington, J.J. (ed) *Controversial Issues, Options and Priorities*, Washington, D.C. World Bank
- Fitts, W. (1972)** *The Self Concept and Psychopathology, Counsellor Recording and Tests* Nashville, Tennessee.
- Fitz-Gibbon, C.T., Morris, L.L. and Hernerson, M.E. (1987)** *How to Measure Attitudes*, Newbury, Sage Publishers.
- Fletcher, M. and Rosa, P. (1998)** "The Graduate Enterprise Programme: Ten Years On" in Scott, G. Rosa, P. and Klandt, H. (eds.) *Educating Entrepreneurs for Wealth Creation*, Aldershot, Ashgate Publishers, 59 – 79.
- Forehand, G. A. (1963)** "Assessment of Innovative Behaviour: Partial Criteria for the Assessment of Executive performance" *Journal of Applied Psychology*, Vol. 47 (1963) 206 – 213.
- Foster, P. (1965)** *Education and Social Change in Ghana*, London, Routledge and Kegan Paul.
- Fountain, S. (1991)** *Gender Issues: An Activity File*, Cheltenham, Stanley Thomes, Publishers Limited.
- Frankfort, H.D. Frankfort, H.A., Wilson, J.A. and Jawlson, J. (1946)** *Before Philosophy, The Intellectual Adventure of Ancient Man.*, Baltimore, Penguin.

- Freire, P. (1970)** *Pedagogy of the Oppressed*, New York, Continuum.
- Fuller, B. and Snyder, W.W. (1991)** "Vocal Teachers, Silent Pupils? Life in Botswana Classrooms?" *Comparative Education Review*, 35 (2) 274-294.
- Gagne, R.M. (1985)** *The Conditions of Learning*, New York, Holt, Rinehart and Winston.
- Gagne, R.M. and Driscoll, M.P. (1988)** *Essentials of Learning for Instruction*, Englewood Cliffs, Prentice Hall Inc.
- Gallbraith, J. K. (1987)** *The New Industrial State*, Boston, Massachusetts, Houghton Mufflin.
- Garavan, T.N. and O'Conneide, B. (1994)** "Entrepreneurship, Education and Training: A Review and Evaluation" *Journal of European Industrial Training*, 18 (8) 3- 12.
- Gartner, W. B (1985)** "Some Suggestions for Research on Entrepreneurial Traits and Characteristics Entrepreneurship. *Theory and Practice* 14 (1) 23 – 38.
- Gartner, W. B. Mitchell, T. R. and Vesper, K. H. (1989)** "A Taxonomy of New Business Ventures" *Journal of Business Venturing* 4, 169 – 186.
- Geneen, H. (1984)** *Managing*, New York, Doubleday.
- Getzel, J. W. and Jackson, P.W. (1962)** *Creativity and Intelligence: Exploration with Gifted Students*, New York, John Wiley.
- Gibb, A. A. (1987)** "Entrepreneurship, Enterprise and Small Business, State of the Art?" Boliman and Pousette (eds) *Smofaretags fokr ning itiden 4th Nordic SME Research Conference*, Umea University.
- Gibb, A. A. and Ritchie, J. (1982)** "Understanding the process of starting a small business" *European Small Business Journal*, 1, 1- 7.
- Gibb, A. A. Kirkwood, G. Parkinson, G. Scott, M. G. (1984)** *Entrepreneurship and Higher Education*, Shell Report Vols. 1 – 3 Durham University Business School, September.
- Giroux, H.A. (1983)** *Theory and Resistance in Education, A Pedagogy for the Opposition*, South Hadley, M.A. Bergin and Garvey.
- Glade, W. P. (1967)** "Approach to a Theory of Entrepreneur Formation" *Explorations in Entrepreneurial History* 4, 245 – 259.

- Godsmith, R. E. and Kerr, J.R. (1991)** "Entrepreneurship and Adaptation – Innovation Theory" *Technovation* 11 (6) 373 – 382.
- Gomolka, J. (1977)** Exhibit 8.9 in Jennings, D. F. (1994) *Multiple Perspectives of Entrepreneurship: Text, Readings and Cases*, Cincinnati, South Western Publishing Company. 144
- Gouws, F.E. (1997)** "Entrepreneurship Education an Educational Perspective" in *South African Journal of Education*, Vol.12 No.4.
- Government of Botswana, (1980)** *A Report on the Ministry of Education*, Gaborone, Government printer
- Guba, E.G. (1987)** "What Have We Learnt About Naturalistic Evaluation?" in *Evaluation Practice*, 8 (1) 23 –43.
- Guilford, J.P. (1950)** "Creativity" *American Psychologist*, 5, 444 - 454.
- Hallak, J. and Caillods, F. (1980)** *Education, Work and Employment 1* Paris, UNESCO, International Institute for Educational Planning.
- Halstead, J.M. and Taylor, M.J. (1996)** *Values in Education and Education Values*, London, The Falmer Press.
- Handy, C. (1984)** *The Future of Work*, Oxford, Basil Blackwell.
- Handy, C. (1990)** *The Age of Unreason*, Boston, Massachusetts, Harvard Business School Press.
- Harber, C. (1998)** "Quality and Effectiveness for What?" Democratic Change and Teacher Education in Africa" in Mensah, J. Yandila, C.D. Monakwena, P O'Mara, F.R. (eds) *Improving Education Quality for Effective learning: The Teacher's Dilemma*, Gaborone, Ministry of Education, 257-269.
- Harbison, F. H. (1973)**, *Human Resources as a Wealth of Nations*, New York, Oxford University Press.
- Hartland-Thunberg, P. (1978)** *Botswana: an African Growth Economy*, Boulder Colorado, Westview Press.
- Havelock, R.G. and Huberman, A.M. (1977)** *Solving Educational Problems*, UNESCO, IBE.
- Havens, V. (1998)**, "Creativity: An issue for the improvement of teacher training" in Mensah, J. Yandila, C.D. Monakwena, P. O'Mara F. R. (eds) *Improving Education Quality for Effective learning: The Teacher's Dillema*,

Gaborone, Ministry of Education, 81 – 86.

- Hawes, H. (1979)** *Curriculum Reality in African Education*, London, Longman.
- Hearlan, H. (1988)** *Ivoerksoetter nitiativer* Danish Centre for Innovation and Entrepreneurship, Copenhagen.
- Heinz, B. and Aorden, R. (1951)** *Education of Man: Aphorism*, New York, Philosophical Library.
- Hemming, J. (1962)** “Matching the Curriculum to Contemporary Needs” in Macmillan, R.G., Hey, P.D. and Macquarries, J.W. (eds) *Education and our Expanding Horizons: Proceedings of the National Conference on Education*, Durban, University of Natal Press.
- Hersch, M and Scheibe, S. (1967)** Exhibit 9.2 in Jennings, D. F. (1994) *Multiple Perspectives of Entrepreneurship: Text, Readings and Cases*, Cincinnati, South Western Publishing Company, 164.
- Hills G. E. and Morris M.H. (1998)** “Entrepreneurship Education: A Conceptual Model and Review in Scott, M.G. Rosa, P. and Klandt, H. (eds) *Educating Entrepreneurs for Wealth Creation: A Conceptual Model and Review*, Aldershot, Ashgate Publishing Company.
- Hills, G.E. and Welsch, H. (1986)** “Entrepreneurship Behavioural Intentions and Student Independence: Characteristics and Experiences” in Ronstandt, R. Hornaday, J.A. Petereson, R. and Vesper, K. (eds). *Frontiers of Entrepreneurship Research*, Wellesley, M. A. Babson College, 173 – 186.
- Hirst, P. (1971)** “The role of Philosophy and other Disciplines in Educational Theory” in Levant, M. *Curriculum*, London, University of Illinois.
- Hirst, P. (1974)** *Knowledge and Curriculum*, London, Routledge and Paul, Ltd
- Hisrich, R. D. (1986)** *Entrepreneurship. Intrapreneurship, and Venture Capital*, Lexington M.A. Lexington Books.
- Holland, J.L. (1959)** “ Some Limitations of Teachers’ Ratings as Predictors of Creativity”, *Journal of Educational Psychology*, 30, 219-223.
- Hollingsworth, S. (1989)** “Prior Beliefs and Cognitive Change in Learning to Teach.” *American Educational Research Association*, 26, 160-190.
- Hollingsworth, T.A. and Hand, H.H. (1979)** *A Guide to Small Business Management; Text and Cases*. W.B. Saunders Company.

- Hopson, B. and Scally, M. (1981)** *Life Skills Teaching*, London, McGraw Hill Book Company.
- Hogan, A. C. and Champagne, D.W. (1990)** Personal Style Inventory, University of Zimbabwe.
- Hornaday, J. A. and Aboud, J. (1971)** "Characteristics of Successful Entrepreneurs" *Personnel Psychology* 24, 141 – 153.
- Hornaday, J.A. and Bunker, C. (1970)** "The Nature of the Entrepreneurs" *Personnel Psychology*, 23, 47-54.
- Hournay, L. and Vidmar, N.J. (1972)** A Four Dimensional Interpretation of Risk Taking, *Journal of Personality* 40, 483-501.
- Howell, R. P. (1972)** *Comparative Profile: Entrepreneurs Versus the Hired Executives*, San Francisco Peninsula Semi Conductor Industry Technical Entrepreneurship, Milwaukee, WI, Venture management.
- Hull, D. Bosley, J. and Udell, G. (1980)** "Reviewing the Heffalump: Identifying Potential Entrepreneurs by Personality Characters" *Journal of Small Business Management* 18 (1) 11 –18.
- Illich, I. (1971)** *Deschooling Society*, New York, Harper and Row.
- Isaac, S. and Michael, W. (1983)** *A Handbook in Research and Evaluation*, San Diego, Edits Publishers.
- Ivancevich, J. M. (1991)** "A Traditional Faculty Member's Perspective on Entrepreneurship" *Journal of Business Venturing*, Vol. 6, 1 – 7.
- James, (1890)**, *Principles of Psychology*, New York, NY: Holt
- Janis, I. L. (1972)** *Victims of group Think: A Psychological Study of Foreign Policy Decisions and Fiascos*, Boston Massachusetts, Houghton Mifflin.
- Jefferies, K.R. (1994)** "Discussion Paper on the Nature of Botswana's Economy in the Next Twenty – five Years and the Implications on Education and Training" in Republic of Botswana, *The Report on The National Commission on Education: Reports and Policy Studies Annexes* Vol. 2, Gaborone, Government Printers.
- Jenkins, E. W. (1996)** "The Nature of Science as a Curriculum Component" *Journal of Curriculum Studies* 28 (2) 137 – 150.
- Jenks, L. H. (1995)** "Role Structure of Entrepreneurial Personality" in Livesay, H. C.

(ed) *Entrepreneurship and the Growth of Firms*, Edward Elgar, Aldershot
108 – 151.

Jennings, D. F. (1994) *Multiple Perspectives of Entrepreneurship: Text, Readings and Cases*, Cincinnati, South Western Publishing Company.

Johannison, B. (1991) *Entrepreneurship and Creativity on Dynamic Environments for small Business*, Papporte Fanhogskolan, Iroxjofels.

Johnson, B. (1990) “Toward a Multi Dimensional Model of Entrepreneurship: The Case of Achievement Motivation and the Entrepreneur” *Entrepreneurship Theory and Practice* 14 (3) 39 – 54.

Johnson, M. (1977a) *Internationality in Education*, New York, Centre for Curriculum Research and Services.

Jones, P. (1989) *Management in Service Industries*, London, Pitman.

Jones, P.W. (1992) *World Bank Financing Education, Lending, Learning and Development* London, Routledge.

JSEI (1987) Project Management Committee Report, Annex B, Gaborone, Government Printer.

Junior Achievement Botswana, (1994), A paper presented at the Inter-Ministerial Conference on Curriculum Development, Gaborone, 28-29 September.

Junior Achievement Botswana (1998) A paper presented to the Curriculum Development and Evaluation by Guidance and Counselling Division, Ministry of Education, Gaborone, 13 July.

Kahn, M.J. (1990c) “Paradigm Lost? The Importance of Practical Work in School Science from the Developing Country Perspective” in *Studies in Science Education*, 1 (18) 127-136.

Kann, U. (1977) *What do you Hope to do after School? A Study of Educational Expectations and Occupational Aspirations among Students in Botswana*, Institute of International Education, University of Stockholm.

Kann, U., Ahmed, G. Chilisa, B. Dikole, W. King, K. Malikongwa, D. Marope, M And Shastri, G. W. (1988) *Education and Employment in Botswana*, Gaborone,

Kanter, R. M. (1983) *The Change Masters*, New York, Simon and Schuster.

Kanter, R. M. (1989) *When Giants Learn to Dance* New York, Simon and Schuster.

- Kanter, R. M. (1991)** "Change Master Skills" in J. Henry and Walker, D. *Managing Innovation*, London, Sage 54 – 61.
- Kao, J. (1990)** "Who is an entrepreneur?" in Donckels, R. and Miettien, A. *New Findings and Perspectives in Entrepreneurship*, Aldershot, Gower Publishing Company 68-81.
- Kay, A. (1983)** "Learning vs Teaching with Educational Technologies" *Educom Bulletin*, Fall / Winter 16 – 20.
- Kelly, A.V. (1976)** *Theory and Practice of Education*, London, Kegan Paul.
- Kemp, T. (1989)** *Industrialisation in the Non Western World*, London, Longman.
- Kempa, R.F. (1988)** "Functions of and Approaches to Practical Work in Science " in Thijs, G.D.Boer, H.H., Macfarlane, I.G. and Stol, C.G. (eds) *Learning Difficulties and Teaching Strategies in Secondary School Science and Mathematics*, Amsterdam, Free University Press.
- Kent, C.A. (1990)** *Entrepreneurship Education, Current Developments, Future Direction*, New York, Quoram Books.
- Kerlinger, F. N. (1996)** *Foundation of Behavioural Research*, Third Edition, Tokyo, CBS College Publishers.
- Kerr, F.J. (1968)** *Changing the Curriculum*, London, University Press.
- Kets de Vries, M. E. (1977)** "The Entrepreneurial Personality: A person at the crossroads" *Journal of Management Studies* 14, 34 – 57.
- Khama,S and Khan, M. (1988)** Development Plans for Botswana. A paper presented to the Confederation of Commerce and Industry Biennial Conference, Gaborone, 24 November.
- Khan, M. (1988)** "Indicators of Equity in Junior Secondary Education in Botswana." A paper presented to the Conference on Botswana, University of Edinburgh Centre for African Studies, 15-16 December.
- Kilby, P. (1971)** *Entrepreneurship and Economic Development* New York, Free Press.
- King, K. (1988b)** "Evaluating the Context of Diversified Secondary Education" in Lauglo, J. and Lillis, K. (eds) *An International Perspective*, London, Pergamon Press, 31-44.
- Klein, M. (1986)** " Alternative Curriculum Conceptions and Designs" in *Theory into Practice*, 25 (1), 31-35.

- Kliebard, H.M. (1982a)** "Education at the Turn of the Century: A Crucible for Curriculum Change" *Education Researcher*, 11 (1), 16-24.
- Knight, K. (1988)** "Evaluating the Context of Diversifying Secondary Education" in Lauglo J. and Lillis, K. (eds) *Vocationalising Education: An international Perspective*, London, Pergamon Press, 279 – 292.
- Koa, R.W. (1992)** *Small Business Management*, Toronto.
- Koolman, G. (1983)**. "Say's Conception of the Role of the Entrepreneur", *Economics*, 38, 269 - 286.
- Kuratko, D. F. and Hodgetts, R.M. (1995)** *Entrepreneurship*, Fortworth, Dryden Press.
- Kuriloff, A.H. Hemphill, J.M. and Cloud, D. (1993)** *Starting and Managing the Small Business*, New York, McGraw- Hill, Inc.
- Lachman, R. (1980)** "Toward Measurement of Entrepreneurial Tendencies" *Management International Review*, 20 (2) 108 – 116.
- Lauglo, J. (1985)** *Technical Secondary Schools in Kenya, An assessment*, Education Division Documents no. 26, Stockholm, Swedish International Development Authority, Sukati (1991).
- Lauglo, J. and Lillis, K. (1988)** *Vocationalisation Education: An International Perspective*, Oxford, Pergamon Press.
- Lawton, D. (1975)** *Class, Culture and the Curriculum*, London, Kegan Paul.
- Lawton, D. (1986)** *School Curriculum Planning*, London, Hodder and Stoughton.
- Lenglet, F. and Mannathoko, C. (1985)** "Educational Research in Botswana" in Hitchcock, R. Parsons, N. and Taylor, J. (eds) *Research For Development in Botswana: Proceedings of a Symposium held by the Botswana Society*, Gaborone, Botswana Society.
- Levine, H.S. (1982)** "On the Nature of Location and Entrepreneurial Activity in Centrally Planned Economies- The Soviet Case, in Ronen J. (ed) *Entrepreneurship*, Lexington, Massachusetts, Lexington Books
- Levit, M. (1971)** *Curriculum, Readings in Philosophy Education*, Urbana, University of Illinois Press.
- Lewis, R.H. (1907)** A Report on the London Missionary Society, Gaborone, National Archives.

- Libecap, G. D. (1986)** "Do large Corporations Provide an Environment for Entrepreneurs?" in *Advances in the Study of Entrepreneurship, Innovation and Economic Growth* (ed) Libecap, G.D. Greenwich connecticut, JAI Press.
- Lillis, K and Hogan, D. (1983)** " Dilemma of Diversification: Problems associated with Vocational Education in Developing Countries" in *Comparative Education*, Volume 1.
- Lindhard, N. and Dlamini, N. (1999)** *Life Skills in the Classroom*, Cape Town, Maskew Miller Longman.
- Lisindi, L. (1999)** "The School and Industry Mismatch" in Meggi-The Reporter, 30 April,
- Little, A. (1992)** "The Diploma Disease in Sri-Lanka (1971-1992); The Attenuating Effects of Ethnicity and Politics Patronage" A paper presented at the VIII World Congress of Comparative Education, Prague, Czechoslovakia.
- Low, M. B. and MacMillan, I. C. (1988)** "Entrepreneurship: Past Research and Future Challenges" *Journal of Managerment*, Vol 14, No.2, 139 – 161.
- Luo, J. D. (1995)** "Everyone is a Boss: A Network Approach to Study - Taiwanese Small Investments", *American Sociological Association*.
- Maas, G.P. (1996)** Experience in Training Young Entrepreneurs. A paper delivered at The 4th Annual South African entrepreneurship Education Forum in Durban ,8 October .
- MacMillan I. C. (1983)** "The Politics of New Venture Management", *Havard Business Review* 61, 8 – 16.
- Macmillan, I. C. (1986)** "Progress in Research on Corporate Venturing" in Sexton, D. and Smilor, R. (eds) *The Art and Science of Entrepreneurship*, Cambridge, Massachusetts, Ballinger.
- Maglen, L.R. (1990)** "Challenging the Human Capital Orthodoxy: The Education Productivity link Re-Examined" *The Economic Record* 66, December, 281- 94.
- Makau, B. and Coombe, C. (1994)** *Teacher Morale and Motivation in Sub- Saharan Africa; Making Improvements*, London, Commonwealth Secretariat.
- Makepe, P. (1998)** "An investigation into the Quality of Oral Communication in the ESL Classroom in Mensah, J. Yandila, C.D. Monakwena, P.

- O'Mara, F.R. (eds) *Improving Education Quality for Effective learning: The Teacher's Dilemma*, Gaborone, Ministry of Education, 251-256.
- Mangan, J.A. (1993)** *Racial Images and Education in the British Colonial Experience* New York, Routledge.
- Mannathoko, C. (1995)** "Gender, Ideology and State in Botswana's Teachers' Teacher Education" Ph. D. Thesis, University of Birmingham (Unpublished).
- Mapolelo, D.C. (1998)** "Some Aspects of Primary Mathematics Teaching and Teacher Education in Botswana" in Mensah, J. Yandila, C.D. Monakwena, P. O'Mara, F.R. (eds) *Improving Education Quality for Effective learning: The Teacher's Dilemma*, Gaborone, Ministry of Education, 257-269.
- Maravanyika, O.E. (1989)** "The New Vocationalism, Entrepreneurial skills, Development and a Search for a Worthwhile Curriculum". In Bulletin of the Associate College Centre, Vol. XXV No.1, Harare, University of Zimbabwe,
- Maroatona, T.L. (1998)** "Facilitating Dialogue: The Quest for Effective Learning Across the Curriculum in Botswana" in Mensah, J. Yandila, P, Monakwena, P. and O'Mara, F. (eds) *Improving Quality for Effective learning: The Teacher's Dilemma*, Gaborone, Ministry of Education.
- Marshall, C. and Rossmann, G.B. (1989)** *Designing Qualitative Research*, Newburg, Sage.
- Martin, G. and Staines, H. (1993)** *Managerial Competencies in Small Firms*, Rent vii, Conference, Budapest.
- Maslow, A.H. (1970)** *Motivation and Personality*, New York, Viking.
- Maully, G. J. (1978)** *Educational Research, The Art and Science of Investigation*, University of Miami, Allyn and Bacon.
- Mautle, G. (1989)** "Case Study in Curriculum Development Social Studies in Botswana" *Illinois School Research and Development*, 25 (2) 76-82.
- Mautle, G. (1990)** "An Exploratory Study of Primary School Teachers' Views on the Social Studies Curriculum" *Boleswa Educational Research Journal*, 7 34-48.
- McClelland, D. (1961)** *The Achieving Society*, Princeton, New Jersey, Van Nostrand.
- McClelland, D. C. and Winter, D. G. (1969)** *Motivating Economic Achievement*, New York, Free Press.

- McClelland, D.C (1965),**“Achievement Motivation can be developed” *Harvard Business Review*, November – December, 6 – 24.
- McConnell, J.V. and Philipchalk, R.P. (1992)** *Understanding Human Behaviour*, Fort Worth, New York, Harcourt Brace Jovanovich College Publishers.
- McKenna, E. F. M. (1987)** *Psychology in Business*, London, Lawrence Erlbaum.
- McLaren, P. and Leonard, P. (1993)** *Paulo Freire: A Critical Encounter*, London, New York, Routledge.
- McRel, (1990)** *Rural Schools and community Development*, Aurora, Co. McRel.
- Meredith, G. Nelson, R.E. and Neck, P.A. (1982)** *The Practice of Entrepreneurship*, International Labour Organisation.
- Mescon, T.S. and Montanari, J. R. (1981)** “ The Personalities of Independent and Franchise Entrepreneurs: An Empirical Analysis of Concepts” *Journal of Enterprise Management* 3 (2) 149 – 159.
- Meyer, H. and Walker, W. and Litwin, G. (1983)** “Motives, Patterns and Risk Preferences Associated with Entrepreneurship” *Journal of Abnormal and Social Psychology* 63, 570 – 574.
- Meyer, J.W. and Nagel, J. (1989)** *Policy and Organisation in Curriculum Development In Botswana*, Gaborone, JSEIP.
- Meyers, L.S and Grossen, N.E. (1974)** *Behavioural Research, Theory, Procedure and Design*, San Francisco, W.H. Freeman and Company.
- Middleton, R. C. (1998)**“A Dilemma in Science Education; How to Teach the Majority of Students in Botswana Senior Secondary Schools” in Mensah et al. (eds) *Improving Education Quality for Effective Learning: The Teachers’ Dilemma*. Gaborone, Government Printer. 153 159.
- Miel, A. (1961)** *Creativity in Teaching*, Carlifonia, Wadsworth.
- Miles, B. and Huberman, B.M. (1984)** *Qualitative Data Analysis*, Beverly Hills, Sage,
- Miles, B.M. and Huberman, M. (1994)** *Qualitative Data Analysis: An Expanded Sourcebook*, Thousand Oaks, Sage.
- Millar, D. and Friesen, P. (1982)** “Innovation in Conservative and Entrepreneurial Firms, Two Models of Strategic Momentum” in Livesay, H.E. (ed) *Entrepreneurship and the Growth of Firms, Volume 1* 276 – 300.

- Millar, R. (1996)** "Towards a Science Curriculum for Public understanding" *School Science Review*, March, 7 – 18.
- Miller, D. (1987)** "Strategy Making and Structure Analysis and Implications for Performance" *Academy of Management Journal* Vol.30 7 – 32.
- Mincer, J. (1974)** *Schooling Experience and Earnings*, New York, NBER.
- Ministry of Commerce and Industry, (1994)** A Review of the Ministry of Commerce and Industry, Gaborone, Government Printer
- Ministry of Commerce and Industry, (1998)** A Review of the Ministry of Commerce and Industry, Gaborone, Government Printer.
- Ministry of Education, (1997)** *A Report on Education for Kagisano*, Gaborone, Government Printer.
- Ministry of Education, (1999)** Excellence in Education for the New Millennium, Gaborone, Printing and Publishing Company
- Mintzberg, H. (1979)** *The Structure of Organisations*, Englewood Cliffs, N.J. Prentice – Hall.
- Mintzberg, H. (1994)** *The Rise and Fall of Strategic Planning*, New York, Free Press.
- Mitroff, I. I. Mason, R. O. and Pearson, R. M. (1994)** "Radical Surgery: What will Tomorrow 's Organisation Look Like?" *Academy of Management Executive* 11 –20.
- Mittner, M. (1985)** " From Where will the Jobs Come From?" *Finansies en Tegniek*, 1 (16) October.
- Mohr, L.B. (1969)** "Determinants of Innovation in Organisations in *American Political Science Review* 63, 111 – 126.
- Mokobane, M. (2000)** Notes Towards the Appropriation of the Apprenticeship Model as An Instructional paradigm; Implications for Pedagogical Practice in Teacher Education. A paper presented in the 4th Biennial Conference, Gaborone, 8-10 February.
- Molutsi, P.M. (1990)** *Strengthening Local Educational Capacity*, Volume 2, Improving the Efficiency of the Education System Project, University of Florida.
- Mongke, C. (2000)** Recruitment Policies in Botswana A Thesis submitted in fulfilment of the Doctor of Education Degree at the University of Cardiff, Wales (Unpublished).

- Moorad, F.R. Dambe, M.R. and Maravanyika, O.E. (1994)** "Analysis of Policy Options for Vocationalisation of Basic Education in Botswana" in Government of Botswana, *Report of the National Commission of Education, 1992-1993 Annexes, Vol. 2* Gaborone, Government Printer.
- Moore, D. G. (1970)** *The Organisation Makers*, New York, Appleton Century Crofts.
- Moore, T. (1983)** "Embattled Kodak Enters the Electronic Age" *Fortune*, 22August, 120-28.
- Morgan, J. (1987)** *Analysis of Primary Science Education*, Gaborone, University of Botswana.
- Moser, C.A. and Kalton, G. (1971)** *Survey Methods in Social Investigation*, London, Heinemann
- Motibatsela, T. (1999)** "Entrepreneurship-the Alternative." A paper presented to the National Conference for Botswana Confederation of Industry and Commerce, Gaborone, 15-18 September.
- Mthunzi, C.G. (1992)** The Relevancy of the Curriculum to the Aspirations and Achievement Potential of the Form IV Pupils in Rural Day Secondary Schools in the Bulilima Mangwe District. A thesis presented in Partial Fulfilment of the Maser of Education Degree, University of Zimbabwe, Harare.
- Mthunzi, C.G. (1998)** "The Profile of Change and Innovation: A Process of Teacher Disempowerment" in Mensah, J. Yandila, C.D. Monakwena, P. O'MaraF.R. (eds) *Improving Education Quality for Effective learning: The Teacher's Dillema*, Gaborone, Ministry of Education.
- Mudariki, T. and Weeks, S. (1993)** Vocationalisation of Senior Secondary Education: A Report for the Second National Commission on Education, Gaborone, Botswana Research Association.
- Munby, H. (1984)** "Qualitative Study of Teachers' Beliefs and Principles" *Journal of Research in Science Teaching*, 21(1) 27-38.
- Murphree, B.J. (1974)** Socio-economic Factors Influencing the Aspirations of Achievement of African Secondary Pupils in Rhodesia. A thesis submitted for a Doctor of Philosophy, Salisbury, University of Rhodesia (Unpublished).
- Murray, H. A. (1938)** *Explorations in Personality*, New York, N.Y. Oxford University Press.

- Mwamwenda, T.S. and Mwamwenda, B.B. (1987)** "School facilities and Academic Achievement" *Comparative Education*, 23, 225-35.
- Myres, S. and Marquis, D.G. (1995)** *Successful Industrial Innovation*, National Science Foundation, Washington, D.C.
- Nagel, E. (1961)** *The Structure of Science*, New York, Harcourt Brace and World.
- Nandy, A. (1973)**, "Motives, Modernity and Entrepreneurial Competence" *Journal of Social Psychology*, 91, 127 – 136.
- Ndzinge, S. and Chinyoka, S.V. (1997)** *Small Business – A Guide*, Gaborone, Mmegi Publishing House.
- Nelson, R. and Leach, J.A. (1983)** "Entrepreneurship Education and Job Creation in the United States" in Fiddy, R. (ed) *In Place of Work, Policy and Provision for the Young and the Unemployed*, Lewes Sussex, The Falmer Press.
- Nielsen, R.P. Peters, M.P. and Hisrich, R.D. (1985)** Intrapreneurship Strategy for Internal Markets-corporate and, Non-profit and Government Institution Cases. *Strategic Management Journal*, 6 (2), 181-189.
- Nitko, A.J. (1983)** *Educational Tests and Measurement: An Introduction*, New York, Harcourt Brace Janovich, Inc.
- Norman, R. (1991)** *Service Management Strategy and Leadership in Service Business*, Chichester, Wiley.
- North, A.W. (1970)** *Aims in Education and other Essays*, Benn.
- Northduft, W. E. (1989)** *School Works: Re inventing Public Schools to Create the Workforce of the Future*, Washington D.C. The Bookings Institute.
- Nyathi, L. and Prophet, R. (1994)** "Analysis for Policy Options for Educational Research" Research Study carried out on behalf of BERA, University of Botswana, Gaborone.
- Ochse, R. (1994)** *The Making of a Creative Genius*, United Kingdom, Gecko Books.
- OECD (1989)** "Towards an Enterprising Culture, A Challenge for Education and Training" *OECD /CERI Education Monograph*, No.4 (1989) 6 - 7.
- Ornstein, A. C. and Hunkins, F.P. (1993)** *Curriculum Foundations Principles and Issues*, London, Allyn and Bacon.
- Oshagbemi, T.A. (1983)** *Evaluation Report on Women's Leadership and Small Business Management Course*, Harare, Komard Adenauer Foundation.

- Osirim, M. J. (1991)** “Women in Business: A Case Study of Small Scale Entrepreneurship in South Western Nigeria”, Sage, Vol. No.1.
- Palmer, M. (1971)** “The Application of Psychological Testing to Entrepreneurial Potential” *California Management Review* 13, 36 – 54.
- Patton, Q. M. (1987)** *Qualitative Evaluation and Research Methods*, (2nd) London, Sage.
- Pestalozzi, J.H. (1965)** “Not Books but Life itself” in *Education of Man, Aphorisms*. Translated by Heinz and Ruth Clorden, New York, Philosophical Library.
- Peters, R.S. (1966)** *Ethics and Education*, London, Allen and Unwin.
- Peters, T. (1987)** *Thriving on Chaos*, New York. A.A. Knopf.
- Peters, T. (1994)** “Travel the Independent Road” *Independent on Sunday*, 2 January.
- Peterson, R. A. and Berger, D. G. (1971)** Entrepreneurship in Organisations: Evidence from the Popular Music Industry” *Administrative Quarterly* 16, 97 – 107.
- Phillips, B.S. (1966)** *Social Research, Strategy and Tactics*, New York, MacMillan Publishing Company.
- Phillips, R.B. (1973)** “Teacher Attitude as Related to Student Attitude and achievement in Elementary school Mathematics” *School Science and Mathematics*, 73, 501-507.
- Pinchot, G. (1985)** *Intrapreneuring*, New York, Harper and Row.
- Popcorn, F. (1991)** *The Popcorn Report*, New York, Doubleday.
- Posner, G.J. (1982)** “A Cognitive Science Conception of Curriculum and Instruction, “ *Journal of Curriculum Studies*, 14(4), 343-351.
- Pratt, D. (1980)** *Curriculum Design and Development*, New York, Harcourt Brace Jovanovich.
- Presidential Task Group, (1997)** *Towards Prosperity for All*, Gaborone, Government Printer.
- Presidential Task Group, (1999)** *A long Term Vision For Botswana, Vision 2016*, Gaborone, Government Printer.
- Pring, R. (1976)** *Knowledge and Schooling*, London, Open Books Publishing.

- Prophet, R.B. (1991a)** *Faculty of Education Research File, 1991-92*, Gaborone, Faculty of Education Research Committee, University of Botswana.
- Prophet, R.B. (1991b)** *English in Junior Secondary Schools: A case Study of Curriculum Implementation*, Gaborone, JSEIP.
- Prophet, R. B and Rowell, P. (1988)** *Curriculum in Action in Botswana Junior Secondary Schools 91981-87*) JSS 1 Project USAID, Gaborone.
- Prophet, R.B.and Rowell, P.M. (1990)**, "The Curriculum Observed" in Snyder C.W.and Ramatsui, P.T. (eds) *Curriculum in the Classroom, Context of Change in Botswana's Junior Secondary School Instructional Programme*, Gaborone, MacMillan.
- Psacharopoulos, G. (1986)**, "Links between Education and the Labour Market; Broader Perspective" *European Journal of Education, Volume 21*, No. 4 409-415.
- Psacharopoulos, G. (1986)** "Returns to Education, A further International Up date and Implications" *Journal of Human Resources 20*, 195, 583-604.
- Psacharopoulos, G. (1988)** *Critical Issues in Education: A World Agenda*, International *Journal of Educational Development*, Vol. 8, No.1, 1988, 1-7
- Psacharopoulos, G. and Loxely, K. (1985)** *Diversified Secondary Education and Development: Evidence from Colombia and Tanzania*, Baltimore, John Hopkins University Press.
- Quinn, J.B. (1982)** *Strategies for Change, Logical Incrementalism* Homewood, Irwin.
- Raizen, S.E. (1989)** *Reforming Education for Work, A cognitive Perspective*, Washington, The National Centre for Improving Science Education.
- Reid, D.J. and Hodson, D. (1987)** *Special Needs in Ordinary Schools*, London, Cassell.
- Republic of Botswana, (1977)** *National Commission on Education*, Gaborone, Government Printer.
- Republic of Botswana, (1985)** *National Development Plan 6 1985-1991*, Gaborone, Government Printer.
- Republic of Botswana, (1993)** *A Preliminary Report on the National Commission on Education*, Government Printer

- Republic of Botswana, (1994)** *The Revised National policy on Education*, Government Printer
- Republic of Botswana, (1997)** National Development Plan 8, Gaborone, Government Printer.
- Republic of Botswana (1998)**, *Government Paper No.1 of 1998 Industrial Development Policy for Botswana*, Ministry of Commerce and Industry, Gaborone, Government Printers.
- Republic of Botswana, (1999)** *Policy on Small, Medium and Micro Enterprises in Botswana*, Gaborone, Government Printers.
- Resnick, L. and Klopfer, L.F. (1989)** *Towards the Thinking Curriculum*, London, ASD Publication.
- Reynolds, P.D. (1987)** "New Firms Societal Contribution Versus Survival Potential", *Journal of Business Venturing*, 2 (3) 231-246.
- Richardson, V. (1990)** "Significant and Worthwhile Change in Teaching Practice" *Educational Researcher*, 19, 10-18.
- Richardson, V. (1994)** "Conducting Research on Practice", *Educational Researcher*, June-July, 5-10.
- Roberts, E.B. (1980)** "New Ventures for Corporate Growth, *Harvard Business Review*, 60, 132-142.
- Roeber, E. Brown, W. and Stempper, P. (1989)** "Employability Skills: Defining a New Purpose for Public Schools", A paper presented at the Educational Commission of the States and the Colorado Department of Education Assessment Conference, Boulder, Colorado, 23 April..
- Ronan, J.P. (1996)** "Trends in the 21st Century Education" A paper presented to the National Conference for Teachers, Gaborone, 12-16 August.
- Ronen, J. (1982)** *Entrepreneurship*, Toronto, Lexington Books.
- Ronstandt, R. (1985)** "The Educated entrepreneurs: a new era of entrepreneurial education is beginning" *American Journal of Small Business Vol. 6*, 7 - 23.
- Rowell, P.M. (1991)** *Communication in the Classroom; an Interpretive Study in two Junior Secondary Schools*. A Research Report submitted to IEES Research Foundation, State University of New York at Albany.

- Rule, G. and Irwin, D.W. (1988)** “Fostering Intrapreneurship: The New Competitive Edge” *Journal of Business Strategy*, May – June 44 – 47.
- Runco, M. A. and Albert, R. S. (1990)** *Theories of Creativity*. Newbury Park, CA. Sage.
- SADC Review, (1997)** *The Official SADC Trade, Industry and Investment Review*, Gaborone, Southern African Marketing Company.
- SADC Review, (1998)** *The Official SADC Trade, Industry and Investment Review*, Gaborone, Southern African Marketing Company.
- SADC Review, (1999)** *The Official SADC Trade, Industry and Investment Review*, Gaborone, Southern African Marketing Company.
- SADC Secretariat, (1997)** *A report on the Micro and Small Enterprises*, Gaborone, Southern African Marketing Company.
- Salio- Bao, K. (1989)** *Curriculum Development and African Culture*, New York, Edward Arnold.
- Salter M. S. and Weinhold, W. A. (1979)** *Diversification Through Acquisition*, New York, Free Press.
- Sarup, M. (1982)** *Education, State and Crisis*, London, Kegan Paul.
- Sathe, V. (1985)** *Culture and Related Corporate Realities*, Homewood III, Richard Irwin.
- Sathe, V. (1989)** “Fostering Entrepreneurship in the Large Diversified Firm” *Organisational Dynamics*, 20 – 32.
- Saylor, J.G. Alexander, W.M. and Lewis, A.J. (1981)** *Curriculum Planning For Better Teaching and Learning*, New York, Holt, Rinehart and Winston.
- Scase, R. and Goffee, R. (1987)** *The Real World of the Small Business Owner*, London, Routledge.
- Schrage, H. (1965)**, The Rand Entrepreneur; Profile of Success, *Harvard Business Review*, 43, 56 – 69.
- Schubert, W.H. (1986)** *Curriculum Perspective, Paradigm and Possibility*, New York, Macmillan.

- Schumpeter, J. A. (1934),** *The Theory of Economic Development* Cambridge, Massachusetts, Harvard University Press.
- Schumpeter, J.A. (1939)** *Business Cycles Vol.I* New York and London, McGraw-Hill, 94-109.
- Schwab, J. (1970)** *The Practical: A language for Curriculum* Washington, D.C. National Education Association.
- Scott, M. Rosa, P. and Klandt, H. (1998)** *Educating Entrepreneurs for Wealth Creation*, Aldeshot, Ashgate.
- Scott, M.G. (1986)** *Business Graduate Journal*, January.
- Scultz, T.W. (1980)** *Investing in People: The Economics of Population Quality*, University of California Press.
- Seisa, S. and Youngman, F. (1993)** *Education for All in Botswana*, Gaborone, Ministry of Education and Macmillan.
- Setabo, B.N. (2000)** Towards Design and Technology in Partnership with Science and other Related Subjects in the Primary Schools in Botswana. A paper presented at the 4th Biennial Conference on National Teacher Education, Gaborone, 8-10 February.
- Sexton, D. L. and Bowman, N. B. (1983)** “Comparative Entrepreneurship Characteristics of Students Preliminary Results” in J. Hornaday, J. Timmons and K. Vesper, (eds), *Frontiers of Entrepreneurship Research* Wesley, M.A. Babson College, 213 – 232.
- Sexton, D.L. and Bowman, N.B. (1986)** “Evaluation of an Innovative Approach to Teaching Entrepreneurship Courses” in Roberts, G. (ed) *Proceedings: Venturing into Entrepreneurship and Small Business*, International Council for Small Business.
- Shapiro, A. (1984)** “The Entrepreneurial Event” in Kent, C.A. (ed) *The Environment for Entrepreneurship*, Lexington, Mass D.C. Heath.
- Shapiro, A. and Sokol, L. (1982)** “The Social Dimensions of Entrepreneurship in Kent C.A. Sexton, D.L. and Vesper, K.H. (1982) *Encyclopedia of Entrepreneurship*, Prentice Hall, 72 – 90.
- Sher, J. (1977)** *Education in Rural America: a reassessment of conventional wisdom* Colorado, Westview Press.

- Shuttleworth, E. D. (1996)** *Enterprise Learning in Action: Education for the Twenty First Century*, London, Routledge.
- Sinclair, M.E. and Lillis, K. (1980)** *School and Community in the Third World*, London, Croom Helm.
- Sinclair, M. (1985)** "Entrepreneurs, Chaos and Creativity: Can creative people really survive large company structure?" *Sloan Management Review* (25), 57-62.
- Skinner, B. F. (1950)** "Are learning theories necessary?" *Psychological Review*, 57 (193-216).
- Smilor, R.W. and Gill, M.D. (1986)** *The New Business Incubator*, Lexington, M. A. Lexington Books.
- Smith, B.O., Stanley, W.O. and Shores, H.J. (1957)** *Fundamentals of Curriculum Development*, New York, World Books, Yonkers Hudson.
- Smith, J.M. (1973)** "A Quick Measure of Achievement Motivation", in *British Journal of Social and Clinical Psychology* no. 2 137 – 143.
- Snyder, C.W. and Fuller, B. (1991)** "Vocal Teachers, Silent Pupils? Life in Botswana Classrooms" *Comparative Education Review* 2 274-291.
- Snyder, C.W. and Ramatsui, P.T. (1990)** *Curriculum in the Classroom: Context of Change in Botswana Junior Secondary School Instructional Programme*, Gaborone, Macmillan.
- Spengler, J. J. (1948)** *American Economic Review*, Vol. 39, 34.
- Stenhouse, L. (1975)** *An Introduction to Curriculum Research and Development*, London, Heineman.
- Stevenson, H. H. (1993)** "The mind style of the entrepreneur": An Interview by Michael Warshaw, *Success Magazine*, April.
- Stevenson, H. H. (1983)**, *Entrepreneurship: A process of Creating Value* Cambridge Division of Research, Harvard Business School.
- Stevenson, H.H. and Gumpert, D.E. (1985)** "The Heart of Entrepreneurship" in W.A. Sahalman and H.H. Stevenson, *The Entrepreneurial Venture*, Boston, Massachusetts, Harvard Business School.
- Stewart, W. H. (1996)** *Psychological Correlates of Entrepreneurship*, New York and London, Garland Publishing Inc.

- Strickland M. (1973)** Exhibit 9.2 in Jennings, D. F. (1994) *Multiple Perspectives of Entrepreneurship: Text, Readings and Cases*, Cincinnati, South Western, Publishing Company, 164
- Stroull, M. (1995)** *An Introduction to Research*, London, Pergamon Press.
- Tabulawa, R. (1997)** "Pedagogical Classroom Practice and the Social Context : The case of Botswana." *International Journal of Education Development*, 17 (2) 189-209.
- Tabulawa, R. (1998)** Teachers' Perspectives on Classroom Practice in Botswana: Implications for pedagogical Change. A paper presented to the National Conference on Teacher Education, 3RD Biennial Conference, Gaborone.
- Tafa, E. (1989)** "Ideology and the History of the Curriculum in Botswana". A dissertation Submitted in partial fulfilment of the degree of Master of Education at the University of Botswana, (Unpublished).
- Tanner, D. and Tanner, L. (1985)** *Curriculum Development: Theory into Practice*, New York, Macmillan.
- The Economist, (1991)** "Where the Tigers Breed: A survey of Asia's Emerging Economies", 16 November
- The JSEI Project Report, (1987)** Annex B, Gaborone., Government Printer.
- Thema, B.C. (1947)** "The Development of Native Education in Bechuanaland
- Thompson, A.R. (1981)** *Education and Development in Africa*, Hong Kong, The Macmillan Press.
- Thompson, V.A. (1969)** *Bureaucracy and Innovation*. Alabama, University of Alabama.
- Thorndike, E.L. (1935)** *The Psychology of Wants Interests and Attitudes*. New York, Appleton, Century Crofts.
- Thurow, L. (1992)** *Head to Head: The Coming Economic Battle among Japan, Europe and America*, New York, William Morrow and Company.
- Timmons, J. A. (1989)** *The Entrepreneurial Mind*, Andover, Brickhouse.
- Tisk, E. and Bamforth, K.W. (1951)**, "Some Social and Psychological Consequences of the Long Wall Method of Goal Setting" *Human Relations* 4, 3 – 38.

- Todaro, M. P. (1989)** *Economic Development in the Third World*, New York and London, Longman.
- Todorov, K. (1997)** "Training Young Entrepreneurs at Universities- the Case of Bulgaria" in Rosa, A, Scott, C. M. and Klandt, H. (eds) *Educating Entrepreneurs in Modernising Economics*, Ipswich, Ipswich Book Company.
- Toffler, A. (1989)** *Tomorrow Worker / Economic Need*, New York, Powershift, William, Morrow.
- Toffler, A. (1980)** *The Third Wave*, London, William Collins.
- Torrance, E. P. (1962)** *Education and the Creative Potential*, Minneapolis, University of Minnesota Press.
- Townsend –Coles, E.K. (1985)** *The Story of Education in Botswana*, Gaborone, Macmillan.
- Tshireletso, L.D. (2000)** Teacher's use of Language and Culture in Classroom Instruction as Politics of Power in the Context of Education Provision for Children of Botswana Ethnic Minorities. A paper presented at the National Conference of Teacher Education 4th Biennial Conference, Gaborone, 8-10 February.
- Tsikata, T. M. and Hitchcock, R. (1987)** "Research on the Botswana Economy" in Hitchcock, R. Parsons, N. and Taylor, J. (eds) *Research for Development in Botswana*, Gaborone, The Botswana Society.
- Ullitch, R. (1955)** "Comments on Ralph Harper Essay" in Henry, N.B. (ed) *Modern Philosophies of Education Year Book Part I of the National Society for the Study of Education*, Chicago, University of Chicago Press, 254-257. University of Botswana.
- University of Zimbabwe, (1987)** "Knowledge as the Centre of Curriculum Planning" A paper presented to B. Ed. Students.
- Urebvu, A. (1985)** *Curriculum Studies*, Hong Kong, Longman.
- Van Aardt, I. and Van Aardt, C. (1997)** *Entrepreneurship and New Venture Management*, Halfway House, International Thomson Publishing.
- Van de Ven, A. H. (1986)** "Central Problems in Management of Innovation", *Management Science*, 32 590 – 607.

- Van Dusen Wishard, W. (1987)** "The 21st Century Economy" *The Futurist*, May – June.
- Van Praag, M. (1996)** *Determinants of successful Entrepreneurship*, Amsterdam, Thesis Publishers.
- Van Rensburg, P. (1974)** *Report From Swaneng Hill*, Uppsala, Dag Hammarsjold Foundation.
- Van Rensburg, P. (1999)** "The Role of FEP Subjects." A paper presented to the Curriculum Development and Evaluation Steering Committee for Foundations of Education With Production Subjects. Gaborone, 3 March.
- Ven de Ven, A and Ferry, D. (1980)** *Measuring and Assessing Organisations*, Wiley, New York
- Verba, S. and Nie, N. (1972)** *Participation in America: Political Democracy and Social Equality*, New York, Harper and Row.
- Vesper, K. H. (1980)** *New Venture Strategies*, Englewood Cliffs, Prentice Hall.
- Wainaina, N. and Bunjun, K. N. (1988)** A Consultancy Report on Profiles of Successful African Women Entrepreneurs, Kenya. Unicef Regional Office.
- Wartmann, M. S. (1987)**, Entrepreneurship: An Intergrating Typology and Evaluation of the Empirical Research in the Field" *Journal of Management* 13 259 – 279.
- Watkins, J. (1982)** The Female Entrepreneur American Experience and its implications for the U.K. In Stanworth, J. Wesrip, A. Watkins, D. and Lewis, J (eds) *Perspectives on a Decade of Small Business Research*, Aldershot, Hampshire, Gower.
- Watson, N.G. (1982)** "Teaching for the Future" A paper presented at the Biennial Teachers' Conference on Education, University of Illinois, 22-25 August.
- Wattenberg, W. and Clifford, C. (1972)** *Relationship of Self Concept to Beginning Achievement in Reading*. U.S. Office of Education Co-operative Research Project no. 377. Detroit, Wayne State University.
- Watts, A.G. (1983)** *Education, Unemployment and Future work*, New York, Open University Press.
- Watts, A. G. (1989)** *Times Higher Education Supplement*. University Press.

- Wellington, J. J. (1993)** *The Work Related Curriculum, Challenging the Vocational Imperative*, London, Kogan Page.
- Wenzel, W. (1979)** Comments at the Job Creation Conference, Sommerset, New Jersey.
- West, M.A. and Far, J. L. (1989)** "Innovation and Work: Psychological Perspectives" *Social Behaviours*, 15-30.
- Williams, H. (1907)** A Report to the London Missionary Society, Gaborone, National Archives
- Wilms, W.W. (1986)** "Captured by the American Dream: Vocational Education in the United States" in Lauglo, J. and Lillis, K. (eds) *An International Perspective*, London, Pergamon Press
- Wilson, J. Q. (1966)** "Innovations in Organisation; Notes Towards Theory" in J. D. Thompson, (ed) *Approaches to Organisational Design*. Pittsburgh, University of Pittsburgh, 193 – 218.
- Wirth, A.G. (1992)** *Education and Work for the Year 2000: Choices we Face*. San Francisco, Jossey, Bass Publishers.
- Wolff, E.N. (1993)** "Human Capital Investment and Economic Growth; Macro Economic Perspectives and Evidence for Industrialised Countries. A paper presented to the Conference on Human Capital Investments and Economic Performance, Santa Barbara.
- World Bank, (1988)** *Education in Sub Saharan Africa Policies for Adjustment, Revitalisation and Expansion*, Washington, D.C.
- World Bank, (1992)** Staff Appraisal Report, Republic of Uganda Educational Reconstruction and Development Projects, Population and Human Resources Division, East African Department, March.
- World Bank, (1993)** *The East Asia Miracle: Economic Growth and Public Policy*, Oxford, Oxford University Press.
- Wright, C. (1988)** "Curriculum diversification re-examined: A case study of Sierra Leone" in Luglo, J. and Lillis, K. *Vocationalising Education: An International Perspective*. Oxford, Pergamon Press.
- Yasumuro, K. (1993)** "Engineers as Functional Alternatives to Entrepreneurs in Japanese Industrialisation" in Brown, J. and Rose, M. B. (eds) *Entrepreneurship Networks and Modern Business*, Manchester and New York, Manchester University Press.

Yodder, J. H. (1996) School Effectiveness: Research Proceedings of a Symposium held at the University of Botswana, Faculty of Educational Research Committee, Occasional Paper No. 1.

Appendix A

A Questionnaire for students in senior secondary schools

“Towards a Theory of an Entrepreneurial Curriculum”

Botswana’s Vision 2016 states that *“The education system will empower citizens to be innovators. It will produce entrepreneurs who will create employment through the establishment of new enterprises.”*

As part of trying to realise this vision, this study is trying to find out your ideas about entrepreneurship. Its main aim is to find out how schools and industries view entrepreneurship. You can assist us by completing this questionnaire as honestly as possible. There are no wrong or right answers, what is wanted is your honest opinion. You do not need to give your name and all the information you give will be kept confidential.

Thank You.

A Research Questionnaire for Students in Senior Secondary schools

There are 11 structured questions in this questionnaire. Answer all of them by putting a tick () in the brackets except where you are specifically asked to fill in.

Q 1: Demographic Factors

a) How old are you?

- 15 years and below ()
- 16 –18 years ()
- 19 –21 years ()
- 21years and above ()

b) What is your gender?

male ()

female ()

c) Fill in the name of your school _____

d) Where is your school located?

City ()

Town ()

Village ()

Rural area ()

e) What is the status of your school?

Government ()

Government Aided ()

Private ()

f) Fill in the subjects which you are you doing?

	SD	D	U	A	SA
--	----	---	---	---	----

d) In schools, entrepreneurship should be:

- | | | | | | |
|--|-----|-----|-----|-----|-----|
| i) an examinable subject in the curriculum | () | () | () | () | () |
| ii) part of Guidance and Counselling | () | () | () | () | () |
| iii) taken as an extra curricular activity | () | () | () | () | () |
| iv) left out of the school curriculum | () | () | () | () | () |
| v) an enrichment subject | () | () | () | () | () |
| vi) part of Business Studies | () | () | () | () | () |
| vii) spread throughout all the subjects | () | () | () | () | () |
| viii) an examinable core subject | () | () | () | () | () |

e) As part of the school curriculum, entrepreneurship courses should be introduced to:

- | | | | | | |
|------------------------------------|-----|-----|-----|-----|-----|
| i) all students | () | () | () | () | () |
| ii) only a few selected students | () | () | () | () | () |
| iii) slow learners mainly | () | () | () | () | () |
| iv) those who do commerce | () | () | () | () | () |
| v) those doing pure sciences | () | () | () | () | () |
| vi) those doing practical subjects | () | () | () | () | () |
| vii) intelligent students mainly | () | () | () | () | () |
| viii) those doing social sciences | () | () | () | () | () |

f) School entrepreneurial activities should include learning how to:

- | | | | | | |
|---|-----|-----|-----|-----|-----|
| i) take risks | () | () | () | () | () |
| ii) run a business | () | () | () | () | () |
| iii) create networks | () | () | () | () | () |
| iv) identify new openings | () | () | () | () | () |
| v) run business clubs | () | () | () | () | () |
| vi) cope with failure | () | () | () | () | () |
| vii) make critical assessment of issues | () | () | () | () | () |
| viii) be creative and innovative | () | () | () | () | () |
| ix) develop self esteem | () | () | () | () | () |
| x) work persistently on a problem | () | () | () | () | () |

	SD	D	U	A	SA
g) If an entrepreneurial curriculum was to be introduced in schools , it could start at the:					
i) pre-school	()	()	()	()	()
ii) lower primary	()	()	()	()	()
iii) upper primary	()	()	()	()	()
iv) junior secondary	()	()	()	()	()
v) senior secondary	()	()	()	()	()
vi) college	()	()	()	()	()
vii) university	()	()	()	()	()

Q. 3 Attitudes Towards Entrepreneurial Attributes

On a five point scale of very important (VI), important (I), uncertain (U), not important (NI), not at all important (NAI), rate the importance of having each of the following:

	VI	I	U	NI	NAI
(a) Traits and attributes					
i) intelligence	()	()	()	()	()
ii) critical thinking	()	()	()	()	()
iii) using common sense to make decisions	()	()	()	()	()
iv) self confidence	()	()	()	()	()
v) using data and analysis to make decisions	()	()	()	()	()
vi) creativity	()	()	()	()	()
vii) being factual and accurate	()	()	()	()	()
viii) being imaginative and intuitive	()	()	()	()	()
ix) having ideas	()	()	()	()	()
x) knowing facts	()	()	()	()	()

VI	I	U	NI	NAI
----	---	---	----	-----

(b) Learning activities

i) using different approaches to problem solving	()	()	()	()	()
ii) getting the correct answer	()	()	()	()	()
iii) doing exactly what you are told to do	()	()	()	()	()
iv) getting answers on one's own	()	()	()	()	()
v) writing out detailed logical plans	()	()	()	()	()
vi) designing experimental plans	()	()	()	()	()
vii) acting on the spur of the moment	()	()	()	()	()
viii) planning far ahead	()	()	()	()	()
ix) using imagination and intuition	()	()	()	()	()
x) examining details of the actual processes	()	()	()	()	()
xi) using critical thinking	()	()	()	()	()
xii) using creative thinking	()	()	()	()	()

Q.4 Entrepreneurial Attributes as Factors for Social Acceptance

Use a five point scale of highly admired (HA), admired (A), undecided (U), disliked (D) and totally disliked (TD) for rating :

HA	A	U	D	TD
----	---	---	---	----

a) a classmate who :

i) is the centre of attention in class	()	()	()	()	()
ii) is very reserved and prefers to work alone	()	()	()	()	()
iii) makes decisions without consulting others	()	()	()	()	()
iv) makes decisions after finding out what others think	()	()	()	()	()
v) does exactly what is required by the teachers	()	()	()	()	()
vi) is always asking difficult questions	()	()	()	()	()
vii) is quiet, spends thoughtful time alone	()	()	()	()	()
viii) is active, spends energetic time with people	()	()	()	()	()

	HA	A	U	D	TD
ix) does exactly what s/he likes	()	()	()	()	()
x) is very persistent in whatever s/he does	()	()	()	()	()
b) a teacher who:					
(i) gives a lot of notes to copy	()	()	()	()	()
(ii) allows for brainstorming for new ideas	()	()	()	()	()
(iii) is predictable and does not make surprises	()	()	()	()	()
(iv) changes and is full of surprises	()	()	()	()	()
(v) always accepts your answers as correct	()	()	()	()	()
(vi) questions the answers you give	()	()	()	()	()
(viii) makes logical decisions based on critical analysis	()	()	()	()	()
(viii) tends to depend on feelings and intuition	()	()	()	()	()
(ix) starts lessons at the exact starting time	()	()	()	()	()
(x) starts lessons when she /he is ready and comfortable	()	()	()	()	()

Q.5 Entrepreneurial Attributes as Factors for Progression in school

(a) When selecting school prefects and class monitors, how would you rate the possession of each of the following attributes in your selection ? (Use the scale very important (VI), important (I) uncertain (U) not important (NI) not at all important (NAI))

	VI	I	U	NI	NAI
(i) honesty and trustworthiness	()	()	()	()	()
(ii) creativity and innovativeness	()	()	()	()	()
(iii) intelligence	()	()	()	()	()
(iv) flexibility	()	()	()	()	()
(v) self confidence	()	()	()	()	()
(vi) good communication skills	()	()	()	()	()
(vii) ability to decide using feelings and intuition	()	()	()	()	()
(viii) ability to decide on unemotional analysis	()	()	()	()	()

- | | | | | | |
|---------------------------------|-----|-----|-----|-----|-----|
| (ix) ability to control others | () | () | () | () | () |
| (x) excellent class performance | () | () | () | () | () |
| (xii) independent thinking | () | () | () | () | () |

Q 6. Inculcation of Entrepreneurial Attributes through the Reward and Penalty System in Class

How far would you agree with each of the following statements? (Use a scale of strongly agree (SA) , agree (A) , uncertain (U), disagree (DA), strongly disagree (SDA)

SD	D	U	A	SA
----	---	---	---	----

In your class students are :

- | | | | | | |
|---|-----|-----|-----|-----|-----|
| (i) rewarded for being analytic and critical | () | () | () | () | () |
| (ii) rewarded for being imaginative and creative | () | () | () | () | () |
| (iii) punished for not getting the correct answer | () | () | () | () | () |
| (iv) punished for disagreeing with the teacher | () | () | () | () | () |
| (v) praised for discussing new issues at length | () | () | () | () | () |
| (vi) praised for following instructions as given | () | () | () | () | () |
| (vii) punished for acting differently from others | () | () | () | () | () |
| (viii) rewarded for intelligence | () | () | () | () | () |
| (viii) rewarded for creativity | () | () | () | () | () |
| (ix) rewarded for remembering | () | () | () | () | () |
| (x) rewarded for taking risks | () | () | () | () | () |

Q.7. Entrepreneurial Attributes as Value Determinants of Instructional Material

How would you rate the following characteristics when deciding whether an instructional material was good or not? (Use a scale of very important (VI), important (I), uncertain (U), not important (NI), not at all important (NAI).

	VI	I	U	NI	NAI
The textbook:					
i) gives detailed notes on topics	()	()	()	()	()
ii) suggests many different approaches	()	()	()	()	()
iii) gives definite answers	()	()	()	()	()
iv) has many different exercises	()	()	()	()	()
v) has examination type questions	()	()	()	()	()
vi) allows you to find answers on your own	()	()	()	()	()
vii) emphasises facts and accuracy	()	()	()	()	()
viii) emphasises ideas and imagination	()	()	()	()	()
ix) emphasises individual work	()	()	()	()	()
x) emphasises group work	()	()	()	()	()

Q.8 Classroom Entrepreneurial Dynamism

Use a scale of very often (VO), often (O), rarely (R), very rarely (VR), never (N) to answer each of the following questions:

	VO	O	R	VR	N
How often do you as a student:					
i) change your sitting positions in class	()	()	()	()	()
ii) change the position of the teachers table	()	()	()	()	()
iii) change the learning environment	()	()	()	()	()
iv) brain storm to solve problems in class	()	()	()	()	()
v) learn outside the time tabled period	()	()	()	()	()
vi) use the library for research	()	()	()	()	()
vii) read information from other schools	()	()	()	()	()
viii) make decisions to exploit opportunities in class	()	()	()	()	()
ix) make different decisions from the rest of the class	()	()	()	()	()
x) introduce a surprise finding in class	()	()	()	()	()

Q 9 Entrepreneurship as a Determinant for Recruitment

Using a scale of strongly agree (SA), agree (A), undecided (U), disagree (DA), strongly disagree (SDA) show how far you agree with the following statements:

	SD	D	U	A	SA
When applying for employment, I should be considered if :					
i)I have passed English Language	()	()	()	()	()
ii) I have passed Mathematics	()	()	()	()	()
iii) I am honest	()	()	()	()	()
iv)I am confident	()	()	()	()	()
v) I am creative	()	()	()	()	()
vi)I am analytic	()	()	()	()	()
vii) I can take risks	()	()	()	()	()
viii)I can work as an individual	()	()	()	()	()
ix) I am a good team members	()	()	()	()	()
x) I am obedient	()	()	()	()	()
xi) I question decisions made by others	()	()	()	()	()

Q. 10 Perceptions and Attitudes Towards Entrepreneurship as an Alternative Source of Employment

Given below is a list of twelve selected jobs. Arrange them in the order of what you consider to be their importance; Start with the one which you prefer mostly and write it down in the column written number 1 and end with the one you least prefer as number 12:

teaching, farming, building, businessmen, engineering, computer analyst, self employment, doctor, industrial worker, secretarial work, salesperson, nursing .

1	7
2	8
3	9
4	10
5	11
6	12

11) Additional General Information

If there is any other relevant information you may like to add on entrepreneurship which was not included above please use the space given below:

Check that all the questions have been answered.

Return the questionnaire to the research study assistant or post to: Attention: Mr. C. G. Mthunzi, Curriculum Development and Evaluation, Box 221, Gaborone.

Thank you very much for participating in this study.

APPENDIX B

QUESTIONNAIRE FOR TEACHERS IN SENIOR SECONDARY SCHOOLS

“Towards a Theory of an Entrepreneurial Curriculum”

Botswana’s Vision 2016 states that *“The education system will empower citizens to be innovators. It will produce entrepreneurs who will create employment through the establishment of new enterprises.”*

As part of trying to realise this vision, this study is trying to find out your ideas about entrepreneurship. Its main aim is to find out how schools and industries view entrepreneurship. You can assist us by completing this questionnaire as honestly as possible. There are no wrong or right answers, what is wanted is your honest opinion. You do not need to give your name and all the information you give will be kept confidential.

Thank You.

- f) What is your position in school
- | | |
|--------------------|-----|
| Teacher | () |
| Senior Teacher | () |
| Head of Department | () |
| Deputy Head | () |
- g) Where is your school located?
- | | |
|------------|-----|
| City | () |
| Town | () |
| Village | () |
| Rural area | () |
- h) What is the status of your school?
- | | |
|------------------|-----|
| Government | () |
| Government Aided | () |
| Private | () |
- i) What are your teaching subjects?
- | | |
|---------------------|-----|
| Natural Sciences | () |
| Social sciences | () |
| Languages | () |
| Vocational subjects | () |
| Enrichment subjects | () |
-

Q. 2 Teacher's Images of the School /Entrepreneurial Interface

- a) Are you familiar with the word "entrepreneur"?
- | | |
|-----|-----|
| Yes | () |
| No | () |

- b) How often do you use the word "entrepreneur" when teaching?

- | | |
|-------------|-----|
| very often | () |
| often | () |
| rarely | () |
| very rarely | () |
| never | () |

For each of the following statements , tick in the brackets which indicate the extent to which you agree or disagree with the statement. For example, if you strongly agree tick in the bracket under the column SA. If you agree but less strongly, tick the bracket under the column A and so forth. (Strongly Disagree - SD, Disagree – D, Undecided -UD

Agree - A, Strongly Agree -SA)

	SD	D	U	A	SA
c) I associate an entrepreneur with					
i) a business	()	()	()	()	()
ii) taking risks	()	()	()	()	()
iii) intelligence	()	()	()	()	()
iv) failure in school	()	()	()	()	()
v) a school subject	()	()	()	()	()
vi) self employment	()	()	()	()	()
vii) creativity	()	()	()	()	()
viii) success	()	()	()	()	()
ix) failure	()	()	()	()	()
d) Entrepreneurship should be:					
i) an examinable subject in the curriculum	()	()	()	()	()
ii) form part of Guidance and Counselling	()	()	()	()	()
iii) taken as an extra curricular activity	()	()	()	()	()
iv) left out of the school curriculum	()	()	()	()	()
v) an enrichment subject	()	()	()	()	()
vi) part of Business Studies	()	()	()	()	()
vii) spread throughout all the subjects	()	()	()	()	()
viii) an examinable core subject	()	()	()	()	()
e) Entrepreneurship should be introduced to:					
i) all students in school	()	()	()	()	()
ii) only a few selected students	()	()	()	()	()
iii) slow learners mainly	()	()	()	()	()
iv) those who do commerce	()	()	()	()	()
v) those doing pure sciences	()	()	()	()	()
vi) those doing practical subjects	()	()	()	()	()
vii) intelligent students mainly	()	()	()	()	()

SD	D	U	A	SA
----	---	---	---	----

f) School entrepreneurial activities should include learning how to:

i) take risks	()	()	()	()	()
ii) run a business	()	()	()	()	()
iii) create networks	()	()	()	()	()
iv) identify new openings	()	()	()	()	()
v) run business clubs	()	()	()	()	()
vi) cope with failure	()	()	()	()	()
vii) make critical assessment of issues	()	()	()	()	()
viii) be creative and innovative	()	()	()	()	()
ix) gain confidence	()	()	()	()	()

g) If an entrepreneurial curriculum was to be introduced, it could start at the:

i) lower primary	(Std 1 –2)	()	()	()	()	()
ii) upper primary	(Std 4 –7)	()	()	()	()	()
iii) junior secondary	(form 1 – 3)	()	()	()	()	()
iv) senior secondary	(form 4 – 5)	()	()	()	()	()
v) college and university		()	()	()	()	()
vi) pre-school		()	()	()	()	()

Q. 3 Attitudes Towards Entrepreneurial Attributes

On a five point scale of very important (VI), important (I), Uncertain (U), not important (NI), not at all important (NAI), rate each of the following items in terms of their importance.

	VI	I	U	NI	NAI
(a) Traits and attributes					
i) intelligence	()	()	()	()	()
ii) critical thinking	()	()	()	()	()
iii) using common sense to make decisions	()	()	()	()	()
iv) self confidence	()	()	()	()	()
v) using data and analysis to make decisions	()	()	()	()	()
vi) creativity	()	()	()	()	()
vii) being factual and accurate	()	()	()	()	()
viii) being imaginative and intuitive	()	()	()	()	()
ix) having ideas	()	()	()	()	()
x) knowing facts	()	()	()	()	()

(b) Learning Activities

i) using different approaches to problem solving	()	()	()	()	()
ii) getting the correct answer	()	()	()	()	()
iii) telling your students the correct answer	()	()	()	()	()
iv) students getting answers on their own	()	()	()	()	()
v) writing out detailed logical lesson plans	()	()	()	()	()
vi) designing experimental lesson plans	()	()	()	()	()
vii) acting on the spur of the moment	()	()	()	()	()
viii) planning far ahead	()	()	()	()	()
ix) use of imagination and intuition	()	()	()	()	()
x) examining details of the actual processes	()	()	()	()	()
xi) teaching critical thinking	()	()	()	()	()
xii) teaching creativity	()	()	()	()	()

Q.4 Entrepreneurial Attributes as Factors for Social Acceptance

Use a five point scale of highly admired (HA), admired (A), undecided (U) disliked (D) and totally disliked (TD) for rating :

	HA	A.	U	D.	T D.
a) a colleague who :					
i) is the centre of attention	()	()	()	()	()
ii) is very reserved and prefers to work alone	()	()	()	()	()
iii) makes decisions without consulting others	()	()	()	()	()
iv) makes decisions after finding out what others think	()	()	()	()	()
v) does exactly what is required by the authorities	()	()	()	()	()
vi) is always asking difficult questions	()	()	()	()	()
vii) is quiet, spends thoughtful time alone	()	()	()	()	()
viii) is active, spends energetic time with people	()	()	()	()	()
b) a student who:					
(i) copies all the notes	()	()	()	()	()
(ii) is active in brainstorming for new ideas	()	()	()	()	()
(iii) is predictable and does not make surprises	()	()	()	()	()
(iv) changes and is full of surprises	()	()	()	()	()
(v) accepts your answers as correct	()	()	()	()	()
(vi) doubts the answers you give	()	()	()	()	()
(viii) makes logical decisions based on critical analysis	()	()	()	()	()
(viii) tends to depend on feelings and intuition	()	()	()	()	()
(ix) starts lessons at the exact starting time	()	()	()	()	()
(x) starts lessons when she /he is ready and comfortable	()	()	()	()	()

Q.5 Entrepreneurial Attributes as Factors for Progression in school

(a) When selecting school prefects and class monitors, how would you rate the possession of each of the following attributes in your selection ? (Use the scale very important (VI), important (I) uncertain (U) not important (NI) not at all important (NAI)

	VI	I	U	NI	NAI
(i) honesty and trustworthiness	()	()	()	()	()
(ii) creativity and innovativeness	()	()	()	()	()
(iii) intelligence	()	()	()	()	()
(iv) flexibility	()	()	()	()	()
(v) self confidence	()	()	()	()	()
(vi) good communication skills	()	()	()	()	()
(vii) ability to decide using feelings and intuition	()	()	()	()	()
(viii) ability to decide on unemotional analysis	()	()	()	()	()
(ix) ability to control others	()	()	()	()	()
(x) excellent class performance	()	()	()	()	()

Q 6. Inculcation of Entrepreneurial Attributes through the Reward and Penalty System in Class

How far would you agree with each of the following statements? (Use a scale of strongly agree (SA) , agree (A) , uncertain (U), disagree (DA), strongly disagree (SDA)

	SD	D	U	A	SA
In your class students are :					
(i) rewarded for being analytic and critical	()	()	()	()	()
(ii) rewarded for being imaginative and creative	()	()	()	()	()
(iii) punished for not getting the correct answer	()	()	()	()	()
(iv) punished for disagreeing with the you	()	()	()	()	()
(v) praised for discussing new issues at length	()	()	()	()	()
(vi) praised for following instructions as given	()	()	()	()	()
(vii) punished for attending lessons in other classes	()	()	()	()	()
(viii) rewarded for intelligence	()	()	()	()	()
(viii) rewarded for creativity	()	()	()	()	()
(ix) rewarded for remembering	()	()	()	()	()
(x) rewarded for showing taking risks	()	()	()	()	()

Q.7. Entrepreneurial Attributes as Value Determinants of Instructional Material

How would you rate the following characteristics when deciding whether an instructional material is good for use by your students or not? (Use a scale of very important (VI), important (I), uncertain (U), not important (NI), not at all important (NAI).

	VI	I	U	NI	NAI
The textbook:					
i) gives detailed notes on topics	()	()	()	()	()
ii) suggests many different approaches	()	()	()	()	()
iii) gives definite answers	()	()	()	()	()
iv) has many different exercises	()	()	()	()	()
v) has examination type questions	()	()	()	()	()
vi) allows students to find answers on their own	()	()	()	()	()
vii) emphasises facts and accuracy	()	()	()	()	()
viii) emphasises ideas and imagination	()	()	()	()	()

Q.8 Classroom Entrepreneurial Dynamism

Use a scale of very often (VO), often (O), rarely (R), very rarely (VR), never (N) to answer each of the following questions:

	VO	O	R	VR	N
How often do you as a teacher:					
i) change your students sitting positions	()	()	()	()	()
ii) change the position of the teachers table	()	()	()	()	()
iii) change learning environment	()	()	()	()	()
iv) brain storm to solve problems in class	()	()	()	()	()
v) teach outside the time tabled period	()	()	()	()	()
vi) use the library for research	()	()	()	()	()
vii) read information from other schools	()	()	()	()	()
viii) make decisions to exploit opportunities in class	()	()	()	()	()
ix) plan for long term class activities	()	()	()	()	()

Q 9 Entrepreneurship as a Determinant for Recruitment

Using a scale of strongly agree (SA), agree (A), undecided (U), disagree (DA) , strongly disagree (SDA) show how far you agree with the following statements:

	SD	D	U	A	SA
When applying for employment, my students should be considered if they:					
i) have passed English language	()	()	()	()	()
ii) have passed mathematics	()	()	()	()	()
iii) are honest	()	()	()	()	()
iv)are confident	()	()	()	()	()
v) are creative	()	()	()	()	()
vi) analytic	()	()	()	()	()
vii) can take risks	()	()	()	()	()
viii)can work as individuals	()	()	()	()	()
ix) are good team members	()	()	()	()	()
x) are obedient	()	()	()	()	()

Q. 10 Perceptions and Attitudes Towards Entrepreneurship as an Alternative Source of Employment

Given below is a list of twelve selected jobs. Arrange them in order of what you consider to be their importance; Start with the one which you prefer mostly and write it down in the column written number 1 and end with the one you least prefer as number 12:

teaching, farming, building, businessmen, engineering, computer analyst, self employment, doctor, industrial worker, secretarial work, salesmen .

1	2
3	4
5	6
7	8
9	10
11	12

11) Additional General Information

If there is any other relevant information you may like to add on entrepreneurship which was not included above please use the space given below:

Check that all the questions have been answered.

Return the questionnaire to the research study assistant.

Thank you very much for participating in this study.

APPENDIX C

A QUESTIONNAIRE FOR INDUSTRIALISTS

Curriculum Development and Evaluation,
Box 221,
Gaborone,
19 March, 2000.

Dear Sir/ Madam,

Re: Questionnaire on Need for Entrepreneurial Attributes

Botswana's vision 2016 states that:

“The education system will empower citizens to be innovators. It will produce entrepreneurs who will create employment through the establishment of new enterprises”.

As part of trying to realise this vision, this study is trying to get some ideas from established industries such as yours. The main aim is to try and find out what entrepreneurial attributes would be useful in industries. Furthermore, we would like to get a view of how industries see entrepreneurial education. You can certainly assist us by completing this questionnaire as honestly as possible. You need not give your name nor your company's name. Whatever information is given will be used solely for its intended purpose; to assist us focus our curriculum to accommodate entrepreneurial attributes.

If you have completed filling in this questionnaire, please put it in the attached, stamped self addressed envelop and post it to: Att. Mr. C.G. Mthunzi, Curriculum Development & Evaluation, Box 221, Gaborone.

Thank you for your co-operation.

Yours truly,
Colwasi Gabriel Mthunzi

“Towards a Theory of an Entrepreneurial Curriculum”

Botswana’s Vision 2016 states that *“The education system will empower citizens to be innovators. It will produce entrepreneurs who will create employment through the establishment of new enterprises.”*

As part of trying to realise this vision, this study is trying to find out your ideas about entrepreneurship. Its main aim is to find out how schools and industries view entrepreneurship. You can assist us by completing this questionnaire as honestly as possible. There are no wrong or right answers, what is wanted is your honest opinion. You do not need to give your name and all the information you give will be kept confidential.

Thank You.

A Research Questionnaire for Industrialists

There are 11 structured questions in this questionnaire. Answer all of them by putting a tick () in the brackets except where you are specifically asked to fill in.

Q 1: Demographic Factors

a) How old are you?

- 25years and below ()
- 26 –30years ()
- 31 –35years ()
- 36 –40 years ()
- 41 –45 years ()
- 46 –50 years ()
- 51years and above ()

b) What is your gender?

male ()

female ()

c) How long have you been a Human Resource Manager?

- less than one year ()
- 1-5 years ()
- 6-10 years ()
- 10 –15 years ()
- 16 – 20 years ()
- 21 years and above ()

d) Where is your factory located?

in a city ()

in town ()

in a village ()

in a rural area ()

e) For how long has your factory been in operation?

less than one year ()

1 –5 years ()

- 6 – 10 years ()
- 11 –15 years ()
- 16 – 20 years ()
- 21 years and above ()

f) How many people does your factory employ?

- 1 –20 people ()
- 21-40 ()
- 41 –80 ()
- 81- 100 ()
- 101 and above ()

2 Entrepreneurship as a Determinant for Recruitment

For each of the following statements , tick in the brackets which indicate the extent to which you agree or disagree with the statement. For example, if you strongly agree tick in the bracket under the column SA. If you agree but less strongly, tick the bracket under the column A and so forth. (Strongly disagree - SD, disagree – D, undecided -U Agree - A, strongly agree -SA)

	SD	D	U	A	SA
--	----	---	---	---	----

When recruiting for new employees
our factory looks for job seekers who:

- | | | | | | |
|---|-----|-----|-----|-----|-----|
| i) have passed English Language | () | () | () | () | () |
| ii) have passed Mathematics | () | () | () | () | () |
| iii) are honest | () | () | () | () | () |
| iv) are confident | () | () | () | () | () |
| v) are creative | () | () | () | () | () |
| vi) are analytic | () | () | () | () | () |
| vii) can take risks | () | () | () | () | () |
| viii) can work as individuals | () | () | () | () | () |
| ix) can work as team members | () | () | () | () | () |
| x) are obedient | () | () | () | () | () |
| xi) can question decisions made by others | () | () | () | () | () |

- xii) are readily available () () () () ()
 xiii) are able to communicate () () () () ()

Q. 3 Attitudes Towards Entrepreneurial Attributes

On a five point scale of very important (VI), important (I), uncertain (U), not important (NI), not at all important (NAI), rate the importance of each of the following skills and attributes in your employees:

	VI	I	U	NI	NAI
a) Attributes					
i) intelligence	()	()	()	()	()
ii) critical thinking	()	()	()	()	()
iii) use of common sense	()	()	()	()	()
iv) self confidence	()	()	()	()	()
v) analytic mind	()	()	()	()	()
vi) use of intuition	()	()	()	()	()
vii) numerical accuracy	()	()	()	()	()
viii) creativity	()	()	()	()	()
ix) perseverance	()	()	()	()	()
x) outspokenness	()	()	()	()	()
xi) quietness	()	()	()	()	()
b) ability to:					
i) use different approaches when solving problems	()	()	()	()	()
ii) question issues	()	()	()	()	()
iii) do exactly what they are told to do	()	()	()	()	()
iv) make personal decisions	()	()	()	()	()
v) produce detailed logical plans	()	()	()	()	()
vi) design experimental plans	()	()	()	()	()
vii) act on the spur of the moment	()	()	()	()	()
viii) plan far ahead	()	()	()	()	()
ix) use imagination and intuition	()	()	()	()	()
x) examine details of the actual processes	()	()	()	()	()
xi) use critical thinking	()	()	()	()	()
xii) use creative thinking	()	()	()	()	()
xiii) work alone	()	()	()	()	()
xiv) work as a team	()	()	()	()	()
xv) use numerical data accurately	()	()	()	()	()

Q.4 Entrepreneurial Attributes as Factors for Social Acceptance

Use a five point scale of highly admired (HA), admired (A) , undecided (U) disliked (D) and totally disliked (TD) for rating :

	HA	A	U	D	TD
a) an employee who :					
i) is the centre of attention in the factory	()	()	()	()	()
ii) is very reserved and prefers to work alone	()	()	()	()	()
iii) makes decisions without consulting others	()	()	()	()	()
iv) makes decisions after finding out what others think	()	()	()	()	()
v) does exactly what is required by the authorities	()	()	()	()	()
vi) is always asking difficult questions	()	()	()	()	()
vii) is quiet, spends thoughtful time alone	()	()	()	()	()
viii) is active, spends energetic time with people	()	()	()	()	()
ix) does exactly what s/he likes	()	()	()	()	()
x) is very persistent in whatever s/he does	()	()	()	()	()
(xi) insists on getting feedback	()	()	()	()	()
(xii) prefers brainstorming for new ideas	()	()	()	()	()
(xiii) is predictable and does not make surprises	()	()	()	()	()
(xiv) changes and is full of surprises	()	()	()	()	()
(xv) always accepts management solutions as correct	()	()	()	()	()
(xvi) questions the solutions management gives	()	()	()	()	()
(xvii) makes logical decisions based on critical analysis	()	()	()	()	()
(xviii) tends to depend on feelings and intuition	()	()	()	()	()
(xix) starts work at the exact starting time	()	()	()	()	()
(xx) starts work when she /he is ready and comfortable	()	()	()	()	()

Q.5 Entrepreneurial Attributes as Factors for Progression in Industries

(a) When selecting employees for promotion, how would you rate the possession of each of the following attributes in your selection ? (Use the scale very important (VI), important (I) uncertain (U) not important (NI) not at all important (NAI)

	VI	I	U	NI	NAI
(i) honesty and trustworthiness	()	()	()	()	()
(ii) creativity and innovativeness	()	()	()	()	()
(iii) intelligence	()	()	()	()	()
(iv) flexibility	()	()	()	()	()
(v) self confidence	()	()	()	()	()
(vi) communication skills	()	()	()	()	()
(vii) ability to decide using feelings and intuition	()	()	()	()	()
(viii) ability to decide on unemotional analysis	()	()	()	()	()
(ix) ability to control others	()	()	()	()	()
(x) excellent work performance	()	()	()	()	()
(xi) independent thinking	()	()	()	()	()
(xii) personal charisma	()	()	()	()	()

Q 6. Inculcation of Entrepreneurial Attributes through the Reward and Penalty System at Work

How far would you agree with each of the following statements? (Use a scale of strongly agree (SA) , agree (A) , uncertain (U), disagree (DA), strongly disagree (SDA)

	SD	D	U	A	SA
In your manufacturing firm, employees are :					
(i) rewarded for being analytic and critical	()	()	()	()	()
(ii) rewarded for being imaginative	()	()	()	()	()
(iii) penalised for lack of productivity	()	()	()	()	()
(iv) penalised for disagreeing with the authorities	()	()	()	()	()
(v) praised for discussing new issues at length	()	()	()	()	()
(vi) praised for following instructions as given	()	()	()	()	()
(vii) penalised for acting differently from others	()	()	()	()	()
(viii) rewarded for intelligence	()	()	()	()	()
(viii) rewarded for creativity	()	()	()	()	()
(ix) rewarded for perseverance	()	()	()	()	()
(x) penalised for taking risks	()	()	()	()	()

Q.7 Industrial Entrepreneurial Dynamism

Use a scale of strongly agree (SA) , agree (A) , uncertain (U), disagree (DA), strongly disagree (SDA) to show how far you are agree or disagree with each of the following statements:

	SD	D	U	A	SA
a) Company attitude towards change					
i) company policy encourages innovations	()	()	()	()	()
ii) management supports new innovations	()	()	()	()	()
iii) the company sets aside capital for new ventures	()	()	()	()	()
iv) the company changes to keep up with the market prices	()	()	()	()	()
v) goods become obsolete quickly	()	()	()	()	()
vii) competition forces us to change our strategies	()	()	()	()	()
viii) our factory employs very few professionals	()	()	()	()	()
b) Ideas for change often come from:					
i) management	()	()	()	()	()
ii) the employees	()	()	()	()	()
iii) both employees and management	()	()	()	()	()
iv) outside the company	()	()	()	()	()
c) When making innovations the company uses:					
i) teams mainly	()	()	()	()	()
ii) individuals mainly	()	()	()	()	()
iii) teams and individuals	()	()	()	()	()
iv) research techniques	()	()	()	()	()
v) technical staff specialists	()	()	()	()	()
vi) brainstorming	()	()	()	()	()
d) In this company:					
i) changes are spontaneous	()	()	()	()	()
ii) changes are planned for mainly	()	()	()	()	()
iii) changes are dictated by the market	()	()	()	()	()
e) In the last five years, there :					
i) have been dramatic changes in our products	()	()	()	()	()
ii) have been minor changes in our products	()	()	()	()	()
iii) have been no changes in our products	()	()	()	()	()

Q. 8 Human Resource Managers' perceptions of the School /Entrepreneurial Interface

a) Using a five point scale of strongly agree (SA), agree (A), undecided (U), disagree (D), strongly disagree (SD) show how far you are agree with each of the statements give

SA	A	U	D	SD
----	---	---	---	----

I associate the word "entrepreneur" with

- | | | | | | |
|---------------------|-----|-----|-----|-----|-----|
| i) a business | () | () | () | () | () |
| ii) taking risks | () | () | () | () | () |
| iii) intelligence | () | () | () | () | () |
| iv) failure | () | () | () | () | () |
| v) a school subject | () | () | () | () | () |
| vi) self employment | () | () | () | () | () |
| vii) creativity | () | () | () | () | () |
| viii) success | () | () | () | () | () |
| ix) low self esteem | () | () | () | () | () |
| x) high self esteem | () | () | () | () | () |

d) In schools, entrepreneurship should be:

- | | | | | | |
|--|-----|-----|-----|-----|-----|
| i) an examinable subject in the curriculum | () | () | () | () | () |
| ii) part of Guidance and Counselling | () | () | () | () | () |
| iii) taken as an extra curricular activity | () | () | () | () | () |
| iv) left out of the school curriculum | () | () | () | () | () |
| v) an enrichment subject | () | () | () | () | () |
| vi) part of Business Studies | () | () | () | () | () |
| vii) spread throughout all the subjects | () | () | () | () | () |
| viii) an examinable core subject | () | () | () | () | () |

e) As part of the school curriculum, entrepreneurship courses should be introduced to

SA	A	U	D	SD
----	---	---	---	----

- | | | | | | |
|------------------------------------|-----|-----|-----|-----|-----|
| i) all students | () | () | () | () | () |
| ii) only a few selected students | () | () | () | () | () |
| iii) slow learners mainly | () | () | () | () | () |
| iv) those who do commerce | () | () | () | () | () |
| v) those doing pure sciences | () | () | () | () | () |
| vi) those doing practical subjects | () | () | () | () | () |
| vii) intelligent students mainly | () | () | () | () | () |
| viii) those doing social sciences | () | () | () | () | () |

f) School entrepreneurial activities

should include learning how to:

- | | | | | | |
|---|-----|-----|-----|-----|-----|
| i) take risks | () | () | () | () | () |
| ii) run a business | () | () | () | () | () |
| iii) create networks | () | () | () | () | () |
| iv) identify new business openings | () | () | () | () | () |
| v) run business clubs | () | () | () | () | () |
| vi) cope with failure | () | () | () | () | () |
| vii) make critical assessment of issues | () | () | () | () | () |
| viii) be creative and innovative | () | () | () | () | () |
| ix) develop self esteem | () | () | () | () | () |
| x) communicate with people | () | () | () | () | () |

g) If an entrepreneurial curriculum was to be introduced in schools , it could start at the:

- | | | | | | |
|----------------------|-----|-----|-----|-----|-----|
| i) pre-school | () | () | () | () | () |
| ii) lower primary | () | () | () | () | () |
| iii) upper primary | () | () | () | () | () |
| iv) junior secondary | () | () | () | () | () |
| v) senior secondary | () | () | () | () | () |
| vi) college | () | () | () | () | () |
| vii) university | () | () | () | () | () |

11) Additional General Information

If there is any other relevant information you may like to add on entrepreneurship which was not included above please use the space given below:

Check that all the questions have been answered.

Return the questionnaire to the research study assistant or post to: Attention: Mr. C. G. Mthunzi, Curriculum Development and Evaluation, Box 221, Gaborone.

Thank you very much for participating in this study.

APPENDIX D

Letters of Authorisation

Curriculum Development and Evaluation,
P.O. Box 221
Gaborone.
6 December, 1999.

ufs PEO | CD&E

The Director,
Ministry of Presidential Affairs,
Bag 0001,
Gaborone,

Dear Sir/ Madam,

RE: Request for Permission to carry out a research Study entitled “Towards a Theory of Entrepreneurial Curriculum”.

May I kindly request permission to carry out a research project on the relevancy of an entrepreneurial curriculum to Botswana's socio - economic demands in fulfilment of my part time Doctorate in Didactics Programme with the University of South Africa. The study attempts to identify the consonance between the demands of the industry and the attributes inculcated at school and in the process identifies images and attitudes towards entrepreneurial attributes in schools and industries . The study will be used only for the stated purpose.

I am a Zimbabwean citizen , employed by the Ministry of Education in the Curriculum Development Division as an Education Officer for Social Studies and I have been resident as a teacher in Botswana for eight years. The study I intend carrying out will perhaps be beneficial to my work and in line with Vision 2016 which calls for entrepreneurship and there has been very little research in the interface between entrepreneurship and the school curriculum. Furthermore, a copy of the study will , hopefully be made available to the Resource Centre at the Curriculum Development and Evaluation. The programme will in not, in any way affect my work as it is done on a purely part-time -after -work basis. If at all, it can only be positive in that what ever skills I acquire will be brought to bare on my work as a curriculum developer .

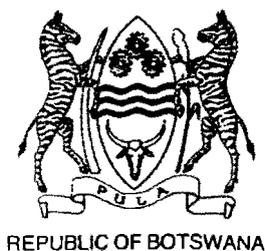
To carry out the programme, I will only need to send out postal questionnaires to schools and industries. In terms of time of research, I will probably need about twelve months only.

Your assistance will be greatly appreciated.

Thank You,

Yours Faithfully,
Colwasi Gabriel Mthunzi.

TELEPHONE: 352990
REFERENCE: CDE (CP) 41



MINISTRY OF EDUCATION
CURRICULUM DEVELOPMENT AND
EVALUATION DEPARTMENT
P.O. Box 221
GABORONE
BOTSWANA

December 13, 1999

Mr. C. G. Mthunzi
Curriculum Development & Evaluation

NOTIFICATION OF ON-GOING STUDIES – YOURSELF

Your letter dated 6 December 1999 refers.

This serves to acknowledge and take note of the notification of the part time studies you are engaged in.

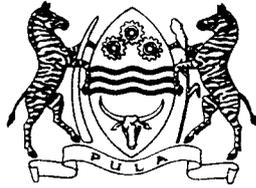
Thank you and Best Wishes.

Yours faithfully



L. T. Moahi
Director/CD & E

cc. Ag. Chief Education Officer
CD & E



OP 46/1 LXXVIII (90)

3rd February 2000

Mr. Colwasi G. Mthunzi
Curriculum Development and Evaluation
P. O. Box 221
GABORONE

Dear Sir

RE: GRANT OF A RESEARCH PERMIT: MR C.G. MTHUNZI

Your application for a research permit refers.

We are pleased to inform you that you have been granted permission to carry out a study on "Towards a Theory of an Entrepreneurial Curriculum". The research will be conducted at Senior Secondary Schools throughout the country.

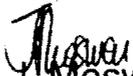
The permit is valid for a period not exceeding twelve (12) months effective from February 3, 2000.

The permit is granted subject to the following conditions:

1. Copies of any papers written as a result of the study are directly deposited with the Office of the President, National Assembly Library, Ministry of Education, National Archives, Botswana National Library Service, University of Botswana Library and National Institute for Research.
2. You liaise with the Ministry of Education.
3. You conduct the study according to the particulars furnished in the application.

4. The permit does not give authority to enter any premises, private establishment or protected area. Permission for such entry should be negotiated with those concerned.

Yours faithfully


J. Mosweu

for/PERMANENT SECRETARY TO THE PRESIDENT

c.c.: Permanent Secretary, Ministry of Education
Clerk of the National Assembly
Director, National Archives
Director, Botswana National Library Service
Director, National Institute for Research
Librarian, University of Botswana Library

JM/om