THE IMPORTANCE OF SOFT SKILLS IN ACADEMIC PERFORMANCE AND CAREER CHOICES OF SENIOR SECONDARY SCHOOL STUDENTS IN BOTSWANA

MASTER OF SCIENCE

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BY

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THE IMPORTANCE OF SOFT SKILLS IN ACADEMIC PERFORMANCE AND CAREER CHOICES OF SENIOR SECONDARY SCHOOL STUDENTS IN BOTSWANA

A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN AGRICULTURAL EDUCATION

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APPROVAL

This research project has been examined and approved as meeting the required standards of scholarship for partial fulfilment of the requirements for the Masters of Science Degree in Agricultural Education.

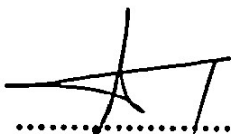|		
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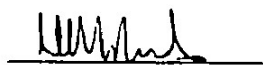
STATEMENT OF ORIGINALITY

This research project was carried out and completed by the author between August 2012 and

November 2013. It is an original piece of work except where due reference is made. The work

has neither been nor will be submitted for an award at any other university.

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Signature of student	Date

DEDICATION

This dissertation is dedicated to my wife, Gosego and my children, Laone and Orefile, who were always my source of inspiration. It is also dedicated to senior secondary school completing students who are in the process of making decisions on choice of programmes of study.

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Abstract

In today's society where soft skills are imperative for job success the use of performance data provided by standardised tests to sort students to various careers is a major concern. The study examined the relationship between soft skills, academic performance and career interests of senior secondary school students. This descriptive correlational study adopted an ex post facto survey research design. The population of the study comprised of 25 385 senior secondary school students who completed form 5 in 2013. Convenient sampling technique was used to choose a sample of 600 students. A reliable questionnaire ($\alpha = 0.96$) was used to collect data on soft skills and career interests. Midyear examinations provided data on academic performance. The hypotheses tested were: (1) there is no relationship between possession of selected soft skills and students' academic performance, (2) there is no relationship between the student's career interests and student's academic performance and (3) there is no relationship between the student's career interests and selected soft skills. Descriptive statistics were used to describe the participants on the major variables of the study while correlation and regression analysis were used describe and quantify the relationship between the variables. The study revealed that academic performance was not significantly correlated to soft skills and career interests. Soft skills were significantly correlated to career interests. The study has implications for future curriculum reforms to increase emphasis on soft skills in the preparation of the youth for a productive post school life.

Keywords: Soft skills, teamwork, communication, critical thinking, academic performance, career interests

CHAPTER 1

INTRODUCTION

1.1 Background

In today's world, where competition for jobs is stiff and where education is accessible to greater masses, it is imperative that the youth acquire more than just basic education. Employees of organizations and even schools must attain higher levels of education in different forms. There is an increasing focus on higher-order competencies such as problem solving, communication, and critical thinking skills (Jacobs & Grubb, 2003). Botswana, like several other developing countries in Africa is faced with shortage of specialized skills that economies need. In some cases such skills are imported from developed countries, (Kuruba, 2011) in forms of consultants and experts.

According to the World Bank (2009) African countries overemphasize the provision of basic education in order to achieve the goal of universal basic education thus forgetting to nurture the personality traits in the same children required in the continuously evolving labour environment. The new mindset according to Waggoner, (2007) recognizes the importance of supplementing basic education with an array of high quality experiences that help graduates to connect their learning to the ever changing job market. Among those necessary competences is a set of what is known as soft skills and virtues.

Employers have raised concern over the nature of graduates from tertiary institutions. The main concern has been on the competencies that job entrants are expected to possess for the effective performance of their organizations. Apparently, there is a gap between the academic skills that the graduates have acquired in their institutions of learning and the soft skills that are required for performing such jobs. Soft skills help to determine a person's ability to excel in a

particular social structure, such as a team or organization. It has been further argued that one or more of the soft skills have the greatest impact on an employee's level of success.

The Botswana education system uses the traditional methods of assessment that test on knowledge acquisition without going further to the depth of assessing the competencies that complement academic knowledge. This means that there could be insufficient evidence on assessment of soft skills in public examinations in general not only in Botswana. The current systems of examination in education basically address the assessment of the taught subject matter contents for the knowledge and skills prescribed in the curriculum. Even though apart from the written theory papers offered at the end of a course, the Botswana Examinations Council examines candidates on some of these skills through coursework and research projects. The validity of scores obtained from school based assessment remains questionable (Masole & Howie, 2010), and therefore cannot be used as reliable measure of the soft skills acquisition. Notwithstanding, performance data provided by these existing tests is used to sort students into various career lines. Thus the lack of tools tailored for assessment of soft skills in educational institutions calls for a paradigm shift in the approach that schools use to teach and examination bodies use to assess what was taught.

One interesting factor to probe is the relationship between academic performance, soft skills and career interests. Are these related? This study investigates the relationship between test scores, soft skills and career choices at senior secondary education level with a view to informing policy makers and future educational reforms. The first section provides some background on the topic, describing what exactly is meant by soft skills and reviewing the existing evidence for their demand in the work place. The second section overviews the current situation regarding acquisition and assessment of soft skills in Botswana's education system. The third section

presents theoretical foundation of the study. The final section discusses the assumptions, limitations and delimitations of the study.

1.2 What are Soft Skills?

Soft skills have been defined as skills that relate to a person's ability to operate in the workplace, either alone or with others. (Wellington, 2005; Kantrowitz, 2005). The authors further describe soft skills as the interpersonal, people, or behavioral skills needed to apply technical skills and knowledge in the workplace. Weber, Crawford, Rivera and Finley (2010) assert that soft skills correspond to the skills in the human, conceptual, leadership, and interpersonal categories.

Generally, soft skills are seen as people-oriented skills and self-management skills (Heckman, 2012). Unlike hard skills, which are about a person's skill and ability to perform a certain type of task, soft skill relate to a person's ability to interact effectively with coworkers and customers and are broadly applicable both in and outside the workplace (Career Opportunities News, 2002). According to other literature soft skills is a sociological term relating to a person's emotional intelligence (EQ), the cluster of personality traits, social graces, communication, language, personal habits, friendliness and optimism that characterize relationships with other people, goals, motivations, and preferences that are valued in the labour market, in school, and in many other domains. Soft skills as people's skills include proficiencies such as communication skills, conflict resolution and negotiation, problem solving, strategic thinking, influencing skills, such as courtesy, respect for others, work ethic, teamwork, self-discipline, self-confidence, conformity to norms, language proficiency, and behavior (Career Directions, 2003; Career Opportunities News, 2002), common sense, the ability to teach.

listening, teamwork, good manners, sociability, leadership, and responsibility (Dash, 2001; Gorman, 2000; Aworanti, 2012).

There is convergence in the way the different authors view soft skills. All the authors reviewed described soft skills by using terms associated with personality traits. Hence soft skills can be viewed simply as inter and intrapersonal skills or behavioral competences.

Contemporary literature (Aworanti, 2012) suggests that soft skills complement hard skills which are occupational requirements of a job.

Fascinatingly, a person's soft skill is an important part of their individual contribution to the success of an organization. It is now commonly accepted that changes in the workplace are transforming the kinds of knowledge, skills, and attitudes needed for successful work performance. Some organisations, particularly those dealing with customers face to face can be more successful if they train their staff to relate positively with customers. The legal profession is one example where the ability to deal with people effectively and politely, more than occupational skills, can determine the professional success of a lawyer (Giusti, 2008). For this reason, soft skills are increasingly sought out by employers in addition to standards qualifications. Literature reviewed such as Behm (2003), Wade and Parent (2002) and Tabulawa (2011) have indicated an increased emphasis on soft skills.

In an effort to investigate into soft skills the researcher found it necessary to determine which soft skills would be the focus of this research. Literature on the ideal employee for the 21st century frequently mentions the importance of the individuals who are team players, good listeners, effective problem solvers and critical thinkers with good communicative skill, (Dash, 2001; Gorman, 2000). According to LaFrance (2009) among the several soft skills currently preferred by employers are teamwork, communication and critical thinking. The researcher

randomly picked and analysed job advertisements in the Sunday Standard, The Botswana Guardian, The Voice and Mmegi newspapers of the week ending the 15th August 2012. The results showed that in all of the thirty jobs advertised, communication, critical thinking and teamwork were the most demanded (figure 1). Hence these three soft skills were of focus in this research. In the context of this study the term soft skills is used to refer to the selected skills of communication, teamwork and critical thinking.
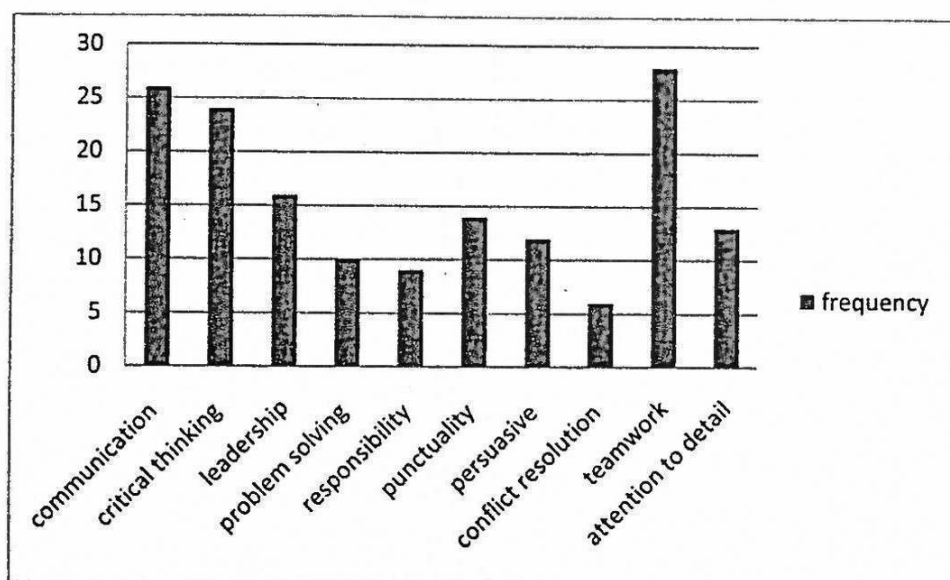
Figure 1: Frequency of selected soft skills in newspaper advertisements from August – September 2012

The concept of soft skills has also been linked to choosing careers. It has been said for people to know what career to choose they must first know their personality (Lindhard, 2000). According to Lindhard choosing a career means matching one's nature with the nature of work.

1.2.2 The education system of Botswana

Botswana's education system has changed tremendously since the country got independence in 1966. The first educational policy, called Education for Kagisano (1977), guided the country's educational development and administration from 1977 to 1993 following the independence in 1966. The policy acknowledged the importance of technical skills particularly those related to production (*National Commission on Education:* NCE, 1993). Although the policy acknowledged the importance of technical and practical subjects, substantial changes throughout the education system were necessary in order to adapt the education to the rapidly changing society and economy (Curriculum development and evaluation, 1985).

In the early 1990s, the recognition that the country's socioeconomic situation had changed significantly resulted in a review of policies and strategies for Botswana's educational development. In 1995 *The Revised National Policy on Education:* RNPE (1994) was implemented as a result of a 1993 National Education Commission study. Its recommendations are expected to provide direction for Botswana's educational system until 2020. In 2001 the education system of Botswana was restructured. The new system considers access to basic education a fundamental human right (RNPE, 1994). The RNPE recommended education structure which includes seven years of primary education, three years of junior secondary education, and two years of senior secondary education (7-3-2). Thus, like its predecessor the policy emphasized universal access to primary and junior secondary school. Completing the Junior Certificate programme may lead to admission to the senior secondary school programme. In line with the policy, pupils who attained specified level of performance on the Junior Certificate Examination are admitted to the senior secondary program. Unlike the NPE (1977), the RNPE emphasized the acquisition of soft skills. The policy states that:

"On completion of the ten year basic education, all students in accordance with their abilities and aptitudes, should have developed foundation skills such as problem solving, critical thinking, communication, inquiring, teamwork / interpersonal to help them to be productive and adaptive to survive in a changing environment"(RNPE, 1994,p).

The importance of soft skills has also been emphasized in The Long Term Vision for Botswana, Vision 2016. The Vision 2016 report produced as Botswana's development blue print singles out education as an important tool that can shape the nation's aspirations. According to the blue print, Botswana anticipates a future whereby by the year 2016 citizens would have gone beyond basic education to become an educated and informed nation. The vision states that:

"Botswana will have a system of quality education that is able to adapt to the changing needs of the country as the world around us changes. Improvements in the relevance, the quality and the access to education, it will produce entrepreneurs who will create employment to raise awareness on life skills education will be developed in partnership between the public and private sectors" (pg. 5).

In order to translate the RNPE (1994) recommendations into practice and make Vision 2016 educational aspirations a reality education is often given priority in the national budget. For example, according to the Minister of Finance and Development Planning, Honourable Kenneth Matambo's (2012) budget speech for 2012/13, the Ministry of Education and Skills Development (MOESD) was allocated the largest share of 27.3 percent (P7.77 billion) of the national budget. The ministry's emphasis is on training qualified teachers, developing a diversified curriculum, and expanding facilities to meet the national commitment of universal education. As one of its initiatives the MOESD developed the Curriculum Blueprint: Senior Secondary School Programme.

According to the curriculum blue print the government's goal for education is to provide for lifelong education which will prepare Batswana for the transition from a traditional agro-based economy to the industrial economy that the country aspires to. Senior secondary education should build on to the Basic Education Programme and continue promoting the all-round development of an individual. In developmental theory (Hodgkinson, 2006; Schaps, 2006), a whole-child curriculum is one that cultivates the development of students' intellectual, social, and emotional well-being so that children can achieve their full potential. Accordingly, the programme attempts to develop the learner's moral, ethical and social values while providing quality experiences to prepare learners for higher education, work and adulthood. It also attempts to broaden opportunities by providing wider possibilities for self-fulfillment and training after basic education.

Senior secondary education is seen 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. Furthermore, it should help learners acquire tools to deal with new technology and to manage and accommodate change, thus preparing them for active participation as citizens of tomorrow. It should aim to reduce the existing educational and economic disparities by increasing access to education for all learners at this level. It should further address equity in education.

Education at this level is expected to provide equal opportunities for all children to develop their potential. It should be a period when new and varied talents emerge and flourish while existing ones are enhanced. It should cater for learners with different abilities and those with special needs if it has to contribute to the quality of life for all. This will ensure active

participation in the development of the country in line with the national ideals of democracy, development, self-reliance, unity and social harmony (*kagisano*).

In order to achieve the aforementioned mandate, the senior secondary education programme content is organised around two broad areas, a core area which are done by all students and an optional area which has four subgroups. Students choose a minimum of one subject from each of the Sciences and Humanities & Social Science (HSS) groups, a minimum of two subjects from the Creative, Technical and Vocational Group (CTV) and one subject from the Enrichment Group (Table 1).

In this view of the "whole person paradigm" in developing a child, it is plausible to assert that Botswana has attempted to embed the concept of soft skills within the education system. In an effort to infuse these skills the policy places emphasis on the adoption of a variety of teaching methods, to the extent of teaching children through inquiry based approaches (projects), demonstration, practical work (hands-on like agriculture practicals), case studies, field trips, discussions and computer guided learning. The goal was to help students develop both technical skills of the subject as well as the interpersonal skills [soft skills] acquired through the use of different techniques. Based on this, the policy stresses the use of a variety of continuous assessment (CA) techniques were used that include school based projects (experiments and surveys) and school administered theory tests.

Table 1

The Senior Secondary Programme Subject Groupings

CORE GROUP	OPTIONAL GROUPS			
	HUMANITIES AND SOCIAL SCIENCES	SCIENCES	CREATIVE, TECHNICAL AND VOC	ENRICHMENT
English	History	Single Science	Design and Technology Agriculture	Third Language
Setswana	Geography	Double Science	Art Food and Nutrition	Physical Education
Mathematics	Social Studies	Chemistry	Computer Studies Fashion and Fabrics	Music
	Development Studies	Physics	Business Studies Home Management	Religious Education
	Literature in English	Biology		Moral Education
		Human and Social Biology (only for private candidates)		

Source: MOESD, the Senior Secondary Education Curriculum Blue Print Revised 16 November1998

Several studies conducted locally (Squire, 2009; Mukhopadhyay & Moswela, 2009; Kgakge, 2009; Moleele, 2010) evidenced that teachers do not use learner centred teaching methods. Chakeredza et al., (2008) affirm, "Curricular delivery in schools has been based on rote learning, memorisation of facts and reproduction of the same at examinations".

Currently there is little assessment geared towards soft skills development at school and national levels and tertiary institutions. There continues to be over-reliance on the exam-driven assessment system which tends to rob learners of the opportunity to be judged on the basis of typical performance that is routinely appraised through qualitative measures. In Botswana, standardised tests include the Primary School Leavers Examination (PSLE), Junior Certificate of education (JCE) and Botswana General Certificate of Secondary Education (BGCSE which are end of a programme examination. For a long time emphasis has been placed on tests to determine the fate of the future of children. Contemporary society places great value on scores obtained from standardised tests. As indicated by Brissenden and Slater, (n.d.), the outcomes of tests are used for placement selection and to give feedback on students progression and promotion.

However, standardized tests have been criticized by many researchers. According to Azar, (2009), Çepni, Özsevgeç, and Gökdere (2003) and Şahin (2007), standardized test questions measure much lower level cognitive skills of students but do not measure soft skills aimed in secondary education curriculum. That is questions asked in central exams are inefficient in measuring skills that require students' higher order thinking such as problem solving, critical thinking, and creative thinking. In addition, they fail to capture creative moments in the learners' experiences, most of which occur in the classroom setting (Heckman, 2009). Standardized achievement tests do not adequately capture many skills that matter in life, (Heckman, 2009) thus their use in categorizing school children according to how they perform misrepresents national statistics on educational attainment. Furthermore, in subjects where other forms of assessment such as coursework are used, they contribute a lesser percentage towards the final grading of a learner and also their reliability remains questionable, (Masole, and Howie, 2010).

In this context, to determine which students' abilities are measured by the standardised tests was useful for our education system.

1.3   Theoretical Foundation

Several theories were reviewed to provide an understanding of the soft skills and hard skills development in employees of organizations. It also provided the theoretical framework of this study. Among other theories guiding the study were the Gardeners' theory of multiple intelligences, Holland's theory of personality development, and the Super's career development theory.

This study is based on Gardener's theory of multiple intelligences. According to Gardner (1999), intelligence is much more than IQ because a high IQ in the absence of productivity does not equate to intelligence. Gardner (1999) posits the existence of seven intelligences, namely logical-mathematical, linguistic, spatial, musical, bodily-kinesthetic, interpersonal and intrapersonal. According to Gardner (1999) each of these seven "intelligences" has a specific set of abilities that can be observed and measured. This theory has implications for assessment. According to Gardner, the current psychometric approach for measuring intelligence is not sufficient as it measures only linguistic and logical/mathematical intelligences, with a narrow focus within content in those domains. In his view, assessment must cast a wider net to measure human cognitive abilities more accurately. He views the purpose of assessment being to obtain information about the skills and potentials of individuals, and provide useful feedback to the individuals and the community at large. Assessment elicits information about an individual's abilities in the context of actual performance rather than by proxy using formal instruments in a de-contextualized setting. According to him predictive validity of traditional intelligence tests

may be psychometrically sound. but its usefulness beyond predicting school performance is questionable (Gardner. 1999)

The study is also guided by Holland's theory of career choice. Holland's theory explains work-related behavior – such as, which career choices are likely to lead to job success and satisfaction. It also explains other human actions. like success and satisfaction in school and training programs. According to Holland's theory people can be categorized into one of six personality types: Realistic, Investigative, Artistic, Social, Enterprising and Conventional (RIASEC). People of the same personality type working together in a job create a work environment that fits their type. The theory provided the framework for developing career interests survey items (Jones, 2002).

The choice of the study's target group was guided by Super's theory. Super developed the concept of vocational maturity, which may or may not correspond to chronological age: people cycle through each of these stages when they go through career transitions (Brown and Brooks. 2002). Super identified five life and career development stages - growth, exploration, establishment, maintenance and decline. According to the theory adolescents (14 -25 years old) are at the exploration stage where they start giving less time to hobbies, verifying current occupational choice, getting started in a chosen field, learning more about opportunities and developing a realistic self-concept. Super states that in making a vocational choice individuals are expressing their self-concept, or understanding of self, which evolves over time. People seek career satisfaction through work roles in which they can express themselves and further implement and develop their self-concept. Therefore this theory provides the basis for selection of the senior secondary school students as the target group for this study (Brown and Brooks, 2002).

1.4   Statement of the Problem

Today's job market require employees to possess both technical and soft skills to work effectively (Behm, 2003). Possession of set soft skills is directly related to the type and nature of professions (*European Working Conditions Survey:* EWCS, 2001). According to Holland's theory a person's personality type determines ones career type and subjects preferences at school. However, Botswana's education system has been criticized of being too academic to encourage development of soft skills, (Tabulawa, 2011; Kgathi, 2012; Karuba, 2009; Ramoleele, 2009). Despite the fact that some empirical evidence suggests that standardised achievement tests do not capture soft skills (Heckman, 2009), in Botswana performance of students in standardized achievement tests have been used to determines career lines that students may pursue in life. Therefore there is lack of performance evidence in the examinations that are currently used. This could potentially increase numbers of students who thrive academically but fail in the workplace. Further it might heighten dissension among stakeholders over employability of the youth.

Previous studies have not been conclusive about the relationship between soft skills, career choices and academic performance. Studies such as Goleman (1998), Heckman (2009) and Azar (2009) have reported a positive correlation between soft skills and academic performance. On the other hand some authors such as Collins and Onwuegbuzie (2000) and Williams and Worth (2002) found no correlation. While Mau (2003) found a positive relationship academic performance and career interests, Creed, Conlon and Zimmer-Gembeck (2007) found that achievement of students on standardised tests was not significantly related to career aspirations.   However, research in soft skills is scarce in Botswana as no studies

addressing the current question were encountered locally at the time the study was conceptualized.

On the basis of this background, research on the relationship between soft skills, academic achievement and student's career interests especially from the local students' perspective becomes relevant.

1.5 Purpose of the study.

The purpose of this study was to examine the association between possession of selected soft skills, academic performance and career interests of form five students in public senior secondary schools in Botswana.

1.5.1 Research questions

Specifically the study attempted to generate answers to the following questions:

1. Is there a relationship between teamwork and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects?

2. Is there a relationship between communication skill and student's midyear score in science, creative, technical and vocational and humanities and social sciences subjects?

3. Is there a relationship between critical thinking and student's midyear score in science subjects, creative, technical and vocational subjects and humanities and social sciences subjects?

4. Is there a relationship between the student's career interests and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects?

5. Is there a relationship between the student's career interests and communication skill, critical thinking and teamwork?

1.6 Research hypotheses

Five hypotheses were tested to address the research questions formulated in the study as follows;

1. There is no relationship between teamwork and student's midyear scores in sciences, creative, technical and vocational and humanities and social sciences subjects.

2. There is no relationship between communication skill and student's midyear score in science, creative, technical and vocational and humanities and social sciences subjects.

3. There is no relationship between critical thinking and student's midyear score in science subjects, creative, technical and vocational subjects and humanities and social sciences subjects.

4. There is no relationship between the student's career interests and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects.

5. There is no relationship between the student's career interests and communication skill, critical thinking and teamwork.

1.7 Operational Definition of Terms

Several terms are employed in this study and are defined as follows:-

Academic performance; It is the level of performance in school subjects as exhibited by an individual, (Ireoegbu, 1992). Test scores or marks assigned by teachers are indicators of this achievement.

Career interests; the study will adapt the definition by Bakker & Macnabb (2004) who view career interests as the likes and dislikes a person has that relate to work activities. In this study the term includes the courses the students intend to pursue at tertiary level.

Communication skill: Oral communication is defined as the ability to make clear and convincing oral presentations to individuals or groups, listen effectively and clarify information as needed, and facilitate an open exchange of ideas.

Critical thinking skill: Willingham, (2007) views critical thinking as being open to new evidence that disconfirms your ideas, reasoning dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts, solving problems, and so forth.

Soft skills: Soft skills are inter and intra-personal skills required to be effective in the workplace, (FAS, 1998).

Teamwork skill: In this study, teamwork skills are defined as having the ability having the capacity of functioning productively in a team or group, understanding and maintaining group ethics, being able to absorb and handle pressure, and managing disputes among team members.

1.8 Significance of the Study

This research was important and did not only expand the knowledge base of the importance of soft skills in education but also yielded evidence that may give pause to local analysts, educational practitioners and policy makers who rely solely on achievement tests to monitor school performance and school systems. The study might reveal gaps that exist in the teachers' pedagogy. The continual changes in the employment structure together with the evidently persistent mismatch between education/training and job market demands warranted that a study such as this was undertaken particularly at this level of our educational system for the enrichment of our learning process. Understanding the relationship between soft skills academic performance and career interests may contribute not only to reducing the failure rate in

schools, but also to encouraging an emphasis on soft skills in the preparation of the youth for work. The study might unearth necessary data to drive institutions and programmes to develop tools for assessing the level of knowledge and skills of the students in order to respond to the increasing demand for verification that students are indeed learning what they need to learn. Furthermore this study may open avenues for future research in the area of soft skills which is seemingly scarce in Botswana.

1.8 Assumptions of the study

The basic assumptions of the study were:

1. All schools have qualified teachers who have the ability to set standardised papers for mid-year examinations.

2. All schools follow BEC examinations rules and regulations during administration of the mid-year examinations.

3. All students in form 5 have identified their career lines.

4. All students in form 5 possess some personality traits (soft skills).

5. All schools follow the same subject groupings as outlined in the Senior Secondary Education Curriculum Blue Print of 16 November 1998.

1.9 Limitations of the Study

Limitations are the conditions beyond the control of the researcher that may place restrictions on the conclusions of the study and their applications to other situations. The midyear examination varied among schools. This study suffered some budgetary constraint and the researcher was unable to acquire sufficient funds to permit the use of a sizable sample population nationwide. The study did not capture data from the view point of other critical stakeholders such as employers, parents and government officials who might have provide more insight into

phenomena under study. For these reasons some of the data might have not captured

"exhaustively" to arrive at some definitive conclusions about phenomena under study.

1.10 Delimitations

Delimitations are the boundaries beyond which the study is concerned. This study included

senior secondary school students doing form 5 in 2013 only.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

A wealth of empirical evidence on soft skills exists, investigating various soft skills as well as research linking soft skills to other types of learning outcomes, employment and work performance. The chapter begins with an overview of the theories underpinning the study. It continues by reviewing literature on the concept of soft skills, how it is defined, assessed and explores studies that investigate the relationship between possession of soft skills and other students attributes, particularly performance and career interests. It concludes with a summary of the literature reviewed.

2.2 Theoretical Foundation

Several theories were reviewed to provide an understanding of the soft skills and hard skills development in employees of organizations. It also provided the theoretical framework of this study. Among other theories guiding the study were the Gardeners' theory of multiple intelligences, Holland's theory of personality development, and the Super's career development theory.

2.2.1 Gardener's theory of multiple intelligences.

The Gardner's theory (1999) of intelligence concentrated much on intelligence quotient (IQ) of a person. The theory sees intelligence in *terms of 'a bio-psychological potential of a person to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture"* (p.34). In terms of this definition, intelligence is not a single concept rather it is a multiple factors described psychometrically with an IQ score,

Gardner (1999) posits the existence of seven intelligences, namely logical-mathematical, linguistic, spatial, musical, bodily-kinaesthetic, interpersonal and intrapersonal. According to Gardner (1999) each of these seven "intelligences" has a specific set of abilities that can be observed and measured.

This theory has implications for assessment. According to Gardner, the current psychometric approach for measuring intelligence is not sufficient as it measures only linguistic and logical/mathematical intelligences, with a narrow focus within content in those domains. In his view, assessment must cast a wider net to measure human cognitive abilities more accurately. Gardner (1993) proposes several improvements for the development of intelligence measures. He views the purpose of assessment being to obtain information about the skills and potentials of individuals, and provide useful feedback to the individuals and the community at large. Assessment elicits information about an individual's abilities in the context of actual performance rather than by proxy using formal instruments in a de-contextualized setting. He argues for making assessment a natural part of the learning environment much like the constant assessment of skills that occurs in apprenticeship or the self-assessment that occurs in experts who have internalized a standard of performance based on the earlier guidance of teachers. According to him predictive validity of traditional intelligence tests may be psychometrically sound, but its usefulness beyond predicting school performance is questionable. Therefore, prediction could be improved if assessments more closely approximated real working conditions. Instruments for measuring intelligence should also be "intelligence-fair" (Gardner, 1999). Consequently, there is need to reduce the bias toward measuring intelligence through logical/mathematical and linguistic abilities and move toward looking more directly at a specific intelligence in operation. Gardner acknowledges that this approach to assessment may be

difficult to implement but emphasizes that the assessment of intelligence should encompass multiple measures and must be sensitive to individual differences and developmental levels.

2.2.2 Holland's theory of career choice.

Holland's theory explains work-related behavior – such as, which career choices are likely to lead to job success and satisfaction. According to Holland's theory people can be categorized into one of six personality types: Realistic, Investigative, Artistic, Social, Enterprising and Conventional (RIASEC) (Jones, 2002). People of the same personality type working together in a job create a work environment that fits their type. The theory further posits that there are six basic types of work environments: Realistic, Investigative, Artistic, Social, Enterprising and Conventional. People search for environments where they can use their skills and abilities and express their values and attitudes. Bakker and Macnab, (2004) have described the categories as follows:

Realistic people like working mainly with your hands making, fixing, assembling or building things, using and operating equipment, tools or machines. They often like to work outdoors. Their key skills are using and operating tools, equipment and machinery, designing, building, repairing, maintaining, measuring, working in detail, driving, moving, caring for animals, working with plants. They prefer occupations like being a pilot, farmer, horticulturist, builder, engineer, armed services personnel, mechanic, upholsterer, electrician, computer technologist, park ranger, sportsperson. Subjects such as English, Math, Science, Workshop, Technology, Computing, Business Studies, Agriculture, Horticulture, and Physical Education develop necessary skills (Bakker & Macnab, 2004).

Investigative people like to discover and research ideas, observe, investigate and experiment, ask questions and solve questions. Key skills are thinking analytically and logically, computing, communicating by writing and speaking, designing, formulating, calculating, diagnosing, experimenting, and investigating. Their occupations include science, research, medical and health occupations, chemist, marine scientist, forestry technician, medical or agricultural laboratory technician, zoologist, dentist, GP excite them. Subjects they do to develop skills are English, Math, Science, Computing, and Technology (Bakker & Macnab, 2004).

Artistic people like using words, art, music or drama to express yourself, communicate or perform or you like to create or design things. They have skills in expressing artistically or physically, communicating by speaking, writing and singing, performing, designing, presenting, planning, composing, playing, and dancing. They prefer occupations such as being an artist, illustrator, photographer, sign writer, composer, singer, instrument player, dancer, actor, reporter, writer, editor, hairdresser, fashion designer. Subjects they like are English, Social Studies, Music, Drama, Art, Graphic Design, Computing, Business Studies, and Languages (Bakker & Macnab, 2004).

Social people like working with people to teach, train, inform, help, treat, heal, cure, serve and greet. You are concerned for others' well-being and welfare. Key skills include communicating by writing and speaking, caring and supporting, training, meeting, greeting, assisting, teaching, informing, interviewing, and coaching. They prefer occupations such as being a teacher, nurse, counselor, police officer, social worker, salesperson, customer service officer, waiter, secretary. Subjects they like include English, Social Studies, Math, Science, Health, Physical Education, Art, Computing, Business Studies, Languages (Bakker & Macnab, 2004).

Enterprising people like meeting people, leading, talking to and influencing others, encouraging others, working in business. Key skills include selling, promoting and persuading, developing ideas, public speaking, managing, organising, leading and captaining, computing and planning. Their occupations include salesperson, lawyer, politician, accountant, business owner, executive or manager, travel agent, music or sports promoter. They prefer subjects like English, Math, Business Studies, Accounting, Economics, Social Studies, Drama, Computing, and Languages (Bakker & Macnab, 2004).

Conventional people like working indoors and at tasks that involve organising and being accurate, following procedures, working with data or numbers, planning work and events. Key skills include computing and keyboarding, recording and keeping records, paying attention to detail, meeting and greeting, doing calculations, handling money, organising, arranging, working independently. Occupations that appease them are being a secretary, receptionist, office worker, librarian, bank clerk, computer operator, stores and dispatch clerk. Their subjects' preferences include English, Maths, Business Studies, Accounting, Economics, and Computing (Bakker & Macnab, 2004).
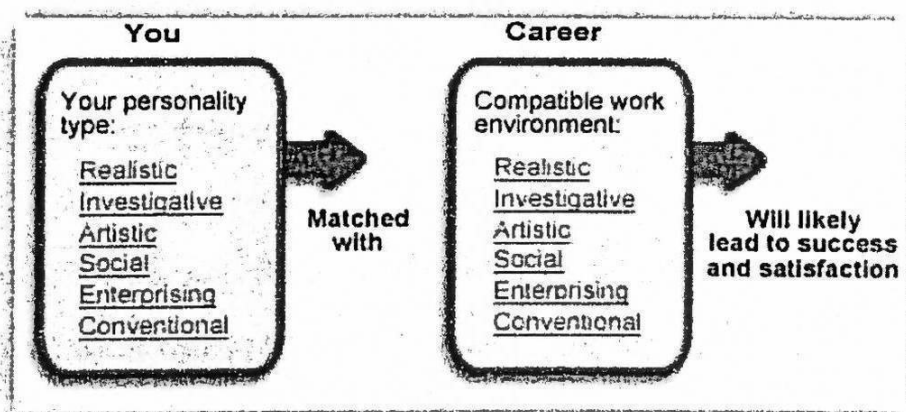
Figure 2: Personality and Career Aspirations [Source:
The Career Key website:www careerkey.org/English]

The theory views personality as the primary factor related to career choice. According to the theory, you want to choose an occupation whose personality type is the same as, or similar to yours. This is most likely to lead to your job satisfaction and success. However the theory acknowledges that most people, in reality, are a combination of types -- like Realistic-Investigative or Artistic-Social. Therefore, a person will probably want to consider occupations in more than one category.

2.2.3 Super's theory.

One of Donald Super's greatest contributions to career development has been his emphasis on the importance of the development of self-concept (Brown and Brooks, 2002). According to Super, self-concept changes over time, and develops as a result of experience. As such, career development is life-long. Super argues that occupational preferences and competencies, along with an individual's life situations, all change with time and experience. Super developed the concept of vocational maturity, which may or may not correspond to chronological age: people cycle through each of these stages when they go through career transitions (Brown & Brooks, 2002). Super identified five life and career development stages - growth, exploration, establishment, maintenance and decline. According to the theory adolescents (14 -25) are at the exploration stage where they start giving less time to hobbies, verifying current occupational choice, getting started in a chosen field, learning more about opportunities and developing a realistic self-concept. Super states that in making a vocational choice individuals are expressing their self-concept, or understanding of self, which evolves over time. People seek career satisfaction through work roles in which they can express themselves and further implement and develop their self-concept (Brown & Brooks, 2002).

2.3 Soft Skills in the Work Place

Evidence for new skill needs from employer surveys suggests that employers are often more concerned about soft skills rather than technical knowledge. For example, according to Stasz, Ramsey, Eden, Melamid, and Kaganoff, (1996) employers and workers feel generic skills. such as problem solving, communication, and teamwork have become increasingly important for workplace success. Behm (2003) and Lawrence (1998) have noted that beyond the classroom, a lack of soft skills is more likely to get an individual's employment terminated than a lack of cognitive skills.

According to Wade and Parent (2002), research demonstrates that technical skills account for only 15% and soft skills 85% of a person's productivity especially in today's environment. Therefore, soft skills are increasingly becoming important for workplace success and hence sought out by employers in addition to standard qualifications

A study by Weber *et.al*, (2010) found that soft skills are needed for successful transition from completion of baccalaureate degrees to competitive employment. Similarly, Pink, (2005) has stated that a competitive edge will come to those who also have skills to "detect patterns and opportunities and to combine seemingly unrelated ideas into something new and the ability to empathize with others, understand the subtleties of human interaction, to find joy in one's self and illicit it in others," and to find purpose and meaning beyond what others might see.

Kouzes and Posner, (2007) also affirm that young people who develop this new skill set for success are likely to lead in school, at work and in their community. Throughout life, they will remain competitive in school, in great demand in the workplace and vital for a vibrant democracy.

Rainsbury, Hodges, Burchell, and Lay (2002) classified the competencies of superior managers identified by Spencer and Spencer (1993) as hard skills or soft skills. Only three of the twenty competencies were classified as hard skills with the remaining seventeen classified as soft skills. The categories of the soft skills included: (a) achievement and action, (b) impact and influence, (c) managerial (team management and developing others), and (d) personal effectiveness.

Likewise a biannual survey by the Association of Graduate Recruiters in the UK reported that there is an inadequate supply of applicants as they lack in "soft" skills (Association of Graduate Recruiters, 2006). In a survey by Di Meglio (2008), employers cited "communication skills, a strong work ethic, teamwork skills, initiative and interpersonal skills, in that order, as the top characteristics that they look for in new hires." Gallivan, Truex, and Kvasny (2004) also identified communication, interpersonal, leadership, organisation, self-motivation and creativity as the six commonly sought soft skills in the USA and estimated these attributes to account for approximately 26% of the skills mentioned in online job advertisements. Job Outlook's 2006 Survey of 250 employers (Beard, Schwieger, & Surendran, 2007) listed 13 main 'skills sought by employers' and among the list were soft skills such as communication, analytical, teamwork, interpersonal and organisational skills, as well as motivation, flexibility and detail orientation.

After interviewing more than 300 employers, Peter D. Hart Research Associates, Inc. found that teamwork, communication, and critical thinking skills were essential learning outcomes for college students (How Should Colleges, 2006). The employers expressed frustration "with the challenges of finding '360 degree people' who have both the specific job/technical skills and the broader skills (communication skills, teamwork skills, problem-

solving skills, and work ethic) necessary to promise greater success for both the individual and their employer" (How Should Colleges, 2006, pg. 7).

According to Good (2006), interpersonal abilities such as diplomacy, persuasiveness and effective face-to-face communication will remain vital. Although employers rate soft skills highest in importance for entry-level success in the workplace (Wilhelm, 2004), these skills are just as critical for promotion opportunities. For example, in a Robert Half International survey of chief financial officers, more than one-third said that other than technical skills and industry knowledge, the characteristic that impresses them most when interviewing executive-level candidates was verbal communication skills (Good, 2006).

According to Knight and Yorke, (2000) for some employers, the degree subject studied is not as important as the graduates' ability to handle complex information and communicate it effectively. Graduate recruiters want a variety of other skills, personal and intellectual attributes, rather than specialist subject knowledge. Employers increasingly want graduates who have self-theories that are marked by confidence, optimism, who can adapt to the workplace culture, who can use their abilities and skills to evolve the organisation and who can participate in innovative teamwork (Little, 2001). Employers also value critical thinking (reflection) as this is required for innovation and anticipating and leading change (Harvey *et al.*, 1997) and oral communication, teamwork, self-management, problem solving, leadership (Warn & Tranter, 2001).

Research on soft skills in Botswana is limited. Nevertheless, Tabulawa (2011) has reported that there is a growing demand for short courses to upgrade the skills of work force in Botswana. Tabulawa, (2011) even cautions every teacher to be aware of the significance of what is termed the 'hidden curriculum'. According to him this is the unofficial curriculum, one more powerful than the official one as it is the curriculum that is most suited for the task of promoting

the soft skills. Thus the way teachers teach and the way they socially organize their classroom,

forms part of this hidden curriculum (Tabulawa, 2011). The results of the analysis of the data

gathered from thirty randomly picked job adverts in the Sunday Standard, The Botswana

Guardian, The Voice and Mmegi newspapers of the 15th August 2012 showed that in all of the

thirty jobs advertised communication, critical thinking and teamwork were the most demanded.

2.3.1 Communication skills

Communication is defined as the ability to make clear and convincing oral presentations

to individuals or groups, listen effectively and clarify information as needed, and facilitate an

open exchange of ideas (Soft Skills for Pubic Managers, 2010). Effective communication skills

help students to improve their own academic performance, increase their employment options,

enhance their subsequent professional competence and improve their own personal effectiveness.

These skills should be an integral part of any education system be it higher or lower education

(Soft Skills for Pubic Managers, 2010). Good communication skills can reduce

misunderstandings, errors, frustrations, and conflicts on a regular basis. Through communication,

our ideas and interests are transmitted to other people; thus, the way we communicate serves as

the foundation on which people form their opinions about us (Butler & Stevens, 1997).

Therefore, effective communication leads to healthy personal and work relationships (Boyd,

Lilling, & Lyon, 2007). A survey on critical skills conducted by the *American Management

Association*: AMA (2010) evidenced that communication skills were cited by recruiters from

major companies as a key factor in choosing managers.

Communication skills are emphasized in syllabi of almost all subjects at this level but

most explicitly in the Setswana and English language syllabi. The senior secondary school

education fosters these skills by having students read stories to each other; participate in

discussions on topics that interest them, practice debating and clarifying their points of view in

discussion/planning groups. Students may also communicate their ideas when they collaborate

with each other, present in front of class or in shows, or join the debate teams (MOESD, 2001).

2.3.2 Teamwork.

Larson and LaFasto (1989) defined teamwork skill as the ability to work with people

from different social and cultural background to achieve a common goal. In contemporary

society organizations are increasingly relying on the use of teamwork processes to meet the

challenges of global competition. As (Guzzo & Dickson, 1996) attest, businesses rely on teams

to increase quality and efficiency, reengineer systems, design and launch products, determine

strategy and govern the firm. In response to this challenge, teamwork has been implemented in

many organizations in different countries over the last few years, taking a range of forms in

practice (Frobel & Marchington, 2005). Johnson and Johnson (2000) state further that

collaborative learning is widely used in educational settings, starting as early as pre-school, in

afterschool programs, and extending to graduate schools. Students in successful teams provide

explanations, ask questions, and engage in argumentative discussions more often than students

from less effective groups (Chan, 2001; Van Boxtel, 2000). The senior secondary school

education programme provides the ideal setting to develop teamwork skills. The program offers

many opportunities to engage in hands-on, experiential activities that require teamwork and

collaboration, such as team projects for a science fair.

2.3.3 Critical thinking.

The literature on critical thinking has roots in philosophy, psychology and educational

field. The philosophical approach focuses on the hypothetical critical thinker, enumerating the

qualities and characteristics of this person rather than the behaviors or actions the critical thinker

can perform (Thayer-Bacon, 2000). For example, Bailin (2002) and Facione (2000, p. 61) define critical thinking as thinking of a particular quality—essentially good thinking that meets specified standards of adequacy and accuracy. That is thinking that is goal-directed and purposive, "thinking aimed at forming a judgment."

The psychological approach tends to focus on how people actually think versus how they could or should think under ideal conditions (Sternberg, 1986). Instead of defining critical thinking by itemizing standards of "good" thought, the psychologists tend to define critical thinking by the types of actions or behaviors critical thinkers can do. This approach includes a list of skills or procedures performed by critical thinkers (Lewis & Smith, 1993). For example, Sternberg, (1986, p. 3) defined it as "the mental processes, strategies, and representations people use to solve problems, make decisions, and learn new concepts." Halpern, (1998, p. 450) defined it as "the use of those cognitive skills or strategies that increase the probability of a desirable outcome". Willingham, (2007, p. 8) views it as "seeing both sides of an issue, being open to new evidence that disconfirms your ideas, reasoning dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts, solving problems, and so forth".

Educationists like Bloom et al (1971) have also participated in discussions about critical thinking. Bloom's taxonomy, the most widely cited source for educational practitioners in teaching and assessing higher-order thinking skills is hierarchical, with "comprehension" at the bottom and "evaluation" at the top. The three highest levels-analysis, synthesis, and evaluation are often said to represent critical thinking.

Despite differences among the three approaches to defining critical thinking, there exist areas for agreement. Researchers of critical thinking typically agree on the specific abilities

encompassed by the definition, which include analyzing arguments, claims, or evidence

(Halpern, 1998); making inferences using inductive or deductive reasoning (Willingham, 2007);

judging or evaluating (Case, 2005) and making decisions or solving problems (Halpern, 1998;

Willingham, 2007).

2.4 What Do Schools Offer?

Despite the importance of soft skills to employers, Mitchell, Skinner and White (2010)

report that many employees are deficient in these skills. Specifically, Smith (2005) reports that

management education has been criticized for being disconnected from practice. He explains that

schools focus too heavily on concepts and theories that do not pertain to practice and instead

should do more to help students develop soft skills such as communication, teamwork and

leadership. Doria, Rozanski and Doria *et al.*, (2003) contend that even though social skills are

difficult to teach, curricula can be designed to promote them. In response to the criticisms levied

by employers on the lack of soft skill training, Mitchell, Skinner and White (2010) believe that

research is needed in the area of soft skills so that improved instructional methodology may be

developed and applied.

However, given resource allocation issues and philosophical issues, many schools oppose

reducing core subjects to make room for soft skill acquisition (Navarro, 2008). Despite these

barriers, there are proponents of integrating soft skills into the curriculum and particularly,

through experiential learning approaches (Bowers & Metcalf, 2000; Cyphert, 2002; Elmuti,

2004; Li, Greenberg & Nicholls, 2007; Navarro, 2008). In terms of soft skill preparation, Elmuti

concludes, "it all comes down to the teacher" (2004, pg. 451). He emphasizes, "all teachers must

constantly be changing and looking for better and more creative ways to teach, especially when it

comes to applying practical methods and 'soft' skills" (2004, pg. 451).

2.5   Soft Skills and Assessment

Contemporary society places great value on these test scores to sort people, evaluate schools, and assess the performance of nations. According to Bloom et al., (1971) purpose of measurement in education is generally considered as selection of skillful students, and the most important task of measurement and evaluation process in education is to supply students with lifelong learning abilities. Grek, (2009) adds that students' evaluation is used to introduce a variety of educational reforms.

Despite the widespread use of standardized achievement tests, the traits that they measure are not well-understood, (Heckman, 2012). In their recent study to establish how achievement tests relate to other measures of "cognitive ability" like IQ and grades; the important skills that achievement tests do not adequately measure, and how much these skills matter in life, Heckman & Kautz (2012) evidenced that achievement tests do not adequately capture, soft skills— personality traits, goals, motivations, and preferences that are valued in the labour market, in school, and in many other domains. Similarly, Azar, (2009) and Çepni, Özsevgeç, & Gökdere, (2003) have indicated that the standardized test questions measure much lower level cognitive skills of students. Azar (2009) further points out that questions asked in central exams are inefficient in terms of measuring skills that require students' higher order thinking.

Standardized achievement tests tend to capture general knowledge produced in schools and through life experiences (Heckman, 2009). Such knowledge is thought to be relevant to success inside and outside of the classroom. However, Heckman et al. (2012) affirmed that success in life depends on personality traits that are not well captured by measures of cognition. While economists have largely ignored these traits, personality psychologists have studied them over the last century. They have constructed measures of them and provide evidence that these

traits predict meaningful life outcomes. Different soft skills are also indicative of quite different patterns of the degree to which individual levels of these skills can change over time, especially as a result of formal education and training. Trait-like constructs, such as emotional intelligence, drive and motivation may be more influenced by personality than by teaching or academic training (Chamorro-Premuzic, 2007; Petrides & Furnham, 2001). Heckman further stated that categorizing school children according to how perform in high school on achievement tests misrepresents national statistics on educational attainment as such graduates perform much worse in many aspects of life because they lack important personality traits.

Although in addition to the terminal examinations variety of continuous assessment, for example, projects, tests, experiments and surveys are recommended (MOESD, 1998), the validity of the teachers based assessments in predicting performance remains a concern, (Ramatlala, 2009; Masole & Howie, 2010). Coursework is also contributes a lesser percentage towards students' certification. For example in Agriculture although coursework provide a platform for development of soft skills it contributes only 20% towards the final grade (MOESD, 2001).

2.6 Soft Skills and Academic Performance

There are many studies dealing with different factors affecting student achievement. However, very few of those studies have focused on soft skills as predictors of students' performance. For example studies by psychologists notably Goleman, (1998) and Heckman, (2009) indicated that there is a proven correlation between what has so far been perceived as "soft skills" like intra and interpersonal skills and achievement.

Busato, Prins, Elshout and Hamaker (2000) researched on intellectual ability, learning style, personality, achievement motivation and academic success of psychology students in

higher education. Their main findings have been that personality, intellectual ability and achievement motivation are positively associated with academic success. In addition, conscientiousness, as a personality trait, appears to be a consistent and positive predictor of academic success.

2.6.1 The relationship between teamwork and academic performance.

Although a general belief is that teamwork supports student learning, research on students' teamwork is limited and inconclusive. Some indicate that positive and support-oriented interactions support student teaching (She, 1999), while others indicate that conflict and argumentation are critical (Erduran, Osborne, & Simon, 2005). No prior studies, however, investigated the relationship between teamwork and academic performance.

Purzer, (2011) investigated the relationship between verbal exchanges, self-efficacy, and individual student achievement. Twenty-two first-year engineering students participated in this study. The verbal exchanges of these students were recorded and then coded into 35 discourse moves and six discourse actions. Data on students' pre and post self-efficacy were also collected. Correlations between discourse actions, self-efficacy scores, and individual student achievement were computed. Students engaged in six types of discourse actions: task-oriented, response-oriented, learning-oriented, support-oriented, challenge-oriented, and disruptive. Results indicated no direct correlation between support-oriented discourse (verbal persuasions) and achievement.

Oliveria and Sadler (2008) examined the cognitive as well as the social processes of three undergraduate student teams while they predicted and discussed what would happen if a burning candle is covered with a jar. In this study, while the individuals in one team were able to expand their learning through discourse and argumentation, learning within the other teams was limited.

These researchers identified conflict avoidance, poor team monitoring, and silent participation as factors that inhibited argumentation and learning.

2.6.2 The relationship between communication and students' performance.

While no specific study was found relating oral communication skills and students' academic performance Goldsmith (2007) suggested that there are 15 abilities that soft skills can be placed to which are: self-management, communicational, interpersonal, team-working skills, the ability to work under pressure, imagination/creativity, critical thinking, willingness to learn, attention to detail, taking responsibility, planning and organising skills, insight, maturity, professionalism and emotional intelligence. He stated that teaching of these abilities would benefit a student's performance.

2.6.3 The relationship between critical thinking and academic performance.

Empirical evidence on the relationship between critical thinking and performance among local students is limited. However, a number of researchers have attempted to study the variables elsewhere.

Azar (2009) conducted a study is to investigate the difference between academic achievement in "Selection and Placement Exam for University" of students who have high critical thinking dispositions and of students who have low critical thinking disposition and whether this difference change with students' gender, class levels (high-school graduated /high school student) and major which they studied in high school. The result of this study, revealed no statistically significant difference between students' academic achievement and critical thinking dispositions at level of .01 and also students' critical thinking dispositions do not change with students' gender, class levels (high-school graduated /high school student) and major which they studied in high school.

Kealey, Holland, and Watson (2005) studied whether critical-thinking skills can help explain the cross-sectional variation in student performance in principles of accounting. Their results show that even after controlling for academic aptitude, critical-thinking skills contribute significantly to explaining the cross-sectional variation in student performance in an accounting principles class.

A study by Collins and Onwuegbuzie (2000) assessed the relationship between students' ability to interpret and to apply research methodology and their critical thinking skills. Participants Findings revealed moderate statistically significant relationships between overall critical thinking skills and the midterm and final examination scores.

In their study of thinking skills and work habits involving 292 participants, Williams and Worth (2002) found that base-level critical thinking, attendance, and note taking differentially predicted performance measures in a large human development course. Multiple-regression analyses showed that critical thinking was the strongest predictor of multiple-choice examination performance. Group analyses revealed that high- and low-performing students differed significantly on all predictor variables.

2.7   The Relationship between Academic Performance and Career Interests

Although the researcher did not encounter any studies examining the relationship between career aspirations and academic achievement from the local student's perspective, a plethora of empirical evidence indicates that elsewhere career aspirations have been correlated to academic achievement since 20th century.

Feingold (1923) completed the earliest study that examined the relationship between test achievement and career aspirations using incoming high school freshman and did not find a significant relationship between academic achievement and career aspirations.

Byrns (1939) conducted a similar study, this time with high school seniors. She discovered that there was some relationship between the career choice of students and their tested intelligence. More specifically, certain career groups attracted students with the highest test scores and certain other career groups attracted students with the lowest test scores (Byrns, 1939). Byrns (1939) also found it important to note that there was a wide range of ability within these groups. Two years later, Livesay, (1941) established a relationship parallel to Byrns (1939) with high school seniors but like Feingold (1923), acknowledged that a significant number of students held aspirations that were likely beyond their abilities.

Moser (1949) also used high school students" achievement on an intelligence test to compare to their career aspirations. He reported that students aspiring to careers requiring a greater degree of training were generally selected by students that exhibited a higher level of achievement while careers requiring a lesser degree of training were selected by students that exhibited a lower level of achievement (Moser, 1949). Jumping ahead to 1989, Kelly found that the academic ability of British teens (again determined by achievement on an IQ test) was only slightly related to their career aspirations including the range of career choices that they considered.

Recently, Mau (2003) reported that high academic achievement was a common factor among 8th grade science and engineering career aspirations. Much more recently, in Australia, Creed, Conlon and Zimmer-Gembeck (2007) completed a study that found that achievement on standardized testing was not significantly related to the career aspirations of Seventh Grade students. Most of the students surveyed aspired to high status careers regardless of test achievement (Creed et al., 2007).

2.8   The relationship between soft skills and career interests

When the Harvard Medical School surveyed more than 2,000 patients about their office visits, poor communication emerged as the most important factor affecting patients' trust in their doctors and as the most likely reason for dissatisfaction and cause for switching physicians (Keating, Green, Kao, Gazmararian, Wu, & Cleary, 2002).

Communication skills are as essential to the legal profession as they are to the medical profession. University of Iowa's Higher Learning Commission (HLC), (2010) argues that the importance of effective communication skills between lawyers and clients is equaled only by the imperative need for sustained instruction in the development of communication skills for the lawyer. HLC points out those courses in law school rarely provide more than trial practice, trial preparation, or settlement and negotiation.

According to the data from the EWCS (2001) teamwork is directly related to the type and nature of professions. The survey showed that according to the International Standard Classification of Occupations (ISCO) in all the European countries surveyed there was a predominance of teamwork among the legislators and senior officials and managers (75.4%), professionals (66.7%), and technicians and associate professionals (68.9%). A higher incidence of teamwork is also found among craft and related trades workers (68.2%), while a lower incidence of teamwork prevails among clerks (53.9%), plant and machine operators and assemblers (57.3%), and elementary occupations (52.9%). The results thus indicate that teamwork predominates among highly-skilled jobs with a higher than average degree of autonomy.

In France, according to the 1997 survey of organisational change and computerisation, teamwork is generally characteristic of managerial and planning or design positions with

hierarchical or technical responsibilities. In the UK, the nationally representative survey of establishments, WERS 1998, shows that team working was least common in workplaces mainly comprising craft and related workers, and operative and assembly workers. Conversely, teamwork was most common among professionals.

Järlström, (2000) conducted a study to examine the relationship between the personality and career expectations of 533 business students. Personality was administered using the F-version (the Finnish research version) of the Myers-Briggs Type Indicator and career expectations were studied in Schein's career orientation framework. The main research question was: how are business students' personality preferences and career expectations related to Schein's career anchors? Business students' career expectations were mostly seen as belonging to the Technical Competence (26 %), Managerial Competence (17%) and Independence (14 %) career anchors. Järlström concluded that there was a statistically significant relationship between personality and career expectations.

2.9   Summary of Literature Reviewed

The soft skills are regarded as the additional generic skills to the student, if they are acquired together with the hard skills. Evidence for new skill needs from employer surveys, for example, (Crawford et.al, 2011; Pink, 2005; Kouzes & Posener, 2007; Birrell 2006) suggests that employers are often more concerned about soft skills such as communication, teamwork and leadership rather than technical knowledge or competencies. However, researchers report that many employees are deficient in these skills (Mitchell, Skinner & White, 2010; Smith, 2005; Doria, Rozanski & Cohen, 2003; Smith, 2005). The Botswana's Vision 2016, RNPE (1994) and senior secondary education curriculum blue print all emphasize the acquisition of soft skills is a citizenry outcome. However, the schools seem to place more emphasis on academic skills than

soft skills. Contemporary society places great value on standardized achievement tests to sort people and evaluate schools. However, studies by Heckman, (2012); Çepni, Özsevgeç, and Gökdere, (2003) have indicated that such tests do not capture soft skills. Although in addition to the terminal examinations continuous assessment is recommended (MOESD, 1998), the validity of the teachers based assessments in predicting performance remains a concern, (Ramatlala, 2009; Masole, 2010).

Even though studies have been conducted on the relationship between soft skills and academic performance, the findings from these studies have been somewhat inconclusive and were all done in the foreign countries. For example, while some researchers (She, 1999; Azar, 2009) found no statistically significant relationship, others (Collins & Onwuegbuzie 2000; Williams & Worth (2002) found soft skills a weak to strongest predictor of students' performance. This necessitated that the relationship between these variables be examined especially from the local students' perspective. Research also seems to suggest that various soft skills are essential for certain careers (Jones, 2002; EWCS, 2001). On the basis of this background the current study hypothesizes different soft skills will be associated to students' career interests. Some authors such as Mau (2003) reported a weak relationship between academic achievement and career interests while others like Creed et al (2007) found no statistically significant relationship. Hence a study necessary to examine it there was correlation between academic achievement career aspirations.

CHAPTER 3

RESEARCH METHODOLOGY

3.1   Introduction

The chapter describes the research methodology and procedures that were followed to generate answers for the research questions in this study. This chapter discusses the design of the study, its theoretical framework, the population studied, instrumentation, validity, reliability, data collection methods, data analysis and ethical considerations. In addition to these methodological components, threats to validity of the research design were also discussed.

3.2   Research Design

Whilst a multi-pronged approach, combining both quantitative and qualitative research methods commonly referred to as triangulation (Cohen & Manion, 2001), would have been more appropriate, a purely quantitative approach was adopted. Quantitative approach is criticised for gathering a much narrower and superficial dataset, results that are limited to numerical descriptions, having standard questions and artificial research environment. Conversely, they tend to be relatively low in cost and time requirements (Punch, 1998). While criticism of quantitative studies holds true for the current study, the approach was nonetheless chosen in light of the circumstances under which the study took place. The researcher's limited budget dictated that a cheaper approach be employed. The researcher banked on the advantage of a large sample size, with a wide coverage (Brown and Dowling, 1998), typical of quantitative studies to enhance credibility and further validate the findings of the study.

An ex post facto research design employing descriptive correlational analysis was used for this study. As indicated by Cohen et al. (2000), ex post facto research refers to a study approach in which the researcher instead of creating the treatment examines the effect of a

naturally occurring treatment after it has occurred. Ex post facto designs have been used to investigate the influence of variables such as home/school environment, gender, motivation, intelligence or habits (Kral, 1996). According to Gay (2003), research design is the plan that the researcher uses to precede with the methodology of the study. In this type of research, the attributes described by Kral, (1996) would have been possessed by the participants at the beginning of the study. In this study all variables were pre-existing in the population, the researcher had no control over them but could only determine their presence hence the ex post facto design.

3.3   Population of the Study

The study targeted the 25 385 final year BGCSE students in the thirty two (32) government aided senior secondary schools in Botswana. The accessible population consisted of the students who completed form five in the academic year 2013 and had midyear examination results. The target population were selected because (i) they were the only intact group accessible that could be easily available for the study, (ii) were assumed to possess homogeneous attributes on the BGCSE curriculum, (iii) their secondary school curricula emphasized the development of communication, teamwork and critical thinking skills; hence the respondents are expected to possess such soft skills, (iv) were expected to have identified career lines to pursue these upon completion of the senior secondary education. The population was found to be ideal and directly involved in the phenomenon under study thus would give appropriate picture of the phenomena (Anderson, 2003). The respondents were directly affected by the variables of interest in this study thus would provide appropriate and relevant data.

3.4   Sampling procedures

Two stage cluster sampling was used to pick the study sample. According to Castillo (2009), cluster sampling is a sampling technique where the entire population is divided into clusters. A cluster, a group of population elements, constitutes the sampling unit, instead of a single element of the population. Although it has high sampling error, cluster sampling is typically used when a random sample would produce a list of subjects so widely scattered that surveying them would prove to be far too expensive, (Castillo, 2009). This sampling technique was considered practical and economical in view of the researcher's budgetary constraints.

The target population of the study was the 25 385 doing form five in the year 2013. The students' population was divided into 32 governments aided senior secondary schools (clusters). The schools were considered clusters because of their heterogeneity, for example, in terms of administration, but within a school there are classes which were assumed to be homogenous in terms of the attributes being studied. For example, they have written the same mid-year examinations and have the same pedagogical treatment. Therefore, a simple random sample of sixteen schools was drawn from a population of thirty two schools (32) senior secondary schools. The sixteen selected schools had 12866 students in 369 classes. The classes were treated as sampling units (clusters). A simple random sample of one class per school was drawn yielding a sample of sixteen classes. The sixteen classes yielded 600 participants from whom data was collected. The 600 participants obeyed Krejecie & Morgan, (1970) formula for determining sample size for research activities.

Table 2 shows the proportions of students selected from the different schools which participated in the study based on the procedures outlined in (Davis 1970). The proportion of

students drawn from the 16 schools varied from 24 to 43 students per class depending on the number of classes per school selected for the study.

Table 2
The Study Sample

Name of school	Number of students	Number of classes	Number of sampled classes	Number of Students sampled
Gaborone SSS	837	24	1	39
Goodhope SSS	1007	29	1	43
Kagiso SSS	798	23	1	37
Kgari Sechele SSS	843	25	1	39
Ledumang SSS	811	23	1	38
Lotsane SSS	864	25	1	42
Madiba SSS	710	20	1	31
Masunga SSS	734	20	1	35
Mmadinare SSS	585	17	1	29
Mogoditshane	839	24	1	39
Molefhi SSS	858	26	1	42
Naledi SSS	842	24	1	39
Nata SSS	576	16	1	24
Selebi Phikwe SSS	838	24	1	39
Shashe SSS	852	24	1	42
Swaneng SSS	872	25	1	42
Total	12866	369	16	600

3.5 Instrumentation

A questionnaire was used to collect quantitative type of data required to answer the research questions. The questionnaire was developed by the researcher with the help of the major supervisor as well as making reference to relevant literature. The questionnaire consisted of three parts. In part A, the students were asked to provide data on personal characteristics such as age, gender, parental and income background. In part B the students were asked to provide information regarding the different types of soft skills learnt in schools. A four- point Likert-

Type scale was anchored at the end of each statement of the type of soft skills. The statements were anchored with responses at the end such as 1= Strongly Disagree, 2= Disagree, 3= Agree and, 4 = Strongly Agree.

The items were drawn from literature on teaching and learning, creative thinking, critical thinking, group dynamics, and interpersonal communication (Strom & Strom, 2002). The questionnaire had 25 items on teamwork, developed from the Interpersonal Intelligence Inventory" (III) by Strom & Strom, (2002). The communication skill statements were modified from Communication Skills Test designed by Robin Jacobs, Portland Community College, Portland, Oregon (Centre of Good Governance, 2006).

Section C was a modified version of the Career Interest Profiler by Bakker & Macnab (2004). The instrument is based on John Holland's Theory of Vocational Choice. To assess career interests, respondents were required to rate the level of agreement for each area listed in the survey instrument in terms of 1= strongly disagree, 1= disagree, 3 = strongly disagree, and, 4 = strongly agreed. The career interest survey instrument consisted of 36 items. Items 1 to 6 assess Realistic career lines, 7 to12 - Investigative, 13 to 18 - Artistic, 19 to 24 - Social, 25 to 30 - Enterprising, and 31 to 36 – Conventional. According to the scale one's career is on the scale with highest average. Agreement denoted possession of interest in the career.

Data on students' academic performance consisted of test scores obtained in the midyear examinations. These were obtained from teacher scheme books, students' midyear academic reports and Educational Administration databases.

Jacobs et al., (1992) state that in an ex post facto research, data can be collected by means of questionnaires. Furthermore, the use of quantitative research, as mentioned by Creswell (2003) has the advantage of allowing the researcher to reach out to a larger population for data

collection. Similarly. Sukamolson. (2002) states that although questionnaires have several disadvantages such as low response rate. if the questionnaire is mailed. requirement for frequent follow up, and long time to receive sufficient responses, allow participants to maintain their anonymity. reconsider their responses and enable the researcher to elicit detailed information from participants who may not be otherwise accessible.

3.6   Instrument Validity

A panel of experts was used to establish the validity of the instrument. The panel of experts included two Guidance and Counseling specialists based in schools, one specialist in Psychology and communication skills from an industry, one lecturer in communication and study skills at Botswana College of Agriculture, and one Professor of Education from the University of Botswana. The panel assessed the face, content and constructs validity of the instrument (Wong, 2002).

As indicated by Johnson & Chriestensen (2000) validity in research study relates to the degree to which a measuring instrument measures what it is supposed to measure. The panel assessed whether or not the questionnaire was pleasing to the eye, the questionnaire items representativeness and or the theoretical foundations underlying a particular scale of measurement (Ary et al. 2002; Wong, 2002). The suggestions made by the panel were used for modification of the instrument for improvement.

3.7   Reliability

The questionnaire was given to thirty (30) Form 5 students at Mogoditshane Senior Secondary School to respond to the items in the instrument. A test - re-test reliability was used whereby students were given the questionnaire in a two-week interval for pilot testing. A Cronbach's alpha of 0.96 was obtained. The instrument was therefore deemed appropriate and

reliable. George and Mallery (2003) affirmed that a Cronbach Alpha of _ >0.90 was considered excellent. According to Harris & Ogbonna (2001) the Cronbach's Alpha Coefficient of .70 and above indicates a high degree of internal consistency among the data collected.

Reliability refers to the extent to which an instrument measures the same way each time it is used under the same condition with the same subjects (Ary *et al.*, 2002). It is the consistency of the measurement. Consistent with Robinson, (2006) a pilot study was used to establish the reliability of the instrument.

3.8   Data Collection Procedures

To gather data from schools several procedures were followed. First a letter was written to the Ministry of Education and Skills Development (MoESD) requesting secondary schools to participate in the study. A response [Appendices 5 and 6] was provided which referred the researcher to regional offices whose schools were under their custodian. Following the permission from the Ministry of Education and Skills Development, the selected schools were then informed about the study through their school head prior to delivering the questionnaire.

The research packages were delivered by hand to selected schools which were near to Gaborone. These were handed to teachers who had agreed to serve as research administrators for the questionnaires to the classes selected in their schools. The research package included a letter of interlocution to the administrator, explaining the importance of the study to schools and the nation. The letter also explained that should the respondents feel like withdrawing from participating in the study they were free to do so without any problem. Among other contents of the research package was the questionnaire, the self-addressed envelope in case the respondents would like to return the completed questionnaire through post. A consent form for students participating in the study was enclosed for their parents to consent prior to children participation

in the study. Ethical aspects to participate and motivation were discussed with the participants during an information session that was attended by all potential respondents. The participants were given thirty minutes to complete the questionnaire during afternoon study sessions and hand it in.

For the schools that were far from Gaborone, (Lotsane SSS, Madiba SSS, Masunga SSS, Mmadinare SSS, Nata SSS, Shashe River SSS, Selibe Phikwe SSS and Swaneng Hill SSS) Dillman's framework for mail survey data collection known as the Total Design Method (TDM) was followed. The most important strength of the TDM is a set of procedures for increasing response rates (Chidlow *et al* 2009). Accordingly, a questionnaire was mailed addressed to the schools head as the administrator. This questionnaire was mailed in an envelope, along with a stamped and addressed return envelope and a detailed covering letter explaining the importance and value of the study to the nation. One week after mailing the questionnaire a letter was sent out to the research administrators in the schools thanking them in anticipation for their co-operation and reminding those who had not yet responded that it is important to co-operate. Two weeks later a second package of the questionnaire was sent out to schools which had not yet sent in the completed questionnaire, along with a reminder letter that their replies have not yet been received.

3.9   Data Analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS) version 20.0 for Windows, a product of SPSS, Inc Table 3, shows the data analysis plan based on questions and hypothesis set for the study in chapter 1. Wong (2002) recommended that the research questions should be addressed one at a time followed by a description of the type of statistical tests that are performed to answer the research question. The analysis was thus directed by the research

hypotheses. Prior to data analysis, data were entered followed by a pre-analysis to clean and screen the data to ensure the accuracy of the data and deal with missing and incomplete data. The frequencies were used to screen the data for any irregularities.

Descriptive statistics were used to analyze the demographic profiles of senior secondary school students who participated in the study, self-perceived soft skills and career interests. The arithmetic average, is the "most widely used measure of central tendency, it is the sum of all the values in distribution divided by the number of cases" (Ary et al, 2002, p. 128). The means and standard deviation basically used to indicate the variability between the values in distribution that provided the mean.

Research questions two, three four, five and six purported to determine strength of the association between soft skill, academic performance and student's career interests' measures. Correlations and regressions were conducted to establish correlational relationships between variables in the study and to establish if variables co-vary, and to quantify the strength of the relationship between the variables (Choudhury, 2010). The regression statistics were used to report characteristics' the degree of linear relationship between predictor variables and a criterion variable, regression analysis.

Descriptive statistics, correlations and regressions were conducted to help generate the answers to the research questions. A significance level of 5% was assumed for all inferential statistics used in this study.

Table 3
Summary of the Analysis Plan

Research question	Hypothesis	Dependent variable	Independent variable	Test statistic
Is there a relationship between teamwork and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects?	There is no relationship between teamwork and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects.	Academic performance	Teamwork	Correlation Regression
Is there a relationship between communication and student's midyear score in science, creative, technical and vocational and humanities and social sciences subjects?	There is no relationship between communication and student's midyear score in science, creative, technical and vocational and humanities and social sciences subjects.	Academic performance	Communication	Correlation Regression
Is there a relationship between critical thinking and student's midyear score in science subjects, creative, technical and vocational subjects and humanities and social sciences subjects?	There is no relationship between critical thinking and student's midyear score in science subjects, creative, technical and vocational subjects and humanities and social sciences subjects.	Academic performance	Critical thinking	Correlation Regression
Is there a relationship between the student's career interests and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects?	There is no relationship between the student's career interests and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects.	Academic performance	Career interests	Correlation Regression
Is there a relationship between the student's career interests and communication, critical thinking and teamwork?	There is no relationship between the student's career interests and communication, critical thinking and teamwork	Career interests	Soft skills	Correlation Regression

3.10   Ethical Considerations

In accordance with the Department of Planning, Research and Educational Statistics (DPRES) in the MoE &SD's, guidelines of 2004 for conducting research, a research permit was sought. A transmittal letter was mailed to the schools seeking permission, introducing the purpose of the study and the procedures to be used during data collection.

Smith, (2003) noted that APA's Ethics Code mandates researchers who conduct research to inform participants about the purpose of the research, expected duration and procedures, participants' rights to decline to participate and to withdraw from the research once it has started, as well as the anticipated consequences of doing so, reasonably foreseeable factors that may influence their willingness to participate, such as potential risks, discomfort or adverse effects; any prospective research benefits; limits of confidentiality, such as data coding, disposal, sharing and archiving, and when confidentiality must be broken; incentives for participation and who participants can contact with questions. The participants of the study were not forced and were made aware of their right to voluntarily withdraw from the study.

Chilisa & Preece (2003) also advise that; "Research should be carried out on human beings only with their consent...participation is voluntarily and that they can withdraw from the study before its completion if they so wish" (p.228). The researcher did not hide any information from the participants of the study. This was done so that the participants were fully informed on what they are engaging themselves into. When conducting research on human subjects minimize harms and risks and maximize benefits, respect human dignity, privacy, and autonomy (Shamoo & Resnik, 2009). Hence only pseudo names were used to hide identities of participants.

Response rate

The target population for this study was form five students in the thirty two (32) senior secondary schools in the nine educational regions in Botswana. Out of the 600 questionnaires issued 385 usable questionnaires were returned giving a response rate of 64.17%. Non-response refers to the failure to obtain observations on some elements selected for the sample (Kish, 1965:532). Some reasons for not responding included refusals where persons were contacted but refused to answer the whole instrument and in some instances refusal were partial, where the respondent will answer some questions but not all. Some respondents were reportedly unable to answer as they were temporarily incapacitated. Nonresponse was however ignored in this study since the sample size was increased by 37.5% to compensate for non-response (Israel, 1992).

CHAPTER 4

RESULTS

4.1   Chapter Overview

The main purpose of the study was to determine the relationship between possessions of selected soft skills academic performance and career interests among senior secondary school students in Botswana. The results are presented in two main parts. The first part presented the descriptive results as is from demographic characteristics and the variables studied. The second part presents the correlations and regressions results to describe the relationships existing between and among variables studied. A significance level of 5% was assumed for inferential statistics used in this study. The specific research questions of the study included:

Is there a relationship between teamwork and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects?

Is there a relationship between communication skill and student's midyear score in science, creative, technical and vocational and humanities and social sciences subjects?

Is there a relationship between critical thinking and student's midyear score in science subjects, creative, technical and vocational subjects and humanities and social sciences subjects?

Is there a relationship between the student's career interests and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects?

Is there a relationship between the student's career interests and communication skill, critical thinking and teamwork?

The hypotheses tested in the study were;

Hypotheses # 1: There is no relationship between teamwork and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects.

Hypotheses # 2: There is no relationship between communication skill and student's midyear score in science, creative, technical and vocational and humanities and social sciences subjects.

Hypotheses # 3: There is no relationship between critical thinking and student's midyear score in science subjects, creative, technical and vocational subjects and humanities and social sciences subjects.

Hypotheses # 4: There is no relationship between the student's career interests and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects.

Hypotheses # 5: There is no relationship between the student's career interests and communication skill, critical thinking and teamwork.

The results were presented in tables based on the objectives and hypothesis stated for the study.

4.2   Scoring and interpretation

The scoring and interpretation of the students' self-perceived soft skill dispositions and career interests were as follows: 1= strongly agree, 2 = agree, and 3 = disagree and 4.00 = strongly disagree. Correlation coefficients were used to determine the relationships between variables. Interpretations of the correlation coefficients were based on Davis' (1983) conventions for interpreting correlation associations. Those conventions are as follows: 0.70 or higher = Very strong association, 0.50-0.69 = Substantial association, 0.30-0.49 = Moderate association, 0.10-0.29 = Low association and 0.01-0.09 = Negligible association. Test scores were in a scale of 0 to 100%.

PART 1: RESULTS

4.3   Demographic characteristics of the respondents

Descriptive statistics was used to analyse the data on demographics of the respondents
and the findings were summarised in table 4. The results show that 50.6% of the respondents
were male, the majority (98.2%) of the respondents were adolescents aged 16 to 18 years, 87.3%
lived with parents or guardians and 12.7% were orphans. Over 50% of the respondents' parents
had tertiary education with a considerable proportion (38.2%) holding a diploma qualification or
higher. The majority (70.4%) of the respondents indicated that their parents earned income of
between BWP3 000 and BWP10 000, while 11.2% belonged to families which did not have
dependable source of income (needy).

Table 4
Demographic Characteristics of the Participants' parents

Variable	Group	*f*	*(%)*
Gender	Male	195	50.6
	Female	190	49.4
Age	Less than 15 years	7	1.8
	16 – 18 years	266	69.1
	19 years and above	112	29.1
Parental background	Living with single parent	129	33.5
	Living with both parent	155	40.3
	Living with guardian	52	13.5
	Orphaned	49	12.7
Parent's academic qualification	Did not attend school	33	8.6
	Did not know	20	5.2
	PSLE[a]	63	16.4
	JCE[b]	77	20
	BGCSE[c]	55	14.3
	Certificate	43	11.2
	Diploma	59	15.3
	Degree	25	6.5
	Other (Master's degree, PhD)	10	2.6

Economic background	Below BWP 500	43	11.2
	BWP 500 –BWP 2 999	71	18.4
	BWP 3000 – BWP 10 000	235	61.0
	Above BWP 10 000	36	9.4

Note PSLE = Primary School Leaving Examination, JCE = Junior Certificate Examination, BGCSE = Botswana General Certificate of Secondary Education

Objective # 2: Means and standard deviations on Academic Performance, Soft Skills Dispositions and Career Interests of respondents

Table 5 presents the Means and Standard Deviations of Academic Performance, Soft Skills Dispositions and Career Interests for respondents as measured using the Likert-type scale. The results show that the highest average statistical mean scores for the variables studied on academic achievements were obtained on Humanities and Social Science subjects (M = 55.3%, SD = 15.84%), followed by creative, technical and vocational subjects with M = 54.6%; SD = 19.52 in the mid-year examination scores. With regard to soft skills, the variable teamwork had M =3.12; SD =0.40 followed by critical thinking skills and communication skills with M = 2.90; SD = .45 and M= 2.89; SD= .47 respectively. The results in Table 5 also showed that with regard to career interests, the highest means were M = 3.1; SD = .57 and M = 3.1; SD = .62 on conventional and social careers respectively, followed by M = 3.0; SD = .62 on enterprising careers. The means obtained indicate that participants generally agreed with the scales that purported to measure soft skills. The results indicate that participants were positively interested in the social careers (M = 3.1, SD = 0.62), conventional careers (M = 3.1, SD = 0.57), and enterprising careers (M = 3.02, SD = 0.62). The mean scores obtained indicate that participants agreed with the statements purported to measure the career interests, academic achievement and soft skills.

Table 5

Academic Performance, Soft Skills Dispositions and Career Interests of Students

Variable	Group	M	SD
Academic achievement	Humanities And Social Sciences	55.3	15.84
	Sciences	54.1	17.31
	Creative, Technical And Vocational subjects	54.1	19.52
Soft skills	Communication	2.9	0.47
	Teamwork	3.1	0.40
	Critical thinking	2.9	0.45

Career interests	Realistic careers	2.9	0.70
	Investigative careers	2.9	0.71
	Artistic careers	2.8	0.64
	Social careers	3.1	0.62
	Enterprising	3.0	0.52
	Conventional careers	3.1	0.57

Note: Communication was measured using modified version of Robin Jacobs Communication Skills test Teamwork was measured using items developed from Interpersonal Intelligence Inventory by Stroom & Stroom (2002) Critical thinking was measured using a modified version of the "Critical Thinking Dispositions Scale" developed by Akbiyik (2002), Career interests were measured using modified Career Interest Profiler by Bakker & Macnab, (2004)

PART 2: RESULTS

4.4   Interrelationships among variables

4.4.1   Relationship between communication skill and student's midyear score in science, creative, technical and vocational and humanities and social sciences subjects

A bivariate correlation was conducted to determine the relationship between teamwork skill and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects. The results as presented in Table 6 showed no relationship between students' teamwork and students' midyear scores in science subjects, r (383) = 0.01, p > 0.05. No relationship was also found between teamwork and humanities & social sciences subjects, r (383) = -0.01, p > 0.05. There was also no correlation was observed between teamwork and creative, technical & vocational subjects r (383) = 0.06, p > 0.05.

4.4.2   Relationship between communication skill and student's midyear score in science, creative, technical and vocational and humanities and social sciences subjects

Correlation coefficients values were computed to determine if there was any relationship between students' communication skills and their midyear scores in science, creative, technical and vocational and humanities and social sciences subjects. The results as summarized in Table 6 showed that there was no significant relationship between students' communication skill and students' midyear scores in science subjects, r (383) = 0.00, p > 0.05. Furthermore, there was

also no relationship between teamwork and humanities & social sciences subjects, r (383) = 0.03, p > 0.05. Thus, no correlations were observed between communication and creative, technical & vocational subjects r (383) = 0.02, p > 0.05.

4.4.3 Relationship between critical thinking skill and student's midyear score in science subjects, creative, technical and vocational subjects and humanities and social sciences subjects.

The Pearson Product Moment correlation analysis was conducted to determine the relationship between critical thinking skill and student's midyear score in science subjects, creative, technical and vocational subjects and humanities and social sciences subjects. The results as summarized in Table 6 showed that there was a weak and positive correlation between students' critical thinking and students' midyear scores in sciences subjects, r (383) = 0.17, p < 0.05. However, the relationship between teamwork and humanities & social sciences subjects and creative, technical and vocational subjects was not statistically significant, r (383) = 0.09, p > 0.05. Correlation between critical thinking skill and student's midyear scores in humanities and social sciences subjects was also not statistically significant, r (383) = 0.06, p > 0.05.

Table 6
Correlations of Selected Soft Skills with Students' Midyear Scores in Selected Subject Groups

Variables	Teamwork	Communication	Critical thinking
Sciences	0.01	0.00	0.17*
Critical, Technical & Vocational	0.06	0.02	0.09
Humanities & Social sciences	-0.01	0.03	0.06

*p < .05

4.4.4 The Relationship between Students' Career Interests and Midyear Test Scores

The Pearson Product Moment correlation coefficients were computed to determine the relationship between the students midyear scores in selected subject groups (Sciences, Critical, Technical & Vocational, and Humanities & Social sciences) and students' career interests measures (realistic, investigative, artistic, conventional, social and enterprising). The results of the correlational analysis presented in Table 7 show that all of the eighteen correlations were not statistically significant. These results imply that career interests had no relationship with performance in the subject groups.

Table 7
Correlations between Midyear Test Scores in Selected Subject Groups and Students' Career Interests

Variables	Sciences	Critical, Technical & Vocational	Humanities & Social sciences
Realistic	0.03	0.05	-0.01
Investigative	0.04	0.00	-0.02
Conventional	0.03	0.01	0.01
Social	-0.03	-0.02	-0.04
Artistic	-0.07	-0.08	-0.05
Enterprising	-0.03	-0.03	-0.02

* $P < .05$

4.4.5 The Relationship between Possession of Soft Skills and Students' Career Interests

Table 8 presents the correlation coefficients computed to determine the relationship possession of soft skills and student's career interests measures. All the bivariate correlations between the career interest measures and the soft skills but the correlation of the enterprising careers with the possession of communication skill, r (378) = -0.03, $p < 0.05$, were positive and statistically significant, $p < 0.05$. The correlation coefficients between communication and the career interests measures ranged from r (383) = 0.10, $p < 0.05$ (weak association of realistic careers with communication) to r (383) 0.50, $p < 0.05$ (substantial association observed between

artistic careers and communication, based on Davis' (1983) conventions for interpreting correlation associations).

Table 8 also shows that all the correlations between the career interest measures and the teamwork were positive and statistically significant, p < 0.05. Although all of these correlations tended to be moderate, the social career interest measure tended to be most strongly related to teamwork, r (383) = 0.46, p < 0.05. Table 8 also indicates that all the bivariate correlations between the career interest measures and the critical thinking were positive and statistically significant, p < 0.05. While the career measures of realistic and enterprising were showed low association with critical thinking, r (383) = 0.28, p < 0.05, investigative, artistic, social and conventional tended to be moderately associated with critical thinking, (r (383) = 0.37 to 0.44, p < 0.05).

Table 8

The Bivariate Correlations of the Career Groups with the Soft Skills

Career group	Teamwork	Critical thinking	Communication
Realistic	0.38*	0.28*	0.10*
Investigative	0.42*	0.43*	0.20*
Artistic	0.43*	0.40*	0.50*
Social	0.46*	0.37*	0.18*
Enterprising	0.31*	0.24*	-0.03
Conventional	0.41*	0.44*	0.26*

*p < 05

Career interests measures were each regressed on teamwork, critical thinking and communication. Table 9 shows inter-correlation matrix in which independent variables in a multiple regression model were correlated in order to assess multicollinearity. Multicollinearity is the undesirable situation where the correlations among some pairs of independent variables are

strong (Allison, 2012). In such situations there are high chances of mis-estimation if both variables are included in the same model. Multicollinearity, misleadingly inflates the standard errors (Allison, 2012). Thus, it would make some variables statistically insignificant while they should be otherwise significant. To assess multicollinearity among the explanatory variables variance inflation factor (VIF) was used. Essentially, variance inflation factors measure how much the variance of the estimated coefficients is increased over the case of no correlation among the X variables. If no two X variables are correlated, then all the VIFs will be 1. If VIF for one of the variables is around or greater than 5, there is collinearity associated with that variable. The easy solution would be that if there are two or more variables that will have a VIF around or greater than 5, one of these variables must be removed from the regression model (Allison, 2012). In this study all the variable inflation factors were calculated using SPSS software version 20 and the VIF values obtained ranged from 1.00 -1.71, which indicates that there were some correlations among the variables, but not enough to be concerned about since VIF values were less than 5. Therefore it was concluded that multicollinearity was not a problem in this study.

To further detect multicollinearity inter-correlations were also conducted to detect multicollinearity. According to the inter-correlation matrix presented in table 7 all the variables were significantly associated. However, multicollinearity was not detected among the variables. The use of the Davis (1970) conventions of interpreting correlation coefficients revealed that the variables were not highly associated. Correlations among the variables tended to be moderate (r = 0.30 to r = 0.49) to substantial (r = 0.50 to r = 0.69).

Table 9

Multicollinearity Matrix of Career Interest Groups and the Soft Skills

Variables	1	2	3	4	5	6	7	8
Realistic								
Investigative	0.44*							
Artistic	0.37*	0.36*						
Social	0.48*	0.41*	0.50*					
Enterprising	0.35*	0.32*	0.27*	0.56*				
Conventional	0.30*	0.46	0.44*	0.52*	0.49*			
Teamwork	0.38*	0.42*	0.43*	0.46*	0.31*	0.41*		
Crit.think.	0.28*	0.43*	0.40*	0.36*	0.24*	0.44*	0.52*	
Communication	0.10*	0.20*	0.50*	0.18*	-0.03	0.26*	0.44*	0.57*

*$p < .05$ Note: Crit. Think. = Critical thinking

Table 10 presents the results of the regression of the soft skills on the career interest measures. Realistic career measure was regressed on teamwork. Teamwork explained a significant proportion (14.2%) of the variance in the realistic career measure (as indicated by R^2 = 0.142, F (383) = 63.41, p < 0.05)

Investigative career interest measure was regressed on teamwork and critical thinking. According to the table 8 teamwork and critical thinking accounted for 23.3% of the variance in investigative career interest measure (R^2 =0.233). However, out of the 23.3% critical thinking alone accounted for 18.1% of the variance in the investigative career interest measure (as indicated by R^2 change for teamwork of 0.181) while teamwork explained the remaining 5.2% of the variance.

Artistic career interest measure was regressed on teamwork, critical thinking and communication. However, table 8 shows that only communication and teamwork had significant effects on the artistic career interest measure and accounted for 30.2% of the variance in the

artistic career interest measures. Communication accounted for 24.5% of the variance while the remaining 5.7% was due to teamwork.

Social career interest measure was regressed on teamwork and critical thinking. According to the table all the three soft skills accounted for 22.9% of the variance in social career measure (R^2 =0.229). However out of the 22.9% teamwork alone explained 21% of the variance in the social career measure (as indicated by R^2 change for teamwork of 0.021) while critical thinking accounted for the remaining 1.9% of the variance.

Enterprising career interest measure was regressed on teamwork, communication and critical thinking. The table further demonstrates that out of the 16.8% of the variance explained by the soft skills, teamwork alone accounted for 9.3% of the variance in the enterprising career measure while communication and critical thinking together accounted for the remaining 7.5%.

Conventional career interest measure was regressed on teamwork and critical thinking. Table 10 shows that while these soft skills significantly explained 23.6% of the variance in conventional career measure (R^2 =0.236), critical thinking alone accounted for 18.9% of the variance in the conventional career measure (as indicated by R^2 change = 0.189) while teamwork explained only 4.7% of the variance.

Table 10

Percentage of Variance in the Students' Career Interests explained by the Selected Soft Skills

Variables	TW[a] (%)	p value	CT[b] (%)	p value	Com[c] (%)	p value	Total explained variance (%)
Realistic	14.2	0.00	1.0	0.00	1.7	0.01	16.9
Artistic	5.7	0.00	--	.14	24.5	0.00	30.2
Investigative	5.2	0.00	18.1	0.00	1.1	0.00	23.3
Social	21.0	0.00	1.9	0.00	1.0	0.03	22.9
Enterprising	9.3	0.00	4.1	0.00	3.4	0.00	16.8
Conventional	4.7	0.00	18.9	0.00	--	--	23.6

Note: TW[a] = Teamwork, CT[b] = Critical thinking, Com[c] = Communication

4.5 Summary of the results

The results displayed in Table 6 demonstrate that no relationship between students' teamwork and students' midyear scores in science subjects, humanities & social sciences subjects, and creative, technical & vocational subjects. There was no significant relationship between students' communication skill and students' midyear scores in science subjects, humanities & social sciences subjects and creative, technical & vocational subjects. While the relationship between critical thinking skill and student's midyear scores in creative, technical and vocational subjects and humanities and social sciences subjects was not significant, a weak and positive correlation was observed between students' critical thinking and students' midyear scores in sciences subjects.

The results of the correlational analysis performed to determine the relationship between the students midyear scores in selected subject groups (Sciences, Critical, Technical & Vocational, and Humanities & Social sciences) and students' career interests measures (realistic, investigative, artistic, conventional, social and enterprising) showed that correlations between career interests and academic performance were not statistically significant.

Table 8 showed that there was weak to substantial relationship between possession soft skills and student's career interests' measures. Career interests measures were each regressed on teamwork, critical thinking and communication. Prior to conducting regressions multicollinearity was assessed among all the independent variables. Multicollinearity was not detected among the variables. Table 10 showed that Teamwork explained a significant proportion of the variance in the realistic career measure. Teamwork and critical thinking accounted for the variance in investigative career interest measure with critical thinking explaining more of the variance. While communication and teamwork had significant effects on the artistic career interest

measure communication accounted for more of the variance than teamwork. According to the table all the three soft skills accounted for the variance in social career measure. However teamwork alone explained most these variance. The table further demonstrates that of the three soft skills teamwork alone accounted for most of the variance in the enterprising career measure. Table 10 shows that while these soft skills significantly explained 23.6% of the variance in conventional career measure, but critical thinking explained most the variance.

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CHAPTER 5

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The main aim of the study was to determine the relationship between possession of selected soft skills, academic performance, and career interests among senior secondary school students in Botswana. The relationship was determined by correlating soft skills, academic performance and career interests. Where substantial correlations were found regression analysis was performed to quantify the relationships. This chapter presents the discussions of the findings based on the correlations and regression analysis. The chapter also presents the conclusions based on the findings of the study, the implications of the study as well as both the practical and theoretical recommendations of the study.

5.2 Discussion of the Findings

This section is presented in five subsections. Subsection 5.2.1 presents the relationship between possession of teamwork and student's midyear scores in the selected subject groups. Subsection 5.2.2 presents the relationship between possession of communication skills and student's midyear scores in the selected subject groups. Subsection 5.2.3 presents the relationship between possession of critical thinking and student's midyear scores in the selected subject groups. Subsection 5.2.4 presents the relationship between the student's career interests and student's midyear scores in sciences, creative, technical and vocational and humanities and social sciences subjects. Subsection 5.2.5 presents the relationship between the student's career interests and possession of soft skills.

5.3 Relationship between teamwork and student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects.

The null hypothesis posed and tested was that teamwork is not significantly related to student's midyear score in sciences, creative, technical and vocational and humanities and social sciences subjects. The results showed no significant relationship between students 'ability to work in a team and students' midyear scores in each of the science subjects, humanities & social sciences subjects, and creative, technical & vocational subjects groups. Therefore the null hypothesis was accepted. This means that the ability of students to work in teams may not be used to predict students' performance in sciences, creative, technical & vocational subjects and humanities & social sciences subjects. The study findings were in consonance with Erduran, Osborne and Simon, (2005) notion that working in teams causes conflict and argumentation which delay achievement of goals.

The results seem to contradict the general belief that teamwork supports student learning and the notion held by She, (1999) that positive and support- oriented interactions support student learning. The findings are also in contradiction with the notion held by Goldsmith (2007) who suggested that teaching of team-working skills would benefit a student's performance. The main findings of a survey by Cho, Gay, Davidson and Ingraffea (2007) was that collaborative learning significantly influences students' final learning performance, even indicating that some students are structurally advantaged or disadvantaged due to their network positions. Their findings also contradict those of the current study. According to the analysis of the findings by the EWCS (2001) study team workers were more likely to learn new things in their work than those not working in teams. However, it must be noted that the way performance way measured may have a bearing in the relationship. While other researchers used more

standardized measures of performance such as the GPA (Cho, Gay, Davidson & Ingraffea, 2007), this study used the mid-year examinations which may have inter school variation. Teamwork may have a relationship with learning achievement which in its entirety carries more performance information than test scores. Another possible cause of the lack of congruency between the current study findings and those of their study is the way teamwork was measured. Cho, Gay, Davidson and Ingraffea used teamwork assessment test with more objective rubrics than self-reports which were used to measure the teamwork in this study.

5.4 Relationship between communication skill and student's midyear score in science, creative, technical and vocational and humanities and social sciences subjects.

The null hypothesis that there is no significant relationship between communication skill and student's midyear score in science, creative, technical and vocational and humanities and social sciences subjects were tested. It was found that no significant relationship exist between students' communication skill and students' midyear scores in each of the science subjects, humanities & social sciences subjects and creative, technical & vocational subjects groups. Hence the null hypothesis was accepted. This means that there was no relationship between students' ability to communicate and their academic performance in the science subjects, humanities & social sciences subjects and creative, technical & vocational subjects groups. This is not a surprising finding given that the acquisition of communication is more explicitly emphasized in the English and Setswana curricula. Henceforth the student's ability to communicate may not be used to predict the academic performance in the three subject groups. The findings are in contradiction with the notion held by Goldsmith (2007) who suggested that teaching of communication and emotional intelligence would benefit a student's performance. Oliveria and Sadler (2008) examined the cognitive as well as the social processes

of three undergraduate student teams that reported conflict avoidance, poor team monitoring, and silent participation were identified as factors that inhibited argumentation and learning. Their study suggests that poor communication inhibit performance which is in contrast to the findings of the current study. Purzer, (2011) investigated the relationship between verbal exchanges, self-efficacy, and individual student achievement involving twenty-two first-year engineering students. As with the current study his results indicated no direct correlation between verbal persuasions and achievement of twenty-two first year engineering students. His findings also support those of the current study.

5.5   Relationship between critical thinking skill and student's midyear score in science subjects, creative, technical and vocational subjects and humanities and social sciences subjects.

There was a weak and positive correlation between students' critical thinking and students' midyear scores in sciences subjects. This implies that there was a relationship between students' self-perceived critical thinking and academic performance in science subjects. Consequently students' possession of critical thinking may be used to predict their academic performance in science subjects and vice versa. However, this finding was consonant with empirical evidence from several researchers. For instance, a study by Kealey, Holland, and Watson (2005) reported that critical-thinking skills contribute significantly to explaining the cross-sectional variation in student performance in an accounting principles class. Collins & Onwuegbuzie (2000) also assessed the relationship between students' ability to interpret and to apply research methodology and their critical thinking skills and revealed moderate statistically significant relationships between overall critical thinking skills and the midterm and final examination scores. In their study of thinking skills and work habits involving 292 participants, Williams and Worth (2002) found that base-level critical thinking, attendance, and note taking

differentially predicted performance measures in a large human development course. Group analyses revealed that high- and low-performing students differed significantly on all predictor variables which disagree with the current findings. These findings are also affirm the notion held by Goldsmith (2007) who suggested that teaching of critical thinking and emotional intelligence would benefit a student's performance.

However, the relationships between critical thinking and humanities & social sciences subjects, and creative, technical & vocational subjects were not statistically significant. This means that possession of critical thinking could not be used to predict performance of students in each of the humanities & social sciences, and creative, technical & vocational subjects. These findings tend to negate other empirical evidence. The lack of congruence between the findings of this study and those of other researchers could be attributed to the differences in the variations in the target groups. While other researchers (Kealey, Holland, and Watson, 2005; Collins and Onwuegbuzie, 2000; Williams and Worth 2002) used tertiary school students as their respondents the senior secondary school students were used in this study. Therefore maturation effect may explain the lack of congruence between the current study findings and other empirical data.

Ultimately the findings show that little relationship between some soft skills (communication and teamwork) and test scores which is perhaps not surprising given that these are neither taught nor assessed in the curricula of all the subjects. Although a relationship does appear to exist between critical thinking and test scores, the association was rather too weak and thus surprising given that the curricula of all the subjects' particularly the sciences and creative, technical & vocational subjects' curricula emphasise critical thinking via assessment practical and investigative skills. While critical thinking is embedded across the senior secondary

education curriculum. the syllabi for the science subjects tend to place more emphasis on acquisition of this soft skill which could be explaining why the correlation was significant between critical thinking and sciences whereas no statistical association was observed between critical thinking and other subjects. Could this mean that the pedagogical strategies adopted by the school do not support acquisition of soft skills?

5.6 The Relationship between Students' Career Interests and Midyear Test Scores

Correlations were computed (see table 6) to determine the relationship between the students' midyear scores in selected subject groups (Sciences, Critical, Technical & Vocational, and Humanities & Social sciences) and students' career interests realistic, investigative, artistic, conventional, social and enterprising) show that no significant correlations were found between students' test scores in the midyear examinations and their aspirations in each of the six career groups. This means that there was no relationship between student's choice of careers and their academic achievement. Therefore students' academic performance could not be used to predict students' career aspirations. The question is: Could this mean that form 5 students were not mature enough? Or could it mean that they are not guided enough on career choices?

The results were in agreement to those of a survey by Feingold (1923) that examined the relationship between test achievement and career aspirations and did not find a significant relationship. Livesay, (1941) carried out a study involving with high school seniors and like Feingold (1923), acknowledged that a significant number of students held aspirations that were likely beyond their abilities. Therefore his findings supported those of the current study. A more recent by Creed, Conlon and Zimmer-Gembeck (2007) also reported that achievement on

standardized testing was not related to the career aspirations of the 7th grade students as most of the students surveyed aspired to high status careers regardless of test achievement.

However, the results of this study run parallel with findings from several studies. For instance, Byrns (1939) conducted a similar study with high school seniors. She discovered that there was some relationship between the career choice of students and their tested intelligence. Moser (1949) also used high school students" achievement on an intelligence test to compare to their career aspirations. He reported that students aspiring to careers requiring a greater degree of training were generally selected by students that exhibited a higher level of achievement while careers requiring a lesser degree of training were selected by students that exhibited a lower level of achievement. Kelly (1989) found that the academic ability of British teens as determined by achievement on an IQ test was only slightly related to their career aspirations including the range of career choices that they considered. Benbow, Arjmand, and Walberg (1991) also used academic based testing as a basis of comparison to students" career aspirations. Eighth-grade test achievement was revealed to be directly related to career aspirations (Benbow *et al.*, 1991). Rojewski and Yang (1997) also used an academic based test to measure achievement but their results were similar to most researchers that used intelligence based testing. They reported that academic achievement had a minimal effect on the career aspirations of teenage students (Rojewski & Yang, 1997). Recently, Mau (2003) reported that high academic achievement was a common factor among 8th grade science and engineering career aspirations.

Moreover, the findings run parallel with Holland's theory which posits that people of different personalities prefer career choices that tally with their personalities and subsequently have specific subject preferences. It was therefore expected that academic performance would depict similar trends. For example, since artistic people prefer subjects like English, Social

Studies, Music, Drama, Art, Graphic Design, Computing, Business Studies, and Languages, their performance in humanities & social subjects, and creative, vocational & technical subjects groups would have significant, substantial and positive associations with the artistic career interest measure. Likewise academic performance in sciences subjects' was expected to be strongly associated with the investigative career interest measure but this was not observed. The question is: Could this mean that students were randomly allocated to various subject groupings?

5.7 The Relationship between Possession of Soft Skills and Students' Career Interests

The results have demonstrated that all the correlation coefficients computed to determine the relationship possession soft skills and student's career interests' measures were positive and statistically significant except the correlation of the enterprising career interest with the possession of communication skill. The results showed weak to substantial association between communication and the career interests. This implies that students who preferred artistic careers were, as expected good communicators. Regression analysis has also demonstrated that communication accounted for most of the variance in the artistic careers. This finding is thus consistent with Holland's theory of career choice which holds that artistic people like using words, art, music or drama to express yourself, communicate or perform or you like to create or design things. They have skills in expressing artistically or physically, communicating by speaking, writing and singing, performing, designing, presenting, planning, composing, playing, and dancing. They prefer occupations such as being an artist, illustrator, photographer, sign writer, composer, singer, instrument player, dancer, actor, reporter, writer, editor, hairdresser, fashion designer.

The results (table 6) also showed that all the correlations between the career interest measures and the teamwork were positive and statistically significant. Although all of these correlations tended to be moderate, the career interest measure for the social tended to be most strongly related to teamwork. The regression analysis of the social career interest measure on teamwork and critical thinking also indicated that while both these soft skills accounted for the variance in social career measure, teamwork explained most of the variance in the social career measure. This is not a surprising finding given that social people naturally rely on teamwork for their success in the workplace. This finding was well supported by Holland's theory which holds that social people like working with people to teach, train, inform, help, treat, heal, cure, serve and greet. These people generally prefer occupations that depend largely on team working for their success such as teacher, nurse, counselor, police officer, social worker, salesperson, customer service officer and waiter. These occupations make use of key skills which include communicating by supporting, training, meeting, assisting, and teaching, interviewing, and coaching.

Teamwork also explained a significant proportion of the variance in the realistic career measure This was consonant with Holland's theory of career choice which describes realistic people as those who like working mainly with your hands making, fixing, assembling or building things, using and operating equipment, tools or machines. They prefer occupations that rely on teamwork like being a pilot, farmer, builder, engineer, armed services personnel, mechanic, upholsterer, electrician, computer technologist, park ranger, sportsperson.

The results have also indicated that all the bivariate correlations between the career interest measures and the critical thinking were positive and statistically significant. While the career measures of realistic and enterprising were showed low association with critical thinking,

investigative, artistic, social and conventional tended to be moderately associated with critical thinking. Regression analysis of the investigative career interest measure teamwork and critical thinking demonstrated that although teamwork and critical thinking accounted for the variance in investigative career interest measure critical thinking alone accounted for most of the variance in the investigative career interest measure. This was an expected finding since as Holland attested investigative people like to discover and research ideas, observe, investigate and experiment, ask questions and solve questions. They prefer occupations like science, research, medical and health occupations, medical or agricultural laboratory technician and zoologist. These occupations require the use of key skills such thinking analytically and logically, formulating, calculating, diagnosing, experimenting, and investigating which are all sub skills of critical thinking.

The results showed that conventional career interest measure was moderately associated with teamwork and critical thinking. The regression model also showed that these soft skills significantly explained the variance in conventional career measure. However, critical thinking accounted for most of the variance in the conventional career measure. Although conventional occupations might involve all the soft skills critical thinking is required the most as these careers involve organizing and being accurate, paying attention to detail, following procedures, working with data or numbers, recording and keeping records ,planning work and events like being a secretary, receptionist, office worker, librarian, bank clerk, computer operator, stores and dispatch clerk. Therefore, the finding was also consistent with Holland' theory of career choice.

The results have demonstrated that teamwork, accounted for 9.3% of the variance in the enterprising career measure. Holland's theory has highlighted that enterprising people like selling, promoting and persuading, developing ideas, public speaking, managing, organizing, leading and captaining, computing and planning. Their occupations include salesperson, lawyer,

politician, accountant, business owner, executive or manager, travel agent, music or sports promoter. Although these occupations according to the EWCS (2001) require teamwork, the results seem to suggest that most of the variance in the preference for these careers was due to factors other than teamwork.

These findings were in agreement with findings from several previous studies. For example the results of a study by Järlström, (2000) reported statistical significance in the relationship between the personality and career expectations. According to the Center for the Advancement of Health, (2009), a Harvard study reported that America's medical schools acknowledge that physicians need better communication skills for more accurate diagnoses, better patient compliance, higher retention rates, more referrals, lower staff turnover, reduced malpractice premiums, and fewer lawsuits.

The finding that communication skill was positively related to conventional, enterprising and investigative career interests was well supported by the HLC (2010) which argued that the importance of effective communication skills between lawyers and clients is equaled only by the imperative need for sustained instruction in the development of communication skills for the lawyer. HLC pointed out that while communication skills are as essential to the legal profession as they are to the medical profession, those courses in law school rarely provide more than trial practice, trial preparation, or settlement and negotiation.

These findings were consistent with those from a survey conducted by the EWCS (2001). According to the EWCS teamwork is directly related to the type and nature of professions. In the UK, the nationally representative survey of establishments, WERS 1998, showed that team working was least common in workplaces mainly comprising craft and related workers, and operative and assembly workers. This supports the finding that teamwork explained only 9.3% of

the variance in the investigative career interests. Conversely, teamwork was most common among professionals.

In summary the general pattern revealed in this study is that although there is a significant relationship between soft skills and career interests while there is no relationship between soft skills and academic performance although while other researchers reported significant relationship. This could imply that the soft skills could not influence the test scores because the soft skills are not explicitly taught as part of the high school curriculum. Based on the results of this study it is plausible to conclude that the traditional assessment methods currently used in Botswana are not a reliable measure of the soft skills. Hence confirming the view held by Gardener (1993 and Heckman & Kautz (2012) that while the predictive validity of traditional intelligence tests may be psychometrically sound; their usefulness beyond predicting school performance remains questionable. The main concern that our job entrants lack soft skills required for effective job performance is also credible since job recruitment is often based on academic achievement. But the results of this study have shown that possession of soft skills and academic performance were not related. Could this mean that as some researchers such as Navarro (2008) and Bowers and Metcalf (2000), even though our educational policy emphasize the soft skills, schools resource allocation and philosophical issues make acquisition of soft skills difficult? Could this explain why employers in Botswana tend to pay more attention to soft skills than they do to high scores in theoretical examinations?

5.8   Conclusions based on the Findings

Based on the findings of the study, the following conclusions can be made:

1. Although there was no significant relationship between academic performance and possession of teamwork and communication skills, a weak relationship was found between students test scores in science and possession of critical thinking.

2. There was a significant association between possession of soft skills and students' career interests.

3. No significant correlations were found between students' test scores in the midyear examinations and each of the six career interests' measures.

5.9 Implications of the Study

The onus now lies on Botswana Examination Council to develop assessment tools for measuring candidates' soft skills in order to determine their 'job fit' how and well the candidate will align with the needs of the job. The study has implications for the curriculum developers to integrate soft skills into the school curriculum of senior secondary school since assessment has a bearing on the content aught and how it is taught. Those practitioners such as teachers, counseling and educational psychologists should encourage the development of soft skills through provision of appropriate counseling intervention programmes and enabling environment. To ensure productivity and organizational growth, today's employers need to provide on job training on soft skills for their employees on as the current education system does not delve much onto these skills.

5.10 Recommendations

Recommendations based on the study.

Since it was found that the relationship between soft skills and academic performance was either weak or insignificant it is important that, also in consonant with contemporary literature, assessment methods should amalgamate the taught content and soft skills. Curriculum

planners, counselors, examining bodies and educators are hereby called upon to integrate soft skills assessment into public examinations as part of reforms in educational assessment for educational development.

As students were found rate low on soft skills dispositions, and for the fact that possession of soft skills positively correlated with students' career interests, it is necessary for the curriculum developers to integrate soft skills into the school curriculum of senior secondary school education. Teachers and counselling psychologists should encourage the development of soft skills through provision of appropriate counselling intervention programmes and enabling environment. Re-training of teachers in soft skills education should be made imperative so that they can be adequately grounded in the necessary soft skills knowledge, and attitudes they are expected to teach. Relevant textbooks and instructional materials in soft skills education should be developed.

The fact that no significant correlations were found between students' test scores in the midyear examinations and their career aspirations means that curriculum developers need to align the secondary school curriculum to the needs of the job market. Career education programmes needed to be strengthened.

Recommendations for further studies

The following recommendations are suggested for further research:

1. One potential threat to validity in this study was maturation effect. Therefore, similar studies should be conducted in various programs at tertiary institutions so that comparisons of various programs and differences among those programs can be made.

2. This research used midyear scores as a measure of academic achievement which may have introduced some error hence a study involving a more standardised measure of performance such BGCSE should be conducted.

3. The lack of congruency between the findings of this study and those of other researcher present opportunity for further research particularly on the relationship between soft skills and academic performance.

4. This study examined relationship between soft skills and subject groups. A similar research examining the relationship between soft skills and students' performance in specific subjects is necessary.

5. This study was conducted on senior secondary school students in Botswana, who may have been too immature to have developed a clear set of perceptions around their own inclinations for soft skills. Further research is needed in other levels of the education system particularly involving tertiary students.

6. This study relied heavily on quantitative approach which may have yielded a narrow dataset on the relationship between the study variables. A similar study is thus recommended using a mixed methods approach to understand in greater depth students' understanding and interpretations of soft skills.

7. The findings demonstrating relationship between students' self-perception of soft skills and career choices are interesting. Although they may appear to confirm that students who believe they communicate well are likely to be interested in careers where communication is important. An interesting question for future research would be the extent to which schooling in Botswana can support greater self-awareness amongst students of their temperamental leanings, complemented by a curriculum that is sufficiently flexible in both content and assessment, coupled with professional development and incentives for teachers that helps them to use pedagogies which promote soft skills.

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APPENDICES

APPENDIX 1: Questionnaire for Students

SECTION A: Demographic Characteristics

Please use the Tick (√) symbol to indicate your personal characteristics in the provided under each variable assessed.

1.   What is your gender?

    Male   ☐
    Female   ☐

2.   To which age range do you belong?

    Less than 15years   ☐
    16-18years   ☐
    19 years and above   ☐

3.   What is the academic qualification of your guardians/parents?

    Primary School Leaving Examination   ☐
    Junior Certificate   ☐
    Botswana General Certificate of Education or equivalent   ☐
    Certificate   ☐
    Diploma   ☐
    Degree   ☐
    Other (Specify) _____.

4.   What is your parental background?

    Living with single parent   ☐
    Living with both parent   ☐
    Living with a guardian   ☐
    I am orphaned   ☐

5.   What is your economic background?

    Below BWP 500   ☐
    BWP 500 –BWP 2 999   ☐

BWP 3000 – BWP 10 000 ☐
Above BWP 10 000 ☐

Instruction

For each of the following items in sections B and C, please place a tick [√] in the appropriate box to show your level of agreement with the statement given. (1 = Strongly Agree; 2 = Agree; 3 = Disagree;   4 = Strongly Disagree)

Section B

B.1 teamwork subscale

#	ITEM	1	2	3	4
1	I always show acceptable attendance for team meetings.	☐	☐	☐	☐
2	I always arrive on time for team meetings.	☐	☐	☐	☐
3	I always stay focused on the task during class.	☐	☐	☐	☐
4	I always fulfill my individual role such as organizer or reporter.	☐	☐	☐	☐
5	I always do a fair share of the work expected of everyone.	☐	☐	☐	☐
6	I always admit uncertainty when in doubt about what to do.	☐	☐	☐	☐
7	I always ask questions that help the group to understand lessons.	☐	☐	☐	☐
8	I always help others by explaining or reviewing lessons.	☐	☐	☐	☐
9	I always bring reading materials for the group to examine.	☐	☐	☐	☐
10	I always refer to reading materials during discussions.	☐	☐	☐	☐
11	I always share experiences, feelings, ideas or opinions.	☐	☐	☐	☐
12	I always speak clearly and use easily understood vocabulary.	☐	☐	☐	☐
13	I always limit the length of comments so others get to talk.	☐	☐	☐	☐
14	I always listen to everyone and respect their views.	☐	☐	☐	☐

15	I always encourage and recognize the contributions of others.	☐ ☐ ☐ ☐
16	I always consider views that differ from my opinions.	☐ ☐ ☐ ☐
17	I always use logic to challenge group thinking or work methods.	☐ ☐ ☐ ☐
18	I always carefully think about ideas before reaching conclusions.	☐ ☐ ☐ ☐
19	I always build on the ideas of others.	☐ ☐ ☐ ☐
20	I always offer new ways of looking at ideas or problems.	☐ ☐ ☐ ☐
21	I always take suggestions for improvement in a friendly way.	☐ ☐ ☐ ☐
22	I always avoid using put-downs or blaming others for problems.	☐ ☐ ☐ ☐
23	I always accept compromise as a way to deal with conflict.	☐ ☐ ☐ ☐
24	I always keep trying even when the task becomes hard.	☐ ☐ ☐ ☐
25	I always express hope about group success.	☐ ☐ ☐ ☐

Section B.2:

#	ITEM	1	2	3	4
1	When conversing with others, I try to equalize my participation	☐	☐	☐	☐
2	I always introduce myself to someone with a smile and offer a handshake	☐	☐	☐	☐
3	I usually "warm-up" new conversations with small talk	☐	☐	☐	☐
4	I make an effort to remember and use peoples' names.	☐	☐	☐	☐
5	I often use courtesy words/ phrases - "Please," "Thank you," "I'm sorry."	☐	☐	☐	☐
6	I smile at appropriate times while conversing.	☐	☐	☐	☐
7	I make eye contact while conversing.	☐	☐	☐	☐
8	While conversing, I nod my head at appropriate times.	☐	☐	☐	☐
9	While conversing, I stand 1 – 1.2m away from the person	☐	☐	☐	☐
10	To end a conversation, I wrap up with a closing statement.	☐	☐	☐	☐

#	Item				
11	If a colleague has put on weight, I say nothing about it.	☐	☐	☐	☐
12	While listening, I often lean slightly forward and face the speaker.	☐	☐	☐	☐
13	When I cross my leg, I cross my leg facing the speaker.	☐	☐	☐	☐
14	While listening, I listen for meaning and ask questions.	☐	☐	☐	☐
15	When someone talks about a sad experience, I try to show empathy	☐	☐	☐	☐
16	When I discuss a topic, I focus on positive (good) aspects.	☐	☐	☐	☐
17	When I have a negative opinion, I lead in with a positive comment first	☐	☐	☐	☐
18	When I receive unfavorable feedback, I note where I need to improve.	☐	☐	☐	☐
19	When I give negative feedback, I focus on the person's observable work and offer suggestions.	☐	☐	☐	☐
20	When I give negative feedback, I talk with the person in a private place	☐	☐	☐	☐

B.3

#	Item	1	2	3	4
1	I often clearly identify the main problem and subsidiary aspects of the problem	☐	☐	☐	☐
2	I always identify the basics of the issue as well as the nuances	☐	☐	☐	☐
3	I always state the problem in terms of a process of examining evidence from multiple points of view	☐	☐	☐	☐
4	I always describe own reasoning from assigned sources	☐	☐	☐	☐
5	I often provide arguments for and against different perspectives	☐	☐	☐	☐
6	I always address additional diverse perspectives from outside the information	☐	☐	☐	☐
7	I often examine evidence and source of from multiple perspectives	☐	☐	☐	☐
8	I always question evidence accuracy, completeness and relevance	☐	☐	☐	☐
9	I always rank evidence in terms of importance, relevance and reliability	☐	☐	☐	☐
10	I always identify problems arising from limitations of current solutions	☐	☐	☐	☐
11	I often describe the process for systematically generating new data,	☐	☐	☐	☐

#		1	2	3	4
	interpreting the significance of the data over time				
12	I always analyse the issue with a clear sense of scope and context including an assessment of the audience of the analysis	☐	☐	☐	☐
13	I always identify and address long term considerations related to the scope, context, and audience	☐	☐	☐	☐
14	I always establish criteria to apply across alternatives to reach a well-founded conclusion	☐	☐	☐	☐
15	When I conclude I incorporate previously discussed problem statement as well as key relationships	☐	☐	☐	☐
16	I often articulate how problem solving approach can be refined to have better solutions	☐	☐	☐	☐

Section C

#	Item	1	2	3	4
1	I like to participate in athletic activities	☐	☐	☐	☐
2	I enjoy spending time working outdoors	☐	☐	☐	☐
3	I enjoy using hands and tools to build something	☐	☐	☐	☐
4	I wish to operate machinery to make a product	☐	☐	☐	☐
5	I like to take care of animals	☐	☐	☐	☐
6	I enjoy helping plants grow and stay healthy	☐	☐	☐	☐
7	I like calculating and solving math problems	☐	☐	☐	☐
8	I enjoy studying scientific issues and problems	☐	☐	☐	☐
9	I like researching scientific topics independently	☐	☐	☐	☐
10	I enjoy analyzing numerical and quantitative data	☐	☐	☐	☐
11	I always invest my time to understand complex concepts	☐	☐	☐	☐
12	I enjoy investigating new mathematical or scientific projects	☐	☐	☐	☐
13	I have passion for designing a new picture, flyer or poster	☐	☐	☐	☐
14	I like generating innovative ideas and solutions to a problem	☐	☐	☐	☐
15	I enjoy performing in a drama production	☐	☐	☐	☐

16	I have passion for writing creative story or essay	☐	☐	☐	☐
17	I like playing a musical instrument	☐	☐	☐	☐
18	I am able to express my emotions freely and openly	☐	☐	☐	☐
19	I am able to advise a friend with a personal problem	☐	☐	☐	☐
20	I enjoy counseling children in a community group	☐	☐	☐	☐
21	I like teaching people new skills	☐	☐	☐	☐
22	I enjoy participating in activities which improve society	☐	☐	☐	☐
23	I will voluntarily join a group discussion and share ideas, thoughts, feelings	☐	☐	☐	☐
24	I will voluntarily help others less fortunate than me	☐	☐	☐	☐
25	I desire to manage a group to complete a business project	☐	☐	☐	☐
26	I am able to persuade others to adopt my business idea	☐	☐	☐	☐
27	I enjoy selling products or services to the public	☐	☐	☐	☐
28	I have the ability to determine business goals and motivate others to achieve them	☐	☐	☐	☐
29	I have the ability to lead a team to victory	☐	☐	☐	☐
30	I can work in an expensive, luxurious environment	☐	☐	☐	☐
31	I willingly follow an organized set of rules	☐	☐	☐	☐
32	I enjoy working in a predictable and structured environment	☐	☐	☐	☐
33	I am able to process data or records in an orderly manner	☐	☐	☐	☐
34	I like performing numerical calculations	☐	☐	☐	☐
35	I like using a computer to complete work assignments efficiently	☐	☐	☐	☐
36	I prefer to work in an office where expectations and goals are clearly defined	☐	☐	☐	☐

APPENDIX 2: INFORMED CONSENT FORM: Senior Secondary School Students

Project Title: The Importance Soft Skills in Career Choices and Academic Performance in Senior Secodnary Schools in Botswana

Principal Investigator: (BSc.Agric.Ed) - Phone number(s): 71236898

Purpose. You are being asked to participate in a research study of the importance of soft skills in senior secondary school education. The purpose of the study is to contribute to the educational policy provision of soft skills in education so as to bridge the gap between employment demands and education. You were selected as a possible participant in this study because the researcher is interested in your views about how you experience the senior secondary education. Before you sign this form, please ask any questions on any aspect of this study that is unclear to you.

Procedures and duration. If you decide to participate, you will be invited to answer a questionnaire consisting of close ended items. The questionnaire will be answered in 30 minutes.

Risks and discomforts. There are no known risks and discomforts arising from taking part in this study.

Benefits and/or compensation. There will be no participant incentive offered for taking part in the study.

Confidentiality. The data from this investigation will be used for the purpose of this study. You will not be identified by name or inference in the publication and dissemination of the finding. None of these will be used for commercial use.

Voluntary participation. Participation in this study is voluntary. If you decide not to participate in this study, your decision will not affect your future relations with your school, its personnel, and associated departments. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty.

Authorization. You are making a decision whether or not to participate in this study. Your signature indicates that you have read and understood the information provided above, have had all your questions answered, and have decided to participate.

Name of Research Participant (please print): _____Date: __/__/2013

Signature of Participant _____

Signature of Witness (Optional): _____

Signature of Staff Obtaining Consent: _____

You will be given a copy of this consent form to keep.

If you have any questions concerning this study or consent form beyond those answered by the investigator, including questions about the research, your rights as a research participant; or if you feel that you have been treated unfairly and would like to talk to someone other than a member of the research team, please feel free to contact the Department of Agricultural Economics, Education and Extension, Botswana College of Agriculture Phone: Dr. U.K. Hulela on 3650224, E-mail: khulela@bca.bw

APPENDIX 3: Research budget

Activity	Milestone	Resources	Completion date	Costs (P)
Proposal writing	Pick advisor and topic	Transport to supervisors 4 trips @ 3.50 per trip	August 17, 2012	14.00
	Create work plan & filing system	Computer (typing, printing 3 copies @ P1.50)	August 24, 2012	4.50
	Review the literature	Library; journals, Internet @ P200 for 12months	Routine	2400.00
	Draft proposal	Computer (typing)	October 05, 2012	--
	Printing draft	Printing 100 pgs @ P1.50 per pg.; duplicating 200 pgs. @ P1.00 per page; paper, binding 3 copies @ P20 per pg.	October 12, 2012	410.00
	Submit and polish proposal	Transport to supervisors 4 trips @ P3.50 per trip	November 23, 2012	14.00
	Present polished proposal	Transport to BCA	January 11, 2013	14.00
	Correct proposal & submit	Typing - computer	January 25, 2013	--
Data collection	Pilot test methodology	Transport to pilot centre 8 trips @ P3.50 per trip; participants incentives	February 28, 2013	628.00
	Adjust and refine methodology	Typing	March 08, 2013	
	Schedule data collection, begin collecting	Research assistants; printing; photocopying; mailing; participants incentives	June21, 2013	7105.00
Data analysis	Score the data		July 07, 2013	

APPENDIX 3: *The research budget* cont.

Activity	Milestone	Resources	Completion date	Costs (P)
	Enter the data into the computer	Computer; meals	July 21 , 2013	110.00
	Analyze the data	Technical assistant; meals	July 28, 2013	2055.00
	Interpret the results		August 02, 2013	
Dissertation writing	Write up results	Typing (computer)	August 16, 2013	--
	Revise proposal into dissertation format	Computer –typing	August 23, 2013	--
	Write conclusions and implications	Typing –computer	August 09, 2013	--
	Submit dissertation draft to advisor	Printing, photocopying binding	September 06, 2013	623.25
	Incorporate changes into the dissertation	Typing; editing	October 25, 2013	4800.00
	Submit dissertation script	Transport	November 15, 2013	14.00
			10% contingency	1794.25
			Total expenditure	**20 000**

APPENDIX 4: The dissertation Gantt chart

ACTIVITIES	MONTHS in 2012 /2013														
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Interview potential advisor	▓														
Pick advisor and topic	▓														
Refine topic with the advisor	▓														
Select other committee members	▓														
Create a work schedule	▓														
Outline literature review	▓														
Set up a dissertation filing system	▓														
Review the literature	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓
Select the instrumentation			▓												
Select analytical method			▓												
Draft the proposal			▓	▓	▓										
Submit and polish the proposal					▓										
Present the polished proposal to the committee						▓									
Defend the proposal							▓								
Make corrections to proposal, submit to dean								▓							
Revise and expand the literature review	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓
Pilot test the methodology									▓						
Adjust and refine methodology										▓					
Schedule data collection, begin collecting											▓				
Score the data & Enter the data into the computer												▓			
Analyze the data & Interpret the results												▓			
Write up results												▓			
Revise the proposal into												▓			

Task														
dissertation format											■			
Write conclusions and implications											■			
Submit the dissertation draft to advisor											■			
Present the draft to committee for comments												■		
Incorporate changes into the dissertation												■		
Submit script to dean, make needed changes													■	
Resubmit the dissertation for publication														■

APPENDIX 5: Permission Letter to Conduct Research

MINISTRY OF EDUCATION
AND SKILLS DEVELOPMENT

TELEPHONE: (267) 3625668 3072454
FAX (267) 3975090 3072013

Director Regional Operations
South East
Private Bag 0071
GABORONE
BOTSWANA

Republic of Botswana

SER 1/15/2 V (142)

22 July 2013

Lebopo L. Molcele
Private Bag 0044
Mogoditshane

Dear Sir/Madam

PERMISSION TO CONDUCT RESEARCH STUDY

Reference is made to your letter dated July 3, 2013 requesting for permission to conduct research.

Permission is granted to carry out your research work at the following schools:

- Gaborone Senior Secondary School
- Naledi Senior Secondary School
- Ledumang Senior Secondary School

The research period is from August to September 2013.

By copy of this letter, the School Heads are requested to arrange and facilitate the carrying out of the requested research.

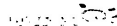This permission is dependent on the School Management satisfying themselves that it is convenient and possible.

I look forward for a good relationship with the schools and the region.

Yours faithfully

Daphney B. Moikabi
FOR ACTING DIRECTOR – SOUTH EAST REGION

Cc.   School Heads -   Gaborone Senior Secondary School
                          Naledi Senior Secondary School
                          Ledumang Senior Secondary School

APPENDIX 6: Research Permit

TELEPHONE: 3655469
TELEX: 2944 THUTO BD
FAX: 3185167

REPUBLIC OF BOTSWANA

MINISTRY OF EDUCATION
AND SKILLS DEVELOPMENT
PRIVATE BAG 005
GABORONE

REFERENCE : E1/20/2 XXVII (15)   22nd February 2013

Moleele Lurryson

P Box 550139

Mogoditshane

Dear Madam/Sir

RE: REQUEST FOR A PERMIT TO CONDUCT A RESEARCH STUDY

We would like to acknowledge receipt of your application for research permit to conduct a study. This serves to grant you permission to conduct your study in the sampled areas in Botswana to address the following research objectives/questions topic:

The Importance Of Soft Skills In Career choices Of Academic Performance In Senior Secondary Schools In Botswana.

It is of paramount importance to seek **Assent** and **Consent** from the Department of Primary Education, School Heads, Teachers, Students and Parents of all Senior Secondary Schools in the country (all regions), that you are going to collect data from. The Interview/questionnaires of students should be done in the afternoon to avoid students missing lessons. We hope that you will conduct your study as stated in your proposal and that you will adhere to research ethics. Failure to comply with the above stated, will result in immediate termination of the research permit. The validity of the permit is from 21st **February 2013 to 22nd February 2014.**

You are requested to submit a copy of your final report of the study to the Ministry of Education and Skills Development, in the Department of Educational Planning and Research Services, Botswana.

Thank you.

E Ranganai
For Permanent Secretary