

THE EFFECTS OF THE EDUCATION 1 PROJECT ON THE VOCATIONAL SKILLS
AND PROSPECTS OF STUDENTS AT A SECONDARY SCHOOL IN SWAZILAND:
A CASE STUDY

by

Anver Edmond Classens

A dissertation submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfillment of the requirements
for the degree of Doctor of Education in
Educational Leadership

Charlotte

2008

Approved by:

Dr. Corey Lock, Chair

Dr. Chuang Wang

Dr. Grace Mitchell

Dr. Claudio Carpano

© 2008
Anver Edmond Classens
ALL RIGHTS RESERVED

ABSTRACT

ANVER EDMOND CLASSENS. The effects of the education 1 project on the skills and prospects of students at a high school in Swaziland: a case study (Under the direction of DR. COREY LOCK)

The purpose of this study was to investigate the effects of the Education 1 Project on skills development and prospects of students at a secondary school in Swaziland. The Education 1 Project was an educational initiative by the Swaziland government to establish and implement a more hands-on approach to prevocational education at selected high schools. Descriptive case study research methodology was used to gather and analyze data surrounding the Education 1 Project and to answer the question, “What were the effects of the Education 1 Project on the skills and prospects of students graduating from a secondary school in Swaziland.” The study found that there were no official data available for tracking students once they graduated, which made it difficult to determine if the Education 1 Project was having the desired effects on students. There were responses from the teachers that suggested that they were aware of some students’ accomplishments which they gathered informally from family members and the students themselves. Examination results showed that students were acquiring skills even though the results were not up to the expectations of the teachers and administrators of the school. This they attributed to the aggressiveness of the prevocational program and the large amount of learning matter that was crammed into a short span of time. The skills and prospects of students in prevocational education were also affected by various external factors which included financial support of the program by the government, the

quality of teachers, the lack of funds to start businesses, and the lack of collaboration between the education and business sectors in Swaziland.

ACKNOWLEDGEMENT

I would like to thank my dissertation committee for their guidance, support, and dedication. I appreciate the time you spent to make this process a very rewarding experience. I cannot thank you enough. To Dr. Lock, special thanks go out to you for pushing me along and threatening to tell my wife if I didn't start writing and to Dr. Wang who suggested the structure for the results chapter. I really do appreciate it!

The staff at the Swaziland Ministry of Education, the principal, and teachers at the school were very hospitable and helpful in providing the data that is contained herein. I want to thank them all. They have become my friends and I will always be indebted to them and will continue to help in any way possible to assure that the prevocational education program in Swaziland thrives.

I would also like to thank my family and friends for all their love and support. In particular, I want to honor my wife Nachette for supporting me in this effort and for "cutting back" on the budget so that I could afford to travel to Swaziland to do the research. She was also very helpful in assisting with the transcribing of the taped interviews. Without her help, I'd still be typing. Then came the proofing! Nachette, you were great and Dr. Laura Beam thanks for your help with chapter 5. To the rest of my friends, I apologize for standing you up so many times because I was always working on this dissertation. I promise; I will make up for that. Also I would like to say thanks to my sisters, brother, and cousins who gave me lodging and made sure I had transportation while I was in Swaziland and South Africa. This dissertation is dedicated to my late parents, Desmond and Charity who stressed the importance of getting a good education!

TABLE OF CONTENTS

LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
CHAPTER 1: INTRODUCTION TO THE STUDY	1
Purpose of Study	1
Significance of the Research	2
Definition of Key Terms	3
Limitations	5
Methodological Basis	5
Overview of the Study's Methodology	6
Summary and Organization	7
CHAPTER 2: LITERATURE REVIEW	9
The "State" of Education in Sub-Saharan Africa	9
The "State" of Vocational Education in Sub-Saharan Africa	12
The Education 1 Project	16
Rationale for Case Study Methodology	25
A Model for Prevocational Education in Swaziland	27
Summary	32
CHAPTER 3: METHODOLOGY	34
Methodological Basis	34
Design of the Study	35
Sample Selection	36

Data gathering and Analysis Techniques	37
Access and Permissions	37
Interviews	38
Documents	38
Observations	39
Validity Structure	39
Evaluation and Analysis of Data	40
Summary	41
CHAPTER 4: RESULTS	42
Summary	83
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS	84
Conceptual Principles	97
Recommendations for Future Research	98
Summary	100
BIBLIOGRAPHY	104
APPENDIX A: INTERVIEW QUESTIONS	108
APPENDIX B: PREVOCATIONAL EDUCATION PROGRAM CORE STRANDS	110
APPENDIX C: PROGRAM STRAND INFORMATION	111
APPENDIX D: SAMPLE MODULE	115
APPENDIX E: STUDENT ENROLMENT	125
APPENDIX F: STUDENT PERFORMANCE ON EXAMINATIONS	126

LIST OF TABLES

TABLE 1: Pseudonyms for participants	43
--------------------------------------	----

LIST OF FIGURES

FIGURE 1: The Swaziland Ministry of Education organizational structure	47
--	----

LIST OF ABBREVIATIONS

NERCOM	National Education Review Commission.
UNESCO	United Nations Educational Scientific and Cultural Organization.
ADB	African Development Bank.
ADF	African Development Fund
VET	Vocational Education Training
ILO	International Labor Organization.
DIVT	Directorate of Industrial and Vocational Training
EEC	European Economic Community.
EC	European Community, which replaced the EEC.

CHAPTER 1: INTRODUCTION TO THE STUDY

Countries in southern Africa are expanding their economies hoping to position themselves more strategically in today's global trade community. These efforts, however, are hampered by widespread youth unemployment, poverty, and disease (ADB, 1999). Long-term solutions to these socio-economic issues must be addressed and in particular youth unemployment has to reverse direction in order for African economies to evolve competitively in the global market. Vocational education training (VET) could become an important catalyst for economic development and could be the key to decreasing youth unemployment. For example, Swaziland has invested in VET at the secondary education level by establishing the Education 1 Project, which addresses pre-vocational training in the high schools. This study examined the effects of the Education 1 Project initiative on the skills and prospects of secondary level students at a school in Swaziland.

Purpose of the Study

The purpose of this study was to investigate the effects of the Education 1 Project on the development of skills and prospects of students at a secondary school in Swaziland. The Education 1 Project was a national initiative which involved the establishment and implementation of a hands-on intensive prevocational education program at selected high schools. A descriptive case study approach was used to gather and analyze data that led to this detailed account of the Education 1 Project and its

effects. This study also provided a description of how prevocational education was being practiced in Swaziland.

The study sought to answer the question, “What are the effects of the Education 1 Project on the skills and prospects of students graduating from a secondary school in Swaziland.” Four relating research questions guided the study:

1. What roles were played by the various individuals and agencies that administered and delivered the Education 1 Project?
2. What were the educational problems for which the Education 1 Project was designed to address?
3. How was the curriculum of the Education 1 Project designed and how was it delivered?
4. What data were available to assess the prospects for graduates of the Education 1 Project in finding employment in the private and public sectors, starting their enterprises for profit, or continuing on to post-secondary education?

Significance of the Research

This research was significant because the study of vocational education systems in southern Africa have in general been neglected. Finding data and journal articles on the topic of vocational education, especially in Swaziland, was difficult. Numerous reports and studies by world economic development organizations, however, have suggested that Africa needed to invest in its human capital and one way of doing this was through the development of skilled labor. Unfortunately evidence of successful implementation of this directive appeared to be rare.

This study added valuable information to this topic. It is hoped that other educators and researchers would find the information in this study to be beneficial and that they would more clearly understand the mechanics of the Education 1 Project in Swaziland. The study also provided a cursory assessment of the prevocational education system in Swaziland which could serve as a starting point for further research and provide a fresh perspective whereby administrators and practitioners within the Swaziland community could address existing problems.

Definitions of Key Terms

The key terms used in the study are defined as follows:

1. Education 1 Project – a project that was initiated to address youth unemployment in Swaziland. This project came about as a result of the Swaziland Ministry of Education’s goal to make education more relevant to the needs of the Swazi nation as stated in the NERCOM Report. This project aimed at addressing the public concern that schools should provide students with skills that would allow them to become employable or self-sufficient in the private or public wage sectors.
2. NERCOM – National Education Review Commission. A report that was generated by this commission in 1985 which recommended that Swaziland start addressing the need for quality in education.
3. UNESCO – United Nations Educational, Scientific and Cultural Organization. This organization is a specialized agency for the United Nations which is dedicated to building classrooms in devastated countries. The agency functions as a laboratory of ideas and is a standards-setter for universal agreements on

emerging ethical issues. In short, it promotes international cooperation among its member states.

4. ADB – African Development Bank. This is Africa’s premier development finance institution which is dedicated to combating poverty and improving living conditions across the continent. The bank’s mission is to promote economic and social development through loans, equity investments and technical assistance.
5. ADF – African Development Fund. The ADF is the financial resources of the ABD. Resources consist of contributions and periodic replenishments by participants, usually on a three-year basis.
6. VET – Vocational Education Training, which includes all aspects of vocational training in Swaziland. This includes prevocational education from within the secondary education sector, private and government funded vocational centers, and post secondary institutions like the Swaziland College of Technology.
7. ILO – International Labor Organization, a specialized agency of the United Nations. This organization helps advance the creation of decent jobs and the kinds of economic and working conditions that give working people and business people a stake in lasting peace, prosperity and progress.
8. DIVT – Directorate of Industrial and Vocational Training, which is a division of the Swaziland Department of Labor that provides a leadership role for apprenticeships and trades testing.
9. EEC – European Economic Community formed as a result of the Treaty of Rome to establish a common price level for agricultural products within the European Community.

10. EC – European Community, which replaced the EEC.

Limitations

The study had the following limitations:

1. Participants in the study were limited to administrators from the Ministry of Education, the principal and teachers from one high school in a semi-urban setting.
2. Collected data were of a general nature and included all of the vocational subject areas (agriculture, business, home economics, and technical studies).
3. Parents and students were excluded from the study.
4. Only one school was chosen for the study. In addition, only a small number of participants were included: three administrators who were involved in the development and implementation of the program, one principal, and five teachers.

Methodological Basis

The method of design for this research was case study. Yin (2003) suggests that the case study “allows the researcher to retain the holistic and meaningful characteristics of real-life events” (p. 2). A case study is the preferred approach in examining contemporary events, especially when the relevant behaviors cannot be manipulated (Yin, 2003). Yin defines case study as an “empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not clearly evident” (p. 13). He expands the definition by stating that “case study inquiry copes with the technical distinctive situation in which there will be many more variables of interest than data points, and as one result, relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result, benefits from

the prior development of theoretical propositions to guide data collection and analysis” (Yin, 2003, p. 13, 14). The researcher in this study applied descriptive case study methodology to describe the intervention of the Education 1 Project, the real-life context in which the project occurred, and the results of the project on students.

Overview of the Study’s Methodology

This section provides a brief description of the study design, methods, data collection, and analysis. A more detailed description of the methodology is provided in Chapter 3.

Study Design

The researcher’s objective was to investigate effects of the Education I Project on the skills and prospects of students graduating from a Swaziland secondary school. The Education 1 Project in Swaziland was created to address youth unemployment by offering students skills to prepare them for opportunities in employment, self-employment, or post-secondary education after graduating from high school. Very little has been written about the Education 1 Project because it was only recently developed in the country and to date, very few studies have been conducted to establish a broad understanding of the program or to evaluate its effectiveness. The research focused on a single case: the Education 1 Project because it was unique and possessed exceptional qualities that could promote understanding or inform practice for prevocational education in similar situations. The case study was conducted using descriptive methods of inquiry to address the overall question “What were the effects of the Education 1 Project on the skills and prospects of students graduating from a secondary school in Swaziland.” Of the sixteen schools that offered prevocational training, only one school was selected for the

study. The reason for conducting the study at only one school was because a multiple case study was not appropriate for this study and would have been too complicated and too extensive to undertake. The Swaziland Ministry of Education assisted in the selection off the school by providing the researcher with a list of three schools to choose from.

Data Collection

Data were collected from multiple sources in order to provide an in-depth, reliable investigation that could be validated through triangulation. The methods and sources of data included the following:

1. Content Analysis – a detailed and systematic examination of vocational education material to identify patterns, themes, or biases gathered from documents and reports.
2. Interviews – recording open-ended, semi-structured questions presented to administrators, the principal, and teachers, to establish context and to identify problems and suggestions for improvement.

Data Analysis

The analysis of data followed the collection of data. After information was gathered from interviews and documents, the information was coded, reduced and categorized. The recorded interview responses were transcribed word-for-word and sorted by question which formed the basis for triangulation. All relevant data points and themes were noted and identified, followed by deriving the appropriate conclusions.

Summary and Organization

Development of education in much of Africa was occurring amid poverty, high unemployment, disease, and persistent armed conflict (ADB, 1999). In recent years,

globalization challenges and intense international competition have combined to pose significant new economic challenges, which have to be addressed if Africa is to emerge as an equal partner in the global arena of the 21st century.

Swaziland, a small African nation reacted to these challenges in a proactive way by investing in its human capital. Swaziland initiated the Education 1 Project that was intended to provide students in high schools with skills that would help them to become employed, self-employed, or prepared for post-secondary education.

This study focused on the Education 1 Project and addressed the general question, “What were the effects of the Education 1 Project, a prevocational education initiative, on the skills and prospects of students graduating from Swaziland secondary schools?”

Field data were gathered through interviews, observation and the collection of documents on location in Swaziland during the first two weeks of December, 2006. A follow-up visit was made one year later to finalize all matters relating to the information that had previously been gathered. Appropriate approvals from the Swaziland Ministry of Education to conduct the study were undertaken prior to the interviews. Documents, such as procedure manuals and curriculum standards, and examination results were acquired from the Swaziland Curriculum Center and the Examinations Council of Swaziland.

CHAPTER 2: LITERATURE REVIEW

The purpose of Chapter Two was to present a review of the literature as it related to vocational education in Africa and more specifically to put into perspective with the Education 1 Project in Swaziland. As in the USA, where “Tech Prep” has become the cornerstone for the vocational and technical education system, countries in Africa are challenged to develop their own vocational education programs. The vocational education initiatives across Africa in general are the result of economic underdevelopment, unemployment, poverty, hunger, disease, and other factors. The literature will show that the concerns of employment are basic in nature and in many ways are similar to those in Western societies.

The “State” of Education in Sub-Saharan Africa

Many countries in sub-Saharan Africa are confronted with food insecurity and as a result, millions of small family farmers live in a state of perpetual poverty. According to the World Bank (1998), unless institutional reforms are implemented to enhance wealth creation, formal economies will continue to stagnate. Employment that normally provides seasonal cash for families in rural populations is rapidly declining. Consequently, it is very difficult for farmers to make a living on the meager incomes their crops provide (Minnis, 2006). Current estimates suggest that starvation in sub-Saharan Africa may increase in the future, making it unlikely that the region will reach its goal of reducing starvation 50 percent by 2015 (Minnis, 2006). In addition to the inadequate levels of per capita agricultural output in sub-Saharan Africa, are the impact of the HIV/AIDS

pandemic on rural households and the vulnerability of these nations to changes in international markets.

Minnis (2006) suggests that the absence of integrated property systems, poor governance, and lack of attention to the agrarian sector are to blame for the mass poverty that has befallen African countries. Minnis (2006) also claims that if public policy were to change and focus on the economic needs of the agrarian sector, it would become clear that there is a need for practical skills and literacy training for adults linked to trades and small business enterprises that would allow individuals to support themselves. Education is not having the desired effects in most African countries. A serious problem is the large number of rural students who leave primary school before achieving an enduring level of literacy. These students have to leave school to support their siblings and in some cases, their parents who can no longer work because of illnesses. According to the African Development Bank (ADB) Education Sector Policy Report (1999), more than 50 million primary school age children are not in school and Africa is the only region in the world where the average Gross Enrollment Ratio (GER) for primary education has remained lower than 100 percent. At a population growth rate of about 2.8 percent and the current growth of primary school enrollment of about 5 percent per annum, Africa as a whole will not be able to attain universal primary education by the year 2015 (ADB, 1999).

The gains of increased educational access in most African countries have been offset by the fact that a substantial proportion of African children who enroll in primary school repeat several classes or dropout of school all together (ADB, 1999). This is a serious problem since it is estimated that overall, more than 30 percent of the children who enroll in school do not reach grade 5. Another problem is that African students are

learning much less than their counterparts in other areas of the world. School leavers in most instances cannot comprehend what they read and they perform low in key subjects such as science and mathematics (ADB, 1999). Even at the higher education level, there has been a steady decline in the quality of university education as illustrated by poor student performance on examinations, reduced rigor in the recruitment and promotion criteria for staff, complaints by employers regarding the inability of university graduates to perform adequately on the job, and by the reduction in the level of institutional research and publications' outputs (ADB, 1999). The low quality of education can also be attributed to the school curriculum which is blamed for: 1) its over-emphasis on urban cultural norms; 2) alienation of children from their cultural roots; 3) its overcrowding nature; 4) its gender stereotyping; 5) its de-emphasizing of practical science and mathematics in favor of more theoretical orientation; and 6) for its general inability to promote innovation and creativity among students (ADB, 1999).

The value of social capital is determined by the ability of employees to apply their knowledge and skills in the workplace (Minnis, 2006). It is not enough to rely solely on educational expansion, which may result in impressive quantitative improvements in participation rates, but in the end does little to raise rural living standards even though it could conceivably increase employability of labor when and if the formal economy develops (Minnis, 2006). Statistics indicate that the number of jobs requiring advanced educational qualifications is on the decline. According to Minnis, jobs in the informal wage sector, which require the most basic of literacy and numeracy, will provide the bulk of future employment prospects for secondary school graduates. Sub-Saharan nations have recognized the need to develop educational systems within their own communities

that would directly benefit the people and enhance their competitiveness within the global market. The ADB has been a strong supporter of education in Africa and following a commitment in 1975 to fund educational projects, has provided millions in aid to promote education. According to the ADB report (1999), US\$388.5 million was disbursed for 41 education loans and grants from 1975-1984. Between 1985 and 1998, loan dispersal had reached 135, with a total amount of US\$2.0 billion. Funding has been earmarked for construction, rehabilitation, equipment and furnishing of all types and levels of education, and training of teachers, principals, inspectors, curriculum designers, and educational planners (ADB, 1999). Priority, for the most part has been directed towards secondary education, including general, vocational education, as well as technical and teacher training.

The “State” of Vocational Education in Sub-Saharan Africa

Vocational education training (VET) in southern Africa has generally been neglected. It is evident however, that in nearly all of the southern African countries efforts are underway to develop vocational educational systems to enhance the skills of laborers entering the job market. The focus on VET by policy makers unfortunately is being hampered by the influx of the HIV/AIDS problem which has ravaged sub-Saharan nations for the past decade or more and which has resulted in a drain on much-needed funds. The need to continue the VET programs in these countries cannot be overstated. McGrath (2005) suggests that VET can play an important role in supporting social and economic development goals. From a policy perspective, VET is the link between the economy and education, between the state and the market and between concerns of poverty and growth (McGrath, 2005).

Historically, Africa was influenced by a colonial system of vocational education training, specifically based on a British model. The colonial system was shaped by racially perceived notions of ability and “appropriate” employment and strong reliance on expatriate skills (McGrath, 2005). During the turn of the 20th century colonial rulers began to recognize the need to develop skills training for Africans because of the rapidly developing industrial movement. Governor Sir Gordon Guggisberg during his governance of Ghana, for example, brought about a landmark shift in the government’s educational policy in 1923 when he inaugurated programs in various public sectors to prepare the industrial and social bases for the Gold Coast to be more economically self-sustaining (Yamada, 2005). He declared that his government regarded education as “the first and foremost step in the progress of the races of the Gold Coast” (Yamada, 2005). Education spending and school construction began to increase during this period, not only in Ghana but also in other British colonies.

As African countries began to gain independence from Britain, and up until recently, a dramatic increase in school enrollment occurred. Unfortunately, economic growth which has been very slow has not developed at the same rate as school enrollment. The result has been an increase in youth unemployment. Youth unemployment has spurred a growth in new programs and institutions that has expanded the supply of skills programs in the region (McGrath, 2005). The dilemma now, however, is that these new programs tend to generate a lower level of skill outcome than the traditional artisan programs simply because the training now provided does not meet the requirements of the formal labor market (McGrath, 2005). The globalization of markets is forcing new incentives on vocational education in Africa, such as the need for new global

sources of competitively priced labor and production costs. Therefore, as businesses relocate from the west where production costs are very high to less developed countries in search for cheaper labor, some African states stand to lose out on the chance to benefit economically from this trend, if they are not positioned to entice these corporations. These pressures are rapidly becoming the driving force for the need to reform the education.

International influences are also having an impact on vocational education training in Africa. Two multilateral development agencies, the International Labor Organization (ILO) and the World Bank have published findings which is having a major influence on the direction of VET in the region. The ILO reports that youth unemployment has had a devastating effect on young people under the age of 24, especially women. In sub-Saharan Africa, youth unemployment in 2003 had reached 21%. The ILO suggests that future prospects for youth in these countries depend on economic growth and the integrated policies that address youth unemployment directly. The ILO in partnership with other world organizations is providing technical support and policy advice to countries besieged with the problem (ILO Report, 2004). The ILO has also reported that about 500 million people in Africa are living in poverty and earn about US\$2 a day. The ILO suggests further that “creating decent work is not just about creating jobs. It’s about adopting policies that make employment central to the economic and social policies” (ILO, 2004). The ILO has also taken a proactive role in making providers of formal, public VET programs more responsive to providing training which helps people prepare themselves for self-employment.

The World Bank has also been a supporter of vocational education in the region. The bank's strategy has been to liberalize VET systems to the point that it increases the role of private VET providers (McGrath, 2005). In privatizing VET, the bank hopes for a more efficient system that would be more responsive to the market (McGrath, 2005). Public providers have also been encouraged by the bank to reform and become more responsive to market demands. A shift from an educationalist and bureaucratic control of vocational education to one that is controlled by employers is a major recommendation by the World Bank organization.

This vocationalism approach is resounded in the studies conducted by Hall and Thomas (2005) where their findings in Malawi show that a direct link should exist between higher education and the employers' needs and that the emphasis should be based on the academic and vocational qualifications specified by the employers. The study by Hall and Thomas also showed that there is a general lack of employer and other groups' involvement in the review and subsequent development of curricula. This observation has led to conclusions that curricula have been "sealed within the confines of the individuals or groups responsible for teaching them" (Hall and Thomas, 2005). Another concern exposed by the Hall and Thomas study is teacher competence. Despite the concerns about underdeveloped curricula, however, some evidence of employer involvement was observed in the Malawian study showing some promise for a future collaboration between the employer and academia.

A 1996 report on the development of technical and vocational education in Africa by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) suggests that countries in Africa are revamping their education policy because they are

dissatisfied with the traditional system. The significance of vocational education stems from the recognition by African nations that citizens need to be prepared for the world of work. The challenge for these nations is to design, develop and effectively implement a technical and vocational system that satisfies all of the stakeholders: the learners, the communities, and the employers.

The Education 1 Project

The Education 1 Project came about as a result of the Swaziland Government's efforts through the Ministry of Education to make education more relevant to the needs of the Swazi people. The project addresses public opinions that suggest schools in Swaziland should provide students with skills that will allow them to become more self-supporting within the non-formal wage sector (Swaziland Ministry of Education). The project was funded by a loan from the African Development Fund (ADF) and administered by the African Development Bank (ADB) Group and the Government of the Kingdom of Swaziland. The objective of the project was to develop a new prevocational education curriculum in four subject areas: agriculture, business, home economics, and technical studies. The new curriculum was introduced at sixteen high schools as a pilot program.

Background

The Kingdom of Swaziland is a small, landlocked country, bordered by South Africa and Mozambique. The country is the second smallest on the African mainland with a total land area of 6,641 square miles and a population of slightly above one million. Agriculture is one of the mainstays of the economy, accounting for 16 per cent of GDP (Roberts, 2005).

The Swazi people settled in the region around 1750. By the middle of the nineteenth century, Boers had started to farm in Swaziland and following the defeat of the Boers by the British around 1902, Swaziland became a British Protectorate. Schools were introduced and designed after the system in South Africa and were primarily run by missionaries who controlled most of the resources needed to accomplish the task (Booth, 2001). By 1908, the number of mission schools, whose goals were to educate the Swazis according to Christian principles, had increased to sixteen. The first government-run school was started in 1908 by Queen Lobotsibeni who was mistrusting of the missionaries and felt that the government needed to control education (Booth, 2001). Ethnicity and class divisions contributed significantly to the pursuing conflict between the missionaries and the government. In the early 1920s the Transvaal Education Department began inspecting the schools in Swaziland. All Europeans living in Swaziland were required to attend school by 1920; however, this requirement did not pertain to the Swazis. By 1924, of the 22,000 Swazi school-age children, only 3,000 were attending a school (Booth, 2001). In 1922, the colonial government was given full control to oversee all of the schools in the territory (Booth, 2001). Schools were given priority by the colonial administration during the period of the 1930s because of concerns that surrounded the education of the future leaders of the country (Booth, 2001). Schools in Swaziland were racially divided, with mixed races, whites, and black students all attending different schools. Whites received the highest priority when it came to education followed by the mixed race (“colored”). It is possible that this racial division could have been one of the contributing factors that led to Swaziland’s, as well as other African nations’, lag in education today. Another problem Swaziland faced in its earlier

years of school development was the reluctance by the politicians in London to fund education and other social programs (Booth, 2001). Sir Evelyn Baring, High Commissioner to the Territories in the 1940s argued that Britain was willing to occupy the territories but not willing to support them (Booth, 2001). He proposed: 1) an increase in school enrollment from 30 percent to 50 percent; 2) development of a Trades School, agricultural training for teachers, and some secondary education; and 3) assistance to alleviate the growing “poor white” problem in Southern Swaziland (Booth, 2001). The proposal received positive results. Education development continued to grow through the 1940s and by 1949 there were 83 private schools for Swazis, 96 government supported schools, 3 Swazi National schools, and 8 government maintained schools (Booth, 2001). With the onset of apartheid in South Africa in 1948, education in Swaziland took on a substantial change. The Swaziland government was critical of the direction education in South Africa was heading and in 1963 implemented a racially integrated school system. As independence from Britain drew near, the education system in Swaziland began to distance itself from the South African model and instead began to align itself with the British model (Booth, 2001). The emphasis now was placed on academics with less time being devoted to the industrial arts and skills. At the time of independence from Britain, 62,082 students were enrolled in primary school, and 6,246 students were enrolled in secondary level school (Booth, 2001).

As of 2001, Swaziland had 723 schools, of which 541 were primary and 182 secondary (Roberts, 2005). Data indicate that, in 2001, there were 277,347 students enrolled in all levels of education and of this total, only 994 were enrolled in a vocational education program (Roberts, 2005). Prior to 1946, vocational education in Swaziland

was non-existent. The Swaziland College of Technology (SCOT) was established in 1946 for the purpose of building and carpentry skills training. As Swaziland began to develop economically, the need to increase vocational education training was realized. By 1987 a new vocational training facility was established and named Gwamile Vocational and Commercial Training Institute (VOCTIM). Other small skills centers were also established such as the handicraft center, trades test center and various apprenticeship programs. By 2003, enrollment in vocational training had reached 1,807.

Purpose

The need for vocational education initiatives has been resounded in several government education policies. The following policies and events trace the evolution of vocational education training in Swaziland since the 1980s and amplify the important role of vocational education in the nation's economic development:

1. The Industrial and Vocational Training Act (1982) provided the legislative framework for apprenticeships and established the Industrial and Vocational Training Board. This Act repealed the Industrial Training Act of 1967. The purpose of this legislation was to promote industrial investments in Swaziland by ensuring that all apprentices and trainees in the trades covered by the legislation receive adequate training.
2. In 1990 a committee to study pre-vocational education was formed to review the relevance of schools in relation to the skills that they provide to students. This committee's purpose (Report of the Special Committee to Study Pre-Vocational Education, 1990) was to: 1) define the problems presently (affecting) prevocational education, placing these in the wider context of the mutual adaptation of the educational system and the macroeconomic environment; 2) define the relationship

between school, prevocational and technical education in the context of the development of a broader curriculum and greater degree of preparation of students for the world of work; 3) review (a) the primary and secondary school curricula; (b) curricula of vocational institutions; and (c) the school curriculum and how it relates to vocational institutions; 4) review entry qualifications for vocational institutions, and recommend changes where these are deemed appropriate for attracting more students to vocational courses; 5) recommend structures for the delivery of a prevocational education program which will in the short-term fit into the existing educational system and in the longer term the proposed 9 year “Basic Education for All” program; 6) provide details of resource requirements in order to implement the recommended program, particularly finance and personnel, paying due regard to affordability; 7) advise the Honorable Minister and the Senate on the steps required to implement the program, both in the short-term and the long-term. The Special Committee conducted a review of the entire vocational education system in Swaziland and recommended the following: a) adopt a formal definition of prevocational education, which would develop common core competencies, encourage student motivation by offering subjects that are consistent with their interests and talents, develop broad practical skills that are practical for the community, enhance opportunities for progression towards further career development and, provide students with pre-requisites for specific vocational programs; b) take steps to ensure that college and university entrance requirements are urgently developed and adopted and that mechanisms are in place to periodically review these requirements; c) establish a National Tertiary Education Council empowered to deal with programs, entry requirements, positions, and budgets; d) create a framework for bridging courses at the post-secondary level that would be

progressive in nature so that one course builds upon another; e) establish a technical wing at the Ministry of Education. This department should be headed by a Director who would be assisted by the Chief Inspector for Technical and Vocational Education; f) establish a task force to recommend specific programs to address the massive youth unemployment problem in Swaziland. This task force should be comprised of representatives from Government, non-government agencies and the private sector; g) create a supportive and enabling environment for self-employment initiatives by seeking cooperation from banks, government and local authorities; h) use resources which are relevant to the economic and social well-being of people in such a way as to contribute the acquisition of defined skills; and i) review the regulations governing apprenticeship programs and ensure that these regulations promote rather than restrict progression.

3. The National Development Strategy (1999) workshop recognized that the current school system was producing a “product for which there was little demand” and recommended the following: a) greater collaboration between industry and education; b) a coherent human resources development strategy; c) improved cost-effectiveness of the education system; d) taking cognizance of regional institutions in order to avoid expensive duplication of courses; and e) increased relevance of school and vocational curricula.
4. The National Education Policy (1999) recognized that graduates of the education system must meaningfully contribute to the development of both the cultural and economic development of the country. The National Education Policy (NEP) further recognized that the education system had not fully addressed the problems of relevance, quality and accessibility. The NEP also considered the problems of

adequacy and affordability, the affordability of education, the limitations on curricula choices caused by inadequate provisions of physical infrastructures, inadequate provisions for learners with special needs, and the imbalance between academic and practical subjects with limited opportunities for progression. The NEP also declares the nation's goals and objectives for vocational education as outlined in paragraph 10.0. The goals established for vocational education and training are defined as: a) development of a functional gender sensitive, affordable and efficient VET-system of sufficient capacity according to the needs of the economy, the society, and the individual; b) enhancement of VET as an attractive and integrated component of a permeable comprehensive system of education; c) promotion of entrepreneurial skills and values as an integral element of VET at all stages, sectors and areas; and d) contribution to a foresighted and coordinated national skills development planning and to business and employment promotion programs.

5. The Human Resources Planning and Development Bill (2001) proposed the establishment of a National Qualification Authority (NQA) that would be responsible for setting standards, quality assurance, registering bodies for establishing education and training standards, and registering training and vocational institutions.

The Education 1 Project was implemented as a result of the established policies regarding vocational training and the concern that schools needed to provide students with skills that would allow them to become self-supporting within the non-formal sector. By introducing the new prevocational curriculum in the high schools, the Ministry of

Education hoped to provide high school graduates with an education that was more relevant for job placement in positions requiring specific technical skills. Having the specific skills that are in demand by employers would allow these graduates to become gainfully employed and would address the high unemployment problem the country currently faced. The goals of the project, as envisioned by the Ministry of Education were that students in the prevocational education program would acquire three broad areas of opportunities upon graduation:

- 1.) Continuing on to post secondary education i.e., University, teacher's college, technical college, etc.,
- 2.) Finding a job in either the private sector or the public sector, and
- 3.) Starting an enterprise for profit.

Progress

The project was approved for funding in 1993 but implementation did not begin until 1996. The project was completed in December 2002 (ADF Report, 2003). The total cost to implement the project was US\$16.6M, of which 73% was financed by the African Development Bank. Funds were disbursed for civil works, furniture, equipment, training, technical assistance, and salaries for government appointed employees who were to supervise ongoing operations during implementation phase. Actual project costs were slightly below the estimated cost.

According to the ADF report, the project met expectations with all workshops, laboratories, business centers and libraries established and in place as planned. Facilities, according to the report, were well equipped and in good physical condition. The curricula developed for the prevocational program were in place and being delivered by teachers

trained to use the materials. The program evaluation or tracer study, as it is referred to in documents published by the Swaziland government, to assess the impact of the program on employment for graduates has not occurred as planned but was expected to be implemented when the second cohort completed the program. The first graduates were expected at the end of 2003.

Outcomes

The Government's goals for the project were to improve the capacity for curriculum development for pre-vocational education and special education, improve the relevance of secondary education, and improve the quality of special education. The Education 1 Project staff, according to the ADF report, was able to address these issues by using external sources for technical assistance and training of the staff and also for curriculum development. The recruitment of a technical assistant for the project management was also a benefit and helped to contribute to the transfer of skills to local staff.

From a social impact standpoint, the Education 1 Project has resulted in providing facilities, equipment, a new curriculum, and training for teachers in 16 high schools. The ADF report suggests that principals and teachers from these schools felt the program has brought relevance to students' education and have helped to bring schools and local industries closer together. During the development of the curriculum, the ADF report noted that both industry and business were recognized as key stakeholders in the project and were closely involved and were able to validate the program. The ADF report also noted that some students were already been accepted as apprentices at some of the local industries. Other direct impacts of the project were in the areas of special education where the awareness of special education had increased across the country and in gender

diversity where women have now been granted access to technical training opportunities. The project did not have any major negative impact on the environment. The ADF report noted that no natural areas were affected by the construction of facilities since the new buildings were added to existing structures that had already been cleared.

The ADF report cautioned that sustainability of the project will depend on the availability of staff and the maintenance of equipment and facilities. The report noted that due to staff shortages, some of the facilities and equipment were being under-utilized. Some schools were reported as being creative in addressing maintenance issues; whereas others were not and some of the schools had engaged the local communities in developing and maintaining the schools.

Rationale for Case Study Methodology

A variety of methods are used to conduct research in education. The National Science Foundation (NSF) regularly funds educational research and according to Suter (2005), rarely is experimental designs used in the study of educational practices. Suter reports that most NSF funded research in education use the case study method. A survey of principal investigators based on online questionnaires revealed that in the years 2001, 2002, and 2004, at least 50 percent or more of the researchers applied descriptive case study methods in their designs (Suter, 2005).

VanWynsberghe and Khan (2007) proposed a definition of case study which they state as follows:

“Case study is a transparadigmatic and transdisciplinary heuristic that involves the careful delineation of the phenomena for which evidence is being collected (event, concept, program, process, etc).”

VanWynsberghe and Khan identify seven features which makes case study methodology a rich source for information and knowledge: small *N*; contextual detail; natural settings; boundedness; working hypothesis and lessons learned; multiple data sources; and extendibility. In order to get an intensive and in-depth focus on the prevocational education system in Swaziland only one school was selected for this study. VanWynsberghe and Khan suggest that in focusing only on one sample, one can expect a more detailed description of the topic. The “contextual detail” that the authors refer to suggests that case study provides the reader with the sense of “being there.” The third feature, “natural settings” promotes the notion that case studies are less prone to manipulation in that there is little control over behavior, organization, or events. The complex setting, events and interactions of the case study, according to the authors allows the case to “unfold naturally without interventions from the researcher.” “Boundedness” refers to the “specific temporal and spatial boundary.... which brings context to the structures and relationships that are of interest” (VanWynsberghe and Khan, 2007). The spatial aspect enables the researcher to, as the authors put it, “develop focused hypotheses by circumscribing what is inside and outside of the case.” VanWynsberghe and Khan go on to suggest that researchers using case study can develop working hypotheses and can learn new lessons as they uncover and construct their findings during the data collection and analysis process. The emerging phenomenon surfaces and as a result, brings the study to a natural conclusion. Using multiple sources of data, the sixth of VanWynsberghe and Khan’s features, allows triangulation which makes the findings more convincing and accurate. Case studies also enriches and extends a reader’s understanding of a phenomenon, according to VanWynsberghe and Khan by allowing the

researcher to bring out and articulate the relationships of social interactions which “uncovers or constructs inseparable factors that are elements of phenomena”. This means that one discovered phenomenon can lead to another thus bringing about an “extended” understanding of the event.

Taylor used interviews to conduct a case study of the Edmonton Public School Board whereby 17 participants; two school district staff, 11 principals, two assistant principals, and two council members from the same school district provided the data on vocational education in that district. Taylor demonstrates in the analysis of the data the techniques used in case study methodology and concludes that the “vertical differentiation of academic and vocational programming and the association of the latter with less able students encourages the further erosion of vocational programming, despite policy rhetoric around improving the transition of non-college bound youth”. This example of a case study, one which directly is similar to the Swaziland prevocational education study helps to justify the research method chosen in this study.

A Model for Prevocational Education in Swaziland

Intermediate skills training in the United States, those not normally associated with universities, such as those for technicians, clerks, and craft occupations have in the last thirty years been the task for community colleges. The availability of community colleges in the United States and the ease by which students are able to take advantage of these colleges has negated the need for high schools here to provide vocational education. Other countries which are less fortunate or unable to make vocational education easily accessible at the post secondary level find it necessary to engage students in skill development while they are in high school and while their enrollment in high school is

still mandatory, or at least while their interest in learning is still strong. Canada has come to terms with their shortages of skilled workers and is now actively involved in vocational education at the secondary level, to the extent that in the past twenty years they have developed a model of workforce development in the high schools that has gained international recognition. Swaziland adopted the Canadian Model, specifically the Alberta High School Model in an effort to address its own problem of youth unemployment.

Vocationalism in Canada began in earnest in the early 1990s when policy debates on education focused largely on the high level of youth unemployment (Lehmann & Taylor, 2003). Since then the economic situation in Canada has shifted and now the shortage of labor has become the driving force for the country's need to provide high school students with the skills necessary to enter the workforce. The western province of Alberta was where most of the efforts to vocationalize were made to address the issue of labor shortages. The main idea behind vocationalism is the premise that all workers need to be "knowledgeable workers" (Lehmann & Taylor). Instead of preparing workers to fill immediate employment vacancies on a short term basis, a concerted effort to broaden vocational education to include a more defined connection to academic content seemed to have more appeal (Lehmann & Taylor). The attention has shifted from addressing the needs of a few "low achieving" students to accommodating the "neglected majority", especially since it is evident that "university programs are not suitable for all students" (Lehmann & Taylor).

Alberta is rich in minerals and natural resources, especially oil and gas, and as such has become the most affluent province in Canada (Lehmann & Taylor). Most of Alberta's

reforms in education occurred in the early 1990s, at a time when the economic boom became evident. Policymakers stressed the importance of linking the economic prosperity to work education and saw the value of industry in defining the needed skills for the jobs that were available. Three initiatives were developed as a result: Careers and Technology Studies (CTS), Registered Apprenticeship Program (RAP), and Tech Prep. CTS was based on the development of competencies in different occupational strands, RAP involved students starting in the 10th grade earning credits towards journeyman certification while simultaneously earning a high school diploma, and Tech Prep which was modeled around the United States program linked high school, secondary education, and the work place.

Swaziland adopted the CTS model for its prevocational education delivery. The difference between the Alberta and Swaziland programs is the driving force behind the need to introduce the vocational education initiatives to the respective countries. Also, not all of the strands offered in Alberta are available in the Swaziland schools. In Alberta the program was based on the need to meet the shortage of workers for the booming economy whereas in Swaziland the need is based on the high number of unemployed youth. What remains to be seen is whether training of workers at the secondary education level in Swaziland is sufficient, given that Swaziland does not have a very prosperous economy. The current emphasis in Swaziland is on entrepreneurship, i.e., vocational education graduates starting their business enterprises. The CTS program in Alberta is available to all of its high school students and is by choice. According to the Alberta Learning, *Promising Practices in CTS* (2000), CTS enables junior and senior students to:

- 1) investigate career options and make effective career choices;
- 2) learn to use

technology, tools and processes, effectively and efficiently; 3) make connections with learning developed in other subject areas; and 4) prepare for entry into the workplace or further learning. There are 25 strands in CTS, each composed of a group of 1-credit courses. A total of 44 credits may be applied to graduation. The strands form four areas of specialization: Business Education (8 strands), Home Economics (5 strands), Industrial Education (7 strands), and Resources (5 strands). Connected to the strands are eight articulation agreements with apprenticeship trades: automotive service technician, cabinet-maker, carpenter, cook, electrician, electronic technician, hairstylist, and welder. In the period between 1997 and 2000, the top five strands in order of preference by students were Information Processing, Foods, Career Transitions, Communications Technology, and Mechanics.

The general philosophy of prevocational education in the Swaziland prevocational education program overview is stated as follows (Ministry of Education, 1999, Prevocational Education Program Overview):

“The Pre-Vocational Education program for Form IV and Form V secondary students in Swaziland is designed to respond to the many challenges of an evolving modern society. This curriculum will assist young people to develop personal daily living skills and entry-level career competencies by providing a nurturing and flexible learning environment that supports the development of responsible citizenship and acceptable work-force qualifications. Students in Pre-Vocational studies will develop competencies that are measurable in an objective and consistent manner. The Pre-Vocational curriculum promotes student achievement by establishing identified expectations and processes for recognizing demonstrated success.

Included in this process is what students know and are able to do (as) measured against the described knowledge, skills and attitudes that have been identified as appropriate for each topic being studied. School administrators can respond readily to student and community needs and expectations by taking advantage of the flexibility provided in the Pre-Vocational curriculum. (School administrators are) able to select appropriate learning focuses based on available facilities, resources and instructional expertise; design courses that meet local learning needs; offer students a selection of educational content; and strengthen or enhance educational opportunities by effectively accessing available school, community and alternative learning resources. Students can develop the confidence they need as they move into adult roles by assuming increased responsibility for their learning; cultivating their individual talents, interests and abilities; and by defining and acting on their own goals. Acquired competencies can be applied in the school and home setting immediately and in the future as students make a smooth transition into adult roles in the family, community, workplace and/or further education studies. To facilitate this transition, clearly stated competency-based expectations and acceptable occupational standards are defined and will be field-tested in co-operation with teachers, business and industry representatives and tertiary-level educators. Pre-Vocational education offers all students important learning opportunities regardless of their particular chosen program area. For example, successful students in the program will:

- 1) develop skills that can be applied immediately and in their future endeavors;
- 2) refine career-planning skills;
- 3) improve entrepreneurial potential
- 4) acquire technology-related competence;
- 5) enhance employability

opportunities; 6) demonstrate increased self-confidence and independence; and 7) apply and reinforce competencies developed in other study areas.

In Pre-Vocational education, students begin developing a range of individual basic skills that supports their own personal background or interest areas that may lead to employment-level competencies or preparation for further tertiary education at the end of Form V. As a result of integrated educational experiences, students will also better understand their role in society (and thus) become more knowledgeable consumers and productive citizens.”

Summary

The literature describes the need for African nations to reform education and to implement programs that would benefit their citizens by arming them with the skills needed to get jobs. Due to the short life expectancy in many of these countries, the youth are being called upon to fill job vacancies, but unfortunately many of these youths are not adequately trained in the skills needed to perform effectively. To complicate matters even further is the realization that many primary school students are forced to leave school to support their families. Other factors compounding the problem of education are low quality curriculums, poor formal economies, and inadequate funding of education.

Vocational education training is seen as a solution to some of the human resources problems in sub-Saharan Africa and most countries are now developing their own strategies to combat these problems. The British model of apprenticeships is no longer viable because of market-driven demands. Also, most of the available jobs are related to the first stage of production where raw materials are harvested and sent abroad for final processing. Western entities have traditionally preferred to ship raw materials to their own countries which has allowed those countries to prosper.

Funding of education projects by various world organizations has spurred a movement towards reforming education in Africa. Swaziland's response to its problem of youth unemployment and poverty in general, has been the implementation of the Education 1 Project, a prevocational education program immersed in the secondary level schools. Swaziland, like so many other former British colonies, was heavily influenced by England. The need to educate the future leaders of Swaziland in preparation for independence from the British saw the establishment of schools, first as missionary controlled and later as government controlled. To date, Swaziland now has more than 723 schools but as recent as 2001, less than 1000 of all students were enrolled in vocational training programs.

CHAPTER 3: METHODOLOGY

Methodological Basis

The theoretical basis for this study was grounded theory. According to Leedy and Ormrod (2001), grounded theory is a qualitative approach that generates theory from the data that is collected in a study. The term *grounded* according to Leedy and Ormrod, refers to the idea that the theory that emerges from the study is derived from and “grounded” in data that have been collected in the field rather than taken from the research literature. Furthermore, ground theory is used to examine “people’s actions and interactions” (Leedy and Ormrod).

The method of design was case study. Yin (2003), suggests that the case study “allows researchers to retain the holistic and meaningful characteristics of real-life events (p 2).” Case study methodology was chosen because it is the preferred approach in examining contemporary events, especially when the relevant behaviors cannot be manipulated (Yin, 2003). In this study the event had already occurred and as a result the facts surrounding case could not be altered. The criteria for using the case study method also met VanWynsberghe and Khan’s seven features of a case study, namely: 1) the case had a small N , which for this study was one secondary school; 2) the contextual detail was present and as such was likely to provide the reader with the sense of “being there”; 3) the study was conducted in its natural setting and therefore there was virtually no control over the behavior, organization, or events; 4) the spatial boundaries were evident and it seemed possible to bring context to the structures and relationships that were of interest, particularly as it related to the development of a focused hypothesis that

distinguished between what was inside and outside of the case; 5) the case had the potential for the discovery of new lessons which could be translated into a working hypothesis during the data collection and analysis process; 6) the study used multiple sources of data such as participants of different roles, and by using both interviews and document search for the facts; and 7) the case had the possibilities of extension, meaning that, as it uncovered one phenomenon that would lead to another and eventually could extend the reader's knowledge about the Education 1 Project in Swaziland. The researcher in this study applied descriptive case study methodology to *describe* the intervention of the Education 1 Project and the real-life context in which the project occurred.

Design of the Study

Familiarity with the Education 1 Project was limited to the Swaziland community because the project only recently occurred and had not been subjected to research. The few articles that were published to date were about prior vocational initiatives and not specification about the Education 1 Project. The researcher was encouraged by this lack of information on the topic to conduct this research study. The research focused on a single case: the Education 1 Project, because it was unique and because it had exceptional qualities that could evoke understanding or inform practice for prevocational education in similar situations. Of the 16 schools offering prevocational training, one school located in a semi-urban setting was included in the case study.

The researcher posed the research question: "What were the effects of the Education 1 Project on the skills and prospects of students graduating from a Swaziland secondary school?" Four other correlating questions guided the study:

- 1.) What roles were played by the various individuals and agencies that administered and delivered the Education 1 Project?
- 2.) What were the educational problems for which the Education 1 Project was designed to address?
- 3.) How was the curriculum of the Education 1 Project designed and how was it delivered?
- 4.) What data were available to assess the prospects for graduates of the Education 1 Project in finding employment in the private and public sectors, starting their enterprises for profit, or continuing on to post-secondary education?

Sample Selection

The Swaziland Ministry of Education recommended three sample schools from which only one was selected by the researcher. Selecting only one school for the study allowed the researcher to focus on an in-depth study of the project.

With the assistance of the Ministry of Education two administrators who were familiar with the design and development of the Education 1 Project were chosen for the study. These administrators were in high authoritative positions which allowed the research to directly access information and documents that were pertinent to this study. The principal of the school was contacted and asked to assist in identifying teachers willing to be interviewed. The criteria for selecting teachers to participate were: 1) their willingness to be interviewed and observed; 2) their affiliation with one of the prevocational programs at the school; and 3) their continual use of the curriculum designed for the Education 1 Project.

Data Gathering and Analysis Techniques

Data were collected from multiple sources of evidence, namely: documents such as contracts, memos, and reports; and semi-structured interviews. Interviews were conducted at all management levels, i.e. administrators, the principal, and teachers. At the administrative level, the director of the project's implementation phase and one other official from the Ministry of Education and the principal from school were interviewed. At the teacher level, at least one teacher from each prevocational discipline at the school was interviewed. Using a diverse selection of participants helped to validate the data.

Face-to-face interviews were conducted in this study. The interview questions were mailed in advance to the appropriate participants to give them time to consider their responses or to gather documents to support their responses. The interviews consisted of open-ended, semi-structured questions and the responses were audio recorded for later transcription and analysis. Copies of all pertinent documents, memos, and reports were collected for further analysis. An observation of the facilities was made.

Access and Permissions

Arrangement for preliminary access to data and participants took place by telephone with the Swaziland Ministry of Education. After verbal permission was granted, a brief written description of the case study and a written request for access was submitted to the Swaziland Ministry of Education. The person assigned as the primary contact for this study by the Ministry of Education assisted in providing the list of schools to be considered. Prospective participants were requested to read and sign an agreement to participate in the study prior to the interviews.

Interviews

The research included mainly open-ended, semi-structured interviews with the participants. These questions were structured and were posed to participants on the basis of the roles they played. During the interviews, if the response to the questions were not understood or did not provide the appropriate answer, then probing questions were initiated to guide the participant back to the focus of the main question. On occasion probing questions were used to extract meaning and unexpected information. The main purpose of the interviews was to develop the details surrounding the Education 1 Project program from different perspectives. The researcher provided the appropriate questions to the participants in advance to give participants a chance to think about the questions and to gather documents that could substantiate their responses (see Appendix A). The researcher recorded questions and responses using note-taking and an audio tape recorder. Verbatim transcriptions of recorded interviews were later undertaken by the researcher. Respondents' answers to questions were compared for consistency against other responses as well as against documented evidence.

Documents

The documents that were reviewed were public records pertaining specifically to the Education 1 Project and the current prevocational education program. Documents included those records issued by the Ministry of Education, the ADF, the ADB, and other government agencies deemed relevant to this topic. Curriculum standards, course materials, lesson plans, and statistical data reports were collected from the Swaziland Curriculum Center as well as the Examinations Council of Swaziland. Physical materials

such as equipment and facilities were photographed. All documents collected were properly identified and filed.

Observations

Direct observation of the facility served the purpose of defining the conceptual framework under which the prevocational program operated. The researcher was interested in observing the physical setting, the participants in action, the activities and interactions, conversations between students and teachers, and other less obvious factors like “what does not happen” and nonverbal communications such as dress and physical space. The researcher used note-taking to document evidence and to conduct the observations in a passive and unobtrusive manner so as to keep participants at ease and focused on what they were doing.

Validity Structure

Yin (2003) identifies three principles used in establishing the construct validity and reliability of the case study evidence: use of multiple sources of evidence; creating a case study database; and maintaining a chain of evidence. The first principle, use of multiple sources of evidence, allowed the researcher to address a broad range of historical, attitudinal, and behavioral issues (Yin, 2003). This brought about converging lines of inquiry, referred to as triangulation. The case study was more convincing and accurate if the information gathered was from several sources and could be corroborated. The Education I Project case study used interviews, documents and direct observations to derive the facts. The researcher intended to use as much as possible evidence that could be substantiated by these data sources. The second principle, create a case study database, involved the organization and documentation of the collected data. Having a formalized

and presentable database would allow other researchers to review the data directly, if needed (Yin, 2003). The database included notes, documents, tabular materials, and narratives, and was stored, categorized, and organized. The third principle, maintain a chain of evidence, would permit the reader of this case study to follow the derivation of any evidence, ranging from the initial purpose to the conclusions (Yin, 2003). To achieve this chain of evidence, the report made sufficient citations to the relevant portions of the case study database, i.e., by citing specific documents, interviews, or observations. The database also revealed the actual evidence and indicated the circumstances under which the evidence was collected, for example, the time and place of the interview.

Evaluation and Analysis of the Data

Data analysis consisted of examining, categorizing, tabulating, and testing the evidence to address the initial proposition of the case study (Yin, 2003). The researcher's purpose was to examine the collected Education I Project data and to communicate the meaning of the case study. The researcher's goal was to develop an understanding of the events which led to the formation of a prevocational training program for secondary level students in Swaziland.

Stake (1995), suggests two ways researchers derive meanings from case studies; through direct interpretation and through grouping the findings until a conclusion could be made of that event. Establishing meaning involved searching for patterns and consistency (Stake, 1995). According to Merriam (1998), data analysis involves the consolidation, reduction, and interpretation of what people have said and what the researcher has witnessed and read.

The researcher took the following steps to analyze the data:

- 1.) Organized the details of case by arranging the facts in a logical order.
- 2.) Categorized the data into clusters of meaningful groups.
- 3.) Interpreted single instances for meaning that might have a relationship to the case.
- 4.) Identified patterns that characterized the case more broadly.
- 5.) Synthesized and generalized by forming conclusions.

Summary

The researcher applied descriptive case study methodology to explain the meaning of the Education I Project and its effect on student skills and prospects at a secondary school in Swaziland. The researcher hoped this case study would help to identify the pertinent characteristics of the Education I Project and how it affected the skills of students in a school setting in Swaziland. Data were gathered in the field and involved interviews with administrators and teachers; direct observations; and document review. Findings were documented and noted in chapter 4. The data were validated through the use of multiple sources of evidence. The creation of a case study data base and the maintaining of a chain of evidence by citing specific documents, interviews, and observations validated the data that was collected and used as findings.

CHAPTER 4: RESULTS

As stated in Chapter 1, the purpose of this study was to investigate the effects of the Education I Project on the skills and prospects of students at a secondary school in Swaziland. A descriptive case study approach was used to gather and analyze data and to establish a detailed account of the Education I Project and its effects. The study sought to answer the question, “What were the effects of the Education I Project on the skills and prospects of students graduating from the Prevocational Education Program at a secondary school in Swaziland?” Four related research questions were used to guide the study. These questions were as follows:

1. What roles were played by the various individuals and agencies who implemented the Education I Project?
2. What were the educational problems that the Education I Project was designed to address?
3. How was the curriculum of the Education I Project designed and how was it delivered?
4. What data were available to assess the prospects for graduates of the Education I Project in finding employment in the private and public sectors, starting their enterprises for profit, or continuing on to post-secondary education?

This chapter was organized and structured around each of the research questions and included data obtained through interviews and document search. A summarization of the results from the interviews conducted with the teachers of the prevocational education

programs at the school, the principal of the school, and administrators from the Swaziland Ministry of Education who were involved in the implementation phases of the Education I Project was included in this chapter. Participants from various levels of the educational system were selected to allow the inputs to be diverse and to provide different views and perspectives of the state of the Education I Project. An interview guide was used to conduct the interviews and is shown in Appendix A. The contents of the interview guide were derived from the research questions which ultimately attempted to answer the main question of this study. Documents provided by the Ministry of Education also formed the basis for the information contained in this section. Participants in the study were given pseudonyms to protect their identity. Table 1 shows titles and names assigned to each participant.

Table 1

Pseudonyms for Participants

Title	Name
Project Manager	Preston
Project Prevocational Educationist	Joshua
School Principal	Phillip
Technical Studies Teacher	Samuel
Business Studies Teacher	Winston
Agriculture Teacher	Daniel
Home Economics Teacher	Louise
Information Technology Teacher	Anthony

Question 1: What roles were played by the various individuals and agencies who implemented the Education I Project?

Each participant in the study was asked to describe their roles and responsibilities. A teacher from each of the program areas, the schools principal, and the administrators from the Ministry of Education who were directly involved in the establishment of the Education I Project gave a detailed description of these roles and responsibilities.

Organizationally, the Chief Inspector of secondary schools in Swaziland was the executive responsible for the administration of the Education I Project. The Chief Inspector of secondary schools reported to the Director of Education, who in turn was under the direction of Principal Secretary. The Principal Secretary reported to the Minister of Education, who was a member of parliament and had budgetary and administrative control over the entire education system in Swaziland.

Preston was assigned to manage the implementation of the Education I Project and was reassigned after the project ended as a Senior Technical Studies Inspector of the prevocational education program offered at 16 high schools in the four geographical regions of the country. Preston stated:

Currently, I am the Senior Inspector for Technical Studies, comprising woodwork, metalwork and technical drawing, now called Design & Technology. The subjects are offered at selected secondary and high schools and they are optional... With regards to the Education I Project, I was the Project Coordinator and Manager, I was (assigned) to the Project from my substantive post of Senior Inspector for Technical Studies in 1996 and was (reassigned) when the project came to a close in December 2005. As a Project Manager, I headed a Project Implementation Unit (PIU) that comprised of 5 professionals: Project Manager, Project Prevocational Educationist, Project

Accountant, Project Architect, Project Procurement Officer and support staff including drivers and secretary. The PIU had the main responsibility for managing and coordinating all activities related to the Education 1 Project which had actually 7 components. As project manager, I retained responsibility for all aspects of successful implementation of the project.

Joshua was responsible for academic matters during the implementation stage of the Education I Project and reported directly to Preston and after the project ended was reassigned to work with the senior inspectors of practical subjects in matters related to the academics of the prevocational education program. Joshua stated his role as follows:

I am a project educationist working in the project implementation unit, that is the PIU. I was assigned to look at the academic side, the academic activities of the project, that is: teacher training and the curriculum development. I (worked) with the consultants but (also looked) at the development of the curriculum, as well as the teacher training. I do have some other commitments provided I am (not) assigned by the project manager. I also work with the senior inspectors of practical subjects, for subjects in agriculture, home economics, technical studies and business studies.

Phillip, the principal of the school was responsible for all administrative activities at the school which included: budgets, recruitment of teachers, schedules, admissions, parent and student relations, community liaison, and all other matters related to both the academic and prevocational streams at the school.

The teachers in the various programs formed the nucleus of the prevocational educational system at the school. Aside from two of the five teachers who were interviewed, they were trained specifically to teach their respective prevocational subjects. The program became operational in 2002, making all of the teachers relatively new to the prevocational

education system. Some had taught vocational subjects under the other vocational system, called the “modern” subjects, which was more theory-based than the prevocational education subjects they were now teaching. The prevocational education system appeared to be more practical than its counterpart, the modern subjects, and was being assessed locally rather than externally. The modern subjects were assessed through Cambridge University under the “O” levels system. The teachers also performed various roles aside from their normal teaching such as student recruitment, teaching entrepreneurship and information technology, community relations, job placement, and tracking students after they graduated. Teachers in the prevocational education program reported directly to a department head. The department head reported to the principal of the school who had budget control of the entire high school.

Phillip stated:

They have their own head of department. Unfortunately, for this year we had a head of department, (who was transferred) by government... and what they do is whenever, (or) whatever they want (for) their department (The departments) make requisitions and the head of department brings those requisitions and then we issue (the) money to buy supplies or whatever.

At least one of the teachers, Daniel, was directly involved in the implementation phase of the Education I Project and provided consultation because of his experience with the “modern” vocational education system. Daniel stated that:

I was encouraged by the Ministry of Education to actually do some consultation when there was this needs assessment for the program.

Two additional agencies were frequently mentioned for their involvement in the administration of the prevocational education program: the Curriculum Center which provided the curriculum content as well as the standards for course delivery and the Examinations Council of Swaziland which supported the project by testing the students at

various times during the school calendar. The structure of the Ministry of Education is shown in Figure 1.

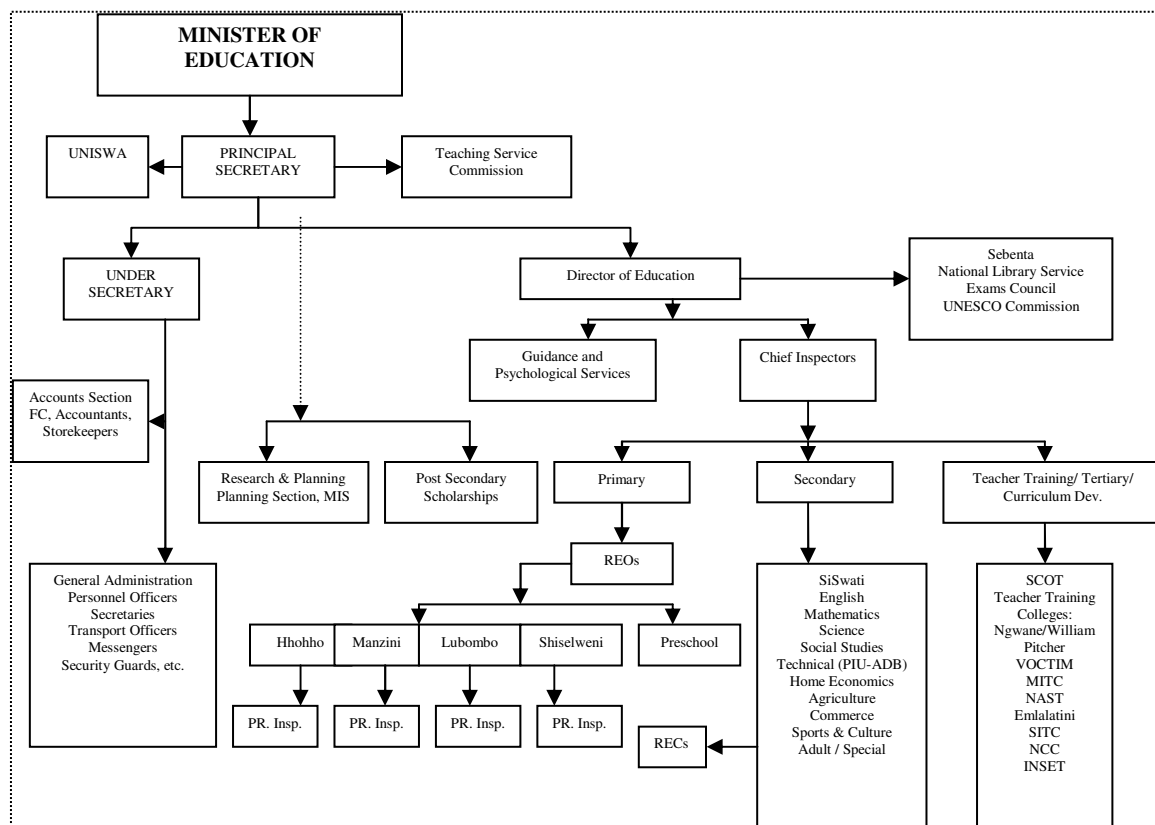


Figure 1. The Swaziland Ministry of Education's Organizational Structure.

Note: Provided by the Ministry of Education (2006) and reprinted with permission.

Question 2: What were the educational problems that the Education I Project was designed to address?

Swaziland received its independence from England in 1968 and since then attempted to develop a democratic educational system to serve all Swazi citizens. The country's goal for education, according to the government website on education, was to develop educational programs that improved the quality and relevance of the education system so that the diverse needs of the students and economy were better served. In 1985 the government established the National Review Commission to survey the county's education and training resources,

and completed a system wide review of the education system so that government was able to establish a clear policy direction, and long-term goals for education. The recommendations of the National Review Commission of 1985 were available on the government website.

Following these committee reviews and recommendations, a proposal was adopted by the Swaziland government and submitted to the European Economic Community (EEC), European Community now, to fund a prevocational education program. The subject areas proposed included technical studies, home economics, agriculture, and business. The EEC agreed to fund only the agriculture program. As a result, 9 schools were selected for the project, but only 6 schools were eventually picked. Seventeen teachers were trained to teach agriculture. Several problems emerged however, but most notably was the problem of whether this new program was to be considered a subject or a stand-alone program. Initially the program was designed for the slow learner, and exams for agriculture courses were not available. There was also concern as to whether the exams would be developed locally or by Cambridge University in England. Cambridge University had traditionally provided the curriculum and examinations for secondary schools in Swaziland, often referred to as “O” levels (ordinary levels). In regard to the Education I Project, Cambridge was contacted and asked to consider providing examinations for the new program, but Cambridge would only agree to take this on if certain changes were made to the program. These proposed changes proved to be too costly for the Swaziland Government and consequently, the Cambridge approach was abandoned. Eventually the funding from the EEC was exhausted. The surveys and the various committee recommendations on education led the government to consider another avenue, namely to seek institutional financing to revamp the educational system which no longer seemed to be effective. The Education I Project was created as a result to address education as a whole but most specifically was aimed at addressing the country’s need to enhance vocational training in secondary schools.

Preston was asked to state the basis for establishing the vocational education training in the four program areas which included agriculture, business, home economics, and technical studies and he said the following:

The four subject areas..... was already on offer at most secondary and high schools in the country. The major concern was that they were offered in an academic, theoretical and examination oriented manner that promoted rote learning. They needed to be made more hands-on, practical skills relevant to the every day lives of the students for self-employment, entrepreneurship and employment, and for further education.

Responses from other participants also suggested that the vocational education programs were already in existence and were being delivered to students in a manner that was more theoretical than practical. The teachers referred to this vocational education as the “Modern” version and they also inferred that the “Modern” subjects in some instances were being offered at schools in tandem with the Education I Project prevocational education program. According to Samuel, the technical studies teacher:

That was the original, the old model. We took it from Europe but then when they changed it in Europe we were not that fast to change.

Another factor contributing to the establishment of the prevocational education program in the four subject areas was the relevance of education in terms of what the country needed for economic development. These subjects were derived from the recommendation of the various commissions who assessed the relevancy of education in relation to the jobs that were available to most Swazi citizens. The education sector had been experiencing challenges which were contributing to the economic woes of the country and thereby affecting its people negatively. Preston outlined these challenges as follows:

1. High rates of drop out and repetition for primary and secondary schools. This was so because the curriculum academically inclined and did not allow for the pupils' different talents and inclinations. Consequently there was a need for a balanced curriculum, a modern curriculum design that would fit in the region and the wider world.
2. This (led) to premature school leavers who (were) unprepared for the labor market. The majority of these students (had) not acquired the basic literacy, innumeracy, and occupational skills sufficient for a successful entry into the labor markets.
3. This then (led) to high unemployment in the formal sector.
4. The high school graduates also (did) not gain entry to tertiary institutions rendering them unprepared for the world of work and lacking essential employability skills.
5. Swaziland's growth rate estimates at 3.7% then (1984) was one of the highest in the world thus (resulting in) an ever-increasing school leaving population that (could not) find jobs in the formal sector.

Preston stated that "the results of the surveys, reviews, policy, guidelines, and government's desire to address the challenges (led to the formation of the) Technical Assistant Fund (TFA) grant to finance a Project Preparation Study." The purpose of the project preparation study was to examine and identify those areas in the education sector that could benefit from a proposed funding request to the African Development Bank (ADB). A number of priority projects were identified and a request was made to the ADB for a loan. According to Preston, "the bank appraised the project in March 1993; the loan was approved in November 1993 and became effective in July 1995." The African Development Fund provided the funding for the project in the amount of E38.7M (US\$12.6M). The funds,

according to ADB records, were available in 1993 but due to delays resulting from bank procedures, disbursement did not begin until 1995. Despite the 4 year slippage in schedule the project was successful with outputs exceeding those planned and the allocated budget being within the projected figures (ADF, 2003).

The overall goal of the Education 1 Project was to improve the efficiency of the educational system in Swaziland with underlying objectives of:

1. Improved relevance of the curriculum to the future income earning activities of high school graduates.
2. Increased female participation rates in technical education at the post secondary level.
3. Improved efficiency and quality of schooling for the deaf and mentally handicapped children.
4. Improved planning capacity of the Ministry of Education.

The funds provided by the project were earmarked for the following:

1. Secondary Education:
 - Furniture and equipment procurement and facilities constructed to support the introduction of a prevocational education curriculum in Forms IV and V at 16 schools: Cana, Ekukhanyeni, Swazi Nation, Emvimbeko, Entfonjeni, Motjane, Sikhunyana, Lobamba, Somnjalose, Evelyn Baring, Salem, Ngwane, Franson Christian, Lavundlamanti, St. Philips & Vuvulane.
2. Central Administration:
 - Technical Assistance, staffing, and equipment supplies procurement to support prevocational education curriculum

development in agriculture, business, home economics and technical studies at the Nation Curriculum Centre and training one educational planner from Research and Planning Unit of Ministry of Education.

3. Teacher Training

- Technical Assistance positions to support the implementation of in service teacher-training programs for the delivery of prevocational educational curriculum.

4. Tracer Study

- Study of the career and life paths of graduates from the prevocational education program, and to evaluate the impact of the program on them.

5. Special Education

- Staff development, equipment procurement at Ekwetsembeni School for the mentally challenged, and facilities and services expansion at Siteki School for the Deaf.

6. Post-Secondary Education

- Facilities construction and furniture procurement for a 140 bed women's hotel at the Swaziland College of Technology (SCOT).

7. Project Management

- Staffing and equipment procurement to manage all aspects of the project.

Question 3: How was the curriculum of the Education I Project designed and how was it delivered?

The implementation of the Education I Project involved the efforts of numerous agencies and organizations all of whom were guided by the directives of the PIU (Project Implementation Unit). The project consisted of construction of facilities; procurement of equipment, tools, furniture, consumables (such as livestock for the agriculture program, perishable and nonperishable foods for the home economics programs, building supplies and metal for the technical programs, and computers for the business studies program) and books; enlistment of consulting services for technical assistance in the areas of management, curriculum development, and procurement; and training of the teachers.

The government's intentions for the Education I Project was to use the funding to pilot the program in sixteen high schools and once well established, it would then be implemented at all high schools. There were no indications as to when other high schools would get the program. The selection of the initial sixteen schools was a monumental task. The Ministry of Education wanted each of the four geographic regions i.e. Hhohho, Manzini, Lubombo, and Shiselweni, to acquire four schools each. Determining which schools would get the program involved the actions of a committee from each of the regions who took into account the availability of land, the students who were interested in the program, and the willingness of the area chief to support such an initiative. The other criterion for selection was that the schools be evenly distributed in both urban and rural settings so that all students would be given the same opportunities to advance their careers. Joshua stated:

The selection was somehow political...the Minister of Education at the time...required a school committee to tell if the school had enough land...people were willing to study the program and particularly the chief of that area, if they were willing to do so. And also they felt that (the schools)

should be in all regions...since you know Swaziland is divided into 4 regions. They felt that each region should have at least 4 secondary schools where prevocational would be started...and these schools should be chosen in such a way that some should be close to urban and some should be in the remote areas...so that the students could benefit (who were) close to town and also those (who were) in rural areas.

Once the schools were identified, the curriculum had to be developed for the prevocational education subjects to be taught at these schools and teachers had to be trained to deliver the instruction in these subjects. Joshua was assigned to the administration of all academic activities which included both teacher training and curriculum development. The development of curricula was contracted to Educational Consulting Services (ECS) Corp., a Canadian based company.

ECS performed assessments of the vocational education needs of the country and subsequently developed a curriculum that was accepted by the Ministry of Education. A consultant from ECS collaborated with senior officers at the Ministry of Education, senior inspectors, and head teachers at the sixteen schools who were chosen for the pilot project. The goals of the assessments and collaborations were to establish a framework upon which to build the prevocational education system while at the same time serving as a point of reference for prioritizing where funds would be spent to best suit the students' needs. Administrators at the Ministry of Education had become aware of a vocational education system in Canada; particularly the program used in the District of Aurora, and chose this Canadian model because it best met Swaziland's needs. Official visits to Canada were made to learn more about the vocational programs there. Preston stated:

The prevocational education curriculum is home grown and unique. The curriculum was developed and designed after a needs assessment that included a survey of Swazi employers to determine what they sought in potential employees... It was designed specifically for Swaziland. Four prevocational curriculum designers were hired to design and develop the prevocational curriculum and are based at the National Curriculum Centre (NCC). Technical assistants from ECS Corporation assisted them in the design and development of the curriculum. An educational consulting firm based in Toronto, Canada. The concept was based on a program in Canada called (CTS) Careers Technology Studies. The program is tenable at the Province of Alberta in Canada.

Prevocational education was being offered in four subject areas: Technical Studies, Home Economics, Business Studies and Agriculture. Each of the program areas had its own curriculum standard that explicitly defined the goals, purpose, expected outcomes, career choices, and core requirements. The standards also provided in detail a guide on how the program was to be delivered and assessed.

In addition to the subject areas of specialization, i.e. technical studies, home economics, business studies, and agriculture; all students were required to complete the core subjects, entrepreneurship and information technology. Appendix B illustrates the prevocational education system as practiced in Swaziland.

The core subjects, entrepreneurship and information technology, consisted each of 10 modules with an additional option of an enterprise project from a choice of 5. Entrepreneurship was intended to give students the ability to create their own enterprises if

other options were not available thus allowing them to support themselves once they graduated from high school. The information technology core was required on the premise that modern day businesses most likely required the use of computers and software to function effectively and efficiently.

Each of the four prevocational subject areas were organized into strands, each having its own series of modules. A strand consisted of related content that generally corresponded with identifiable industry sector occupational opportunities that were interrelated with the applicable learning activities specific to those occupations. Strands defined and guided student competency development through graduated educational experiences that were designed to 1) help the students acquire daily living skills, 2) allow them to investigate career options, 3) prepare them to use technology effectively and efficiently, and 4) prepare them for entry into the workplace or into higher education institutions. These strands were consistent with the occupational needs of local industries in Swaziland such as goods-producing industries, like agriculture, manufacturing and construction; and service-producing industries, like business, health, finance and insurance. The strands for each of the subject areas are illustrated in Appendix C.

The modules were individual building blocks for each strand and consisted of contents designed to be mastered by an average student during 20 hours of scheduled school time. The modules defined in detail what a student was expected to know and perform. The modules also outlined the criteria, conditions and standards under which the performance would be assessed. Modules specified prerequisites, recommended physical requirements such facilities and equipment, and resources, and identified specific content topics that were to be mastered, including suggested student learning activities. A typical module is illustrated in Appendix D.

Training of the original teachers was contracted to the Institute of Development Management (IDM), the Swaziland College of Technology (SCOT), and the University of Swaziland (UNISWA). Teacher training for prevocational education was somewhat challenging. The University of Swaziland was unable to meet all of the teacher training needs since some of the programs of study specific to prevocational education were not available at any of its campuses. SCOT on the other hand, was able to provide only business studies training. Therefore there was no choice but to engage the services of IDM, which is tied to the University of Tanzania, to train teachers in technical studies. The Education I Project's objective for teacher training was to educate teachers in each of the four program areas. Eighty teachers (twenty for each program) were selected but in the end only 72 teachers actually completed the program. The teachers who did not complete the program either took other jobs or found out that the program did not suit them or they did not succeed in understanding the concepts of prevocational education. Preston stated:

Prevocational education programs for the four areas were developed by a team of consultants from ECS Corporation (from) Canada, (the) same firm that participated in the prevocational curriculum development for the high schools (there). They worked with local counterparts, representing the four practical subject areas. Some 80 teachers were trained to deliver the prevocational education curriculum and started teaching when the program commenced in schools in January 2002. The other group of teachers who were to be trained after the initial training was not trained due to complications related to posts and funding. Consequently, unqualified teachers teach some programs and some options are not being taught at all.

Professional development workshops aimed at keeping teachers abreast with emerging technologies are offered but not as frequently as needed due to

limited resources. The prevocational education program for teacher training has not been fully institutionalized at the UNISWA and SCOT. As a result unqualified teachers replace teachers who resign, transfers, or die.

Preston did not elaborate on the reasons why the university or the technical college in Swaziland did not offer training of prevocational education.

There was no evidence that follow up training or professional development of the initial group was conducted neither was there evidence that any new teachers had been trained to teach prevocational education. This was a general concern expressed by some of the teachers that were interviewed. Samuel and Winston had this to say about the training of new teachers and updating the teaching skills of current teachers:

Samuel -

It is because they only trained a fixed number of people for the sixteen schools and also, because people are going out of the system because of greener pastures. Some retire because of age retirement and there are no replacements for those. It is even harder to get someone to (share teaching responsibilities with) the one teacher that is here. That is what I was talking about when I said it was a problem because they have already started to retire. There are some schools that are being taught by just the modern technical teachers....So you find that the students are not getting the instruction they should be getting.... Unfortunately, the problem is we do not have an institution that can offer this training.

Winston -

And the other thing is that further training is a difficulty for us because there are no vocational training institutions we could attend to further our

studies. I have a diploma and I want to further my studies so that I can have a degree, masters or doctorate but I cannot do that and even at the Ministry, we do not have inspectors trained in vocational studies.really, I do need to further my studies. In fact, most of us do need to further our studies, especially in this line of vocational training. The other problem we have here, is that...most teachers would like to do this prevocational program, but you find that there are no training institutions...for us to, as I mentioned, further our studies or for those who want to be trained in prevocational to do that. The ministry says that the University is offering vocational course but they have not helped some teachers who have done those vocational courses to come and fill those vacancies in those left by the teachers who have left especially in our area. That is the problem that we have, because teachers have left...others have gone to further their studies, others they have left for employment somewhere, they have left teaching. So we find that they are replaced by people who are not trained in vocational. These prevocational courses we are teaching they are very, very important, very, very useful to our students.

Vacant positions were generally filled by teachers from the “modern” modern technical subject’s area who were either familiar with or not familiar with the new prevocational education program. Phillip implied that a teacher interested in employment in the prevocational education area needed to be committed and willing to put in long hours, including weekends. Preston was more specific about the hiring requirements and stated:

The requirements are similar to requirements for all teachers and are administered by the Teaching Service Commission a body that is responsible for hiring, promoting and termination (of the) teacher's services in the country. However the teacher must possess the appropriate (BS) for agriculture and home economics plus a post graduate diploma in prevocational education for teachers trained at UNISWA, a diploma in business studies or technical studies plus a certificate in prevocational education for teacher's trained at SCOT.

The prevocational education programs being offered at the high school shared the school premises with the traditional academic programs. Facilities for the practical training were in separate buildings and were reserved for only students enrolled in prevocational education. Students enrolled in prevocational education took general studies classes like English, Science, Mathematics, and SiSwati, alongside students enrolled in the traditional academic program, but after they were through with their academic classes assembled with their cohorts in their respective fields of choice where the prevocational teachers began their instruction. The teaching staff asserted that this arrangement was uncomfortable for the students enrolled in prevocational education because students from the traditional academic side undermined the prevocational education students and made them feel inferior. Phillip stated that:

...the conflict is there because the people who are, or the students who are doing academics, they may be thinking that they are the best.

The ideal setting for the prevocational education school could have been a self-contained campus, where all students attending were enrolled in prevocational education. However, due to funding limitations the project scope was revised such

that both the academic curriculum and the prevocational education curriculum were choices offered to students. Preston stated that:

Yes a typical prevocational education schools offers both academic and prevocational subjects. The curriculum was designed such that there would be no conflict between students. All students do the four academic cores, Math, English, Science and SiSwati and there is a choice between prevocational subjects and modern practical subjects.

However, according to the initial design the 16 pilot schools were to become fully pledged prevocational schools offering prevocational education program from Form 1 through to Form V. This was not realized as the project scope was reduced.

Students at the school followed a traditional secondary education track from the time they entered high school in Form 1 (8th grade) and they were exposed, like any other school, to traditional subjects like Math, English, Science, and the humanities. When the students reached the 11th grade (Form 4) they were allowed the opportunity to enroll in either the prevocational education program or continue on with the academic track. If they chose the academic track then they would sit for the “O” level examinations administered by Cambridge University which also included the “modern” technical subjects. The academic track was chosen by those students seeking admission into the university system. Teachers from the prevocational education program gave promotional presentations at the school’s annual orientation to recruit students entering the Form 4.

Gender was not perceived by the teachers as having had an affect on how students make their choices. It was noted by the teachers that female students had enrolled in all of the subjects offered at the school, including technical studies. Preston, however, did allude to the

notion that there “is still a problem of attitudes towards choosing an area that is traditionally known to be for men and visa versa.”

Typically, students in prevocational education arrived at school very early in the morning, depending on their program. Their arrival was before school started. The technical study students met in the parole office where they designed their projects. This was not a daily occurrence but occurred according to a schedule. This meeting with the students took place once a week and involved activities associated with their design folders. Once the design was complete the students in technical design then proceeded to the workshop where they fabricated what they had designed. The period of this activity lasted several weeks to several months depending on the complexity of the project. Samuel stated:

So usually we try to have our students starting in the parole office. That's where we sit down and each student has to design his or her own project. It is not a daily thing... it does not happen or occur on a daily basis. It occurs according to the timetable because we have a timetable that we are following. So it is not every day that we use the workshop or the technical department. But we have one day in the week whereby they come in here, we call it a prevocational day then we are here the whole day. So that is when we are in a position to arrange our working schedule. So they come in the morning and do the design folder. Then after which they take that to the workshop and apply it practically. That is the project that has been designed.

The home economic classes were somewhat different. Students in this program attended academic classes on schedules identical to those of all students at the school and during the times they were not meeting for the academic classes, they were required to attend entrepreneurship and information technology classes as well as lectures and skills training in the home economics facility. The home economics teacher conducted a lecture after which

time students were given time to apply their skills practically. In the home economics lab students were given projects like sewing, baking, and cooking. Louise stated:

It is more like lecture sometime, but with more emphasis on the prevocational...So they have to do things practically. Like whenever I give them an assignment,...(I) tell them to sew this curtains, (but I) want (them) to come up with designs and then encourage them to dream things (up), come up with (the) designs of curtains they are going to sew (for example)...kitchen curtains. They then design those curtains, (and) sew them...

The business studies students also came in early to take care of their retail business, a “tuck shop” which was stocked with small convenient items that were sold to teachers and other students at the school. This retail project gave students practical experience in retail business operations such as inventory control, sales, and book keeping. The business study students attended academic classes, entrepreneurship and information technology class as well. Winston stated:

A typical day for the student here is he or she comes early as possible because in the various departments there is work, they do various duties. For instance, in my department they come as early as possible to ensure that...because what they do mostly is work in the tuck shop, to ensure that the tuck-shop is kept clean and the goods are being displayed attractively and also to buy from the suppliers because they come early in the morning and they prepare for the day.... they come as early as possible... before the school opens so that they could be able to do their duties, because we find that they have to go to the other classes, the traditional classes. You find that there is not enough time for them to do their work here. So we always ask them to come as early as

possible and at times they leave later than the others because we find that there are certain tasks that they need to finish.

The agriculture students spent much time outdoors tending crops or livestock when they were not in class for the academic requirements. The teacher prepared several assignments which included students having to regularly monitor the results. Students had to keep records on such activities as feed times, medicines administered and the dosages given to the livestock. The students performed these record-keeping functions on different shifts and therefore the success of the projects depended on the accuracy of the records. Daniel stated that:

... This is a broad spectrum program. There is no break. You just move from project or one job to another...the first thing in the morning before I see them, they visit their department to find out what is going on, what happened overnight, and then (make) corrections. There are those students that have been assigned to chores... while others observe or assist those that are not on duty at that time. Then every time they are free they come around. I encourage them even to come and enjoy their lunch here so that at least we can talk (about) their needs. What is happening, what has gone wrong or right and decide how to take (action)..... I would say pick up the calendar...that is just like a farmers meeting... When they leave school, they know that, ok, this has been altered this is what has to be left to the teacher. What I usually tell the students that this is just our activities in the prevocational area, (its) just like running a relay race. So there is no time whereby we have to put the baton down. It's from man to man. So if you take it from me in the morning it means in the afternoon you return it to me. You should not actually leave it down just because you feel tired. No. It has

to be in the hands of somebody. Whether you are seated or still able to run but it has to be firmly in your hand. And you give it straight to someone else. And by working like that there is little (chance that something will go wrong).

In addition to the various laboratory assignments students also were required to attend other classes like entrepreneurship, information technology, mathematics, science, English, and science. This resulted in a very aggressive schedule. Daniel noted:

The design of our curriculum is so tough, it is overwhelming...it is too dense, even for the teacher, because the students take math, SiSwati, English and combined science as supporting subjects. And then they have to do the prevocational subjects. Prevocational subjects if it is on the agriculture side then he has to do agriculture, he has to do entrepreneurship and he has to do information technology so that makes seven subjects.

Students in the prevocational education program also participated in extracurricular activities like sports, music, etc. These students were expected to follow the normal extracurricular activities followed by all students at the school. As Phillip put it:

Yes, they participate. In fact we take prevocational students as part of the school because the school now has students who are following the academic stream. However, when it comes to students all students are expected to participate, to take part in athletics, to take part in soccer, to take part in volleyball, and so forth.

The dilemma of having both prevocational education and traditional academic students on the same campus raised the concern of how they got along and how each group's presence on the campus was viewed. There were implications made by the prevocational education teachers that other teachers in the school viewed the prevocational education students as being less academically inclined and therefore they were less inclined to support those

students. In general there was mixed reaction towards prevocational education at all of the schools as noted by Preston who stated:

Mixed reactions, in some schools and communities they are envied and in some they are frowned at. Practical subjects are frowned at in some quarters because they are perceived as subjects for the less able students. Some teachers at some schools discourage students from enrolling for the program for fear of losing students, and thus becoming redundant. Depending on how the program has been marketed in the respective schools/ community it is demanded.

At the school similar feelings were voiced. Phillip noted that because the Ministry of Education at the onset of the program was uncertain about the type of certificate to award students, there was fear that the program would not be accepted by the community and therefore some students were hesitant to enroll. Since the issue of certification had since been resolved there was less resistance to towards the program. Phillip stated:

...some students who went for this program in the beginning had problems because the ministry initially had not planned...what type of certificate they were going to award to the students. So when the first group started writing examinations there was a problem. However, it was eventually arranged. They found another examination board that (was willing to) conduct examinations for them. But the certificates that were suppose to be awarded could not be awarded at the beginning, (but) as time went on we have actually realized that the program has been (doing) quite well after arrangements were made by the Ministry with the Directorate of Industrial and Vocational Training to award certificates (in conjunction) with the Examinations Council. So as a result, the certificates awarded now...they are very good.

The community embraced the prevocational education program at the school, in part because the school had made an effort to educate the parents about this new program by conducting open-house sessions and by having open and frank discussions with them about the issues surrounding their children. The school also allowed students to display their projects on weekends and invited their parents to see what they had accomplished with the skills they had acquired. Phillip noted:

The community, that is the parents of the children in the school, they are very happy with the program. They are very, very happy. Saturday's we normally have an open day where parents come to look at their academic performance as well as the practical skills acquired by their children. What actually happens is that they look at these they walk from department to department looking at these things they have done because they display those things and they like it.

The prevocational education program encountered a variety of problems since its inception and faced a number of challenges which affected how the program was being delivered to the students. The first challenge was the resistance to the idea of prevocational education in high schools. The notion that vocational subjects were for students with inferior intelligence was not only perceived by parents and the general public but also by some of the academic track students and their teachers. This attitude made it very difficult for the school as it attempted to introduce and promote prevocational education. The fear of change may have had pronounced influence on this resistance. Samuel stated:

...people are not as flexible...some of the teachers in this school, they don't like this type of education, because they believe that they (the students should complete 12th) grade and then go on to university....and acquire some degrees or PhDs. They also believe that if you go for the technical subjects,

woodwork, metal, and the like, it means that you are mentally no good in other subjects, that's their belief.

The community also reacted negatively to the program because the general perception was that students should prepare themselves for white collar jobs because that is where most good paying jobs were to be found. This negative attitude was very discouraging for those students who were interested in prevocational education. Samuel stated:

...the students are discouraged...our education has been that of a white collar type of education that you should learn so that you should be in an office and put on a necktie. So we had a hard time convincing the students to choose our department.

Another challenge in the delivery of the program was the lack of advanced technology and the training needed to empower teachers to instruct students in these advanced technologies. The curriculum suggested the use of certain technological products that were not available, like AUTOCAD for technical design. Samuel stated:

In my department...the (biggest) problem in the lesson delivery, is I believe, by now...most of our delivery to the student should be computerized and we should be using some applications like AUTOCAD and teaching the student how to design, how to draw. But we were not given access to doing AUTOCAD, as teachers. So that...hinders our delivery.

The confidence level of teachers to effectively deliver the prevocational education program curriculum was diminished by their lack of professional development. Teachers felt they were not given adequate training or were not given follow-up training to increase their credentials. Those teachers with limited knowledge of the subject matter therefore tended to focus on teaching only those subjects or topics they were familiar with. Teachers who were hired after the initial phase of training were even less qualified to teach prevocational

education and the general feeling was that students were receiving substandard instruction. The teachers were concerned about their lack of training and the professional development opportunities available to them. The following statements reflect these concerns:

Samuel -

And also with the part of the training of teachers, I think and believe that we need to be upgraded such that we hold, we are degree holders...so that we become confident, because, our ministry, the Ministry of Education believes that you should have a first degree at least if you are a teacher. But unfortunately, in the country there is no institution that offers up to a degree level at technical, in the technical department. So that is one other aspect we do deliver but we do not have the confidence to stand before the people and deliver.

Preston -

The prevocational education program was to be enabling pupils to choose from a wide pool of options from each subject area. The lack of adequate teachers meant that teachers would limit students to a common area at the expense of the student's interest...this was a set back to most students.

Another challenge that teachers encountered in the delivery of the curriculum was the condition and maintenance of the equipment they were using to teach hands-on skills. Some equipment like the computers were rapidly becoming obsolete and the software and hardware problems that were being experienced was due to the lack of technical expertise on the part of the operators. In the home economics area a large number of the machines were not working and were left idle. Other equipment were observed to be inoperable because of breakage or because teachers did not know how to operate them. The lack of funding for repairs and the

lack of trained technicians to repair the broken machines was an obstacle to instruction. The following were concerns noted by the teachers:

Louise -

Basically it is the machines. In my department we've got industrial machines and they are not functioning, they are not working. I wouldn't say poor maintenance because they are not working now because the school does not have funds. They have got some problems, sort of problems, so I don't know because like I said I am new and I found the machines not working, but when I reported it they said the school does not have funding because the government is not able to pay.

Anthony -

With this department...some of the programs...for instance, in word we...could not cut and paste. So we had some problems with that... I think it is the problem with the software. But I think it is someone who programmed our computers, who made some mistakes. I think so because...he came about a month ago to reinstall it. (The students) wrote the exams, and in the exam, they were expected to copy and paste. But the students were not able to because of that.

Daniel -

...the other problem that we have actually realized is that when they brought those equipments, in fact they did not bring all the equipment that was required. For example, the agriculture department they were supposed to have pigs and they have to slaughter those pigs and they should have provided a facility for slaughtering but it was not. So maybe, even in the

technical department they should have provided something for building construction there but we had equipment that we didn't get.

Question 4: What data were available to assess the prospects for graduates of the Education I Project in finding employment in the private and public sectors, starting their enterprises for profit, or continuing on to post-secondary education?

There were no formal systems in place for placing students into jobs. The responsibility of job placement was placed on each individual student. Teachers said they tried to assist in placing students, but no records were kept to support this premise. It was noted by Preston that career counselors were in place to assist students, but there were no career counselors at the school. The following responses were made:

Samuel -

...it depends on luck. Some students are lucky in that they will just get a job...but because we used to take our students for educational tours to the companies, to some of the institutions...we (try to) find out...how can we get our students...there? So in that case, maybe we have an influence in a way. But then mostly they just do it on their own...although we offer our assistance.

Preston -

No one in particular (is responsible for placing students into jobs); career guidance teachers and individual prevocational education teachers can assist in pointing at possible directions depending on student interest.

Jobs in Swaziland were hard to find because the economic outlook not favorable, and as a result, students found it to be more advantageous to start a business rather than seek employment. The choice between finding a job and starting a business was left up to the student. The teachers attempted to offer encouragement to students to start their own

businesses and through entrepreneurship training this gave students another avenue for a career choice. The following statements support these findings:

Samuel -

In fact our students are that much willing to start their own businesses.

Winston -

Normally, what we do...we tell them that because they have chosen to do prevocational studies or vocational studies, it means that their main aim should be to set up their own businesses followed by ...maybe working for someone else and ...as well as other options...(such as) further training. But mainly we emphasize to them setting up their own business because the other problem that we have here in the country is that we have got only one University and it absorbs very few students. If you could compare the whole country only a few students are able to go to the University. And then...what happens to the others? And even the colleges, we don't have enough colleges. So most of our students in the country, they will not be able to further their studies because of the shortage of institutions, tertiary institutions. So we encourage them, and to most of them you find that it helps because most of them you find that they say "when I finish I want to start my own business" because we tell them that with business (you are supposed to) start (small). You do not need to have to have a lot of money...you can start by maybe selling some (candy), that is how most people have started. That is what we always tell them.

Daniel -

The students are empowered when they start to do the elective part or specialization. They are allowed to do that selection which means choosing what career suits them in the area of working or employment.

Anthony -

...it is just that we know here we are teaching the students, mainly to set up businesses or, be employable and attend some school to further their studies, if they could, but to mainly to set up their own businesses.

Even though students seemed to prefer starting their own businesses, there were no programs available for them to acquire funding. Banks and other institutions did exist that provided loans for business start-ups, but these were not made easily accessible to the students. One reason for this was their age. In the Swazi culture being young was perceived as a handicap when it came to matters dealing with certain “manly” responsibilities and duties. More experience and wisdom was deemed necessary before young adolescents could be accepted as responsible adults. The other reason for failure to get credit was the lack of collateral. Most of the students lived with their parents who, as patriarchs, were the owners of the family property. Also, parents were perceived as being unwilling to give up the extra “hand” that was available to perform the various chores of the household, and therefore were less likely to be supportive of any business ventures that would mean losing a human resource. The following was stated:

Winston -

Presently, it's so difficult to say there are programs, because you find that ok, we have got banks, especially our bank, Swazi Bank has offered to give our students money...a minimum of R10,000 to start a business. But... what we have learned is that not even one has got the money and we find the banks,

they need security. Our students don't have that. Evidence says that there are no programs except that if our people have got means of getting money than they can set up their own businesses.

Anthony -

There is not much...so they've got to look for, try to get their own money.

Daniel -

The parents from my experience, most of them don't readily allow the issue of land to students... unless you are married or divorced. You are never deeded land. But it could possibly be with the new constitution ... (that) things are going to change. Because parents cannot allocate land to a student and that land cannot be run by that student independently...but there are chiefs already like the chief here, he does allocate land to the students. Several other chiefs are enlightened over this.

Winston -

We... tell them ok, you need to set up your business back at home, at something you do at home, even here at school we expect you do some projects to show your business skills. You find that we know the comments, the negative comments they receive. Some of the parents they tell them "oh! What is that you know about business? Business is not, cannot be done by people like you; you are so young it is for people who are old who have been in business for some time." So such comments, you find that it makes them not to be willing to do those businesses back home...

There was contradiction in whether or not programs were available to assist students fund their businesses. On the one hand the teachers were not aware of any programs available for students to get funding for their business proposals. From an administrative perspective there were assertions that funds were available for the students to start their businesses. As Preston put it:

The Ministry of Enterprise and Employment through the Small and Medium Enterprises (SME) have put in place a revolving fund for use by the students. The students will therefore be able to present their business plans and put into action their enterprise projects. This will enable development of the true spirit and business culture of enterprise and bridging school and the world of work as espoused by the goals of the prevocational program.

The prevocational education program had been in existence at the school since its inception in 2002. Its first students graduated in 2003 and since then about 100 students passed through the program. Current student enrollment for the 2006/2007 year all prevocational secondary schools are shown in Appendix E for both forms 4 and 5. The total enrollment figures show that at all sixteen secondary schools, 720 students were enrolled in the prevocational education program.

There was no evidence of a system-wide procedure for tracking students once they graduated from the prevocational education program. The original intent of the Education I project has been include funding to allow the Ministry of Education to implement a tracer study that would have provided data on the career and life paths of graduates of the prevocational education program. This never occurred. Tracking of students once they graduated were left up to the schools. At the school there were no formal systems set up to perform this task. Instead the only tracking of students came from the students themselves who returned to the school and reported on their whereabouts and current situations and from

others in the community who were in contact with the graduates. The following statements were made by the participants:

Samuel -

We do follow them...we just ask their younger brothers or sisters as to where they are? Or some of them come in here and tell us that they are working with a certain company, "I am a supervisor there"... and this and that.

Phillip -

...in fact we have traced some...I have known of some who are now in the factories. They are quality trainers. Especially those who are in the home economics department and the others were in the agriculture department. Another one was in the technical department. I know one in the technical department. He is employed... They normally report that we are now at this place. There are some that come back and tell us. The other one is now in South Africa. In fact he is pursuing a course there. We have some that are employed by those factories that do sewing. They actually become trainers. Unfortunately, we have not made a record about this. I must say we didn't. We only know it because they have been coming here to give us the feedback.

Preston -

There is no formal system to track students who have graduated from the program. There is also no systematic data in place and the public does not have such information. Only individual schools have records of the pupils that graduated for the program.

There were two ways in which students skills were measured: daily assessments by the teachers and the final exams at the end of the year which was administered by the Examinations Council of Swaziland. The daily or continuous assessments performed by the

teachers were based on the modules (see Appendix D for a sample module) which not only defined the content to be learned, but also provide testing criteria by which teachers could test the students. Grading sheets were maintained by the teachers throughout the course of the year. The final exams were proctored by external personnel who may have been teachers from other schools. The papers were graded by personnel from the Examinations Council. All tests were set, moderated, and graded by local personnel. The student's final scores were based on the scores received from the teachers for the class work, assignments, practical work, and tests that accounted for 30% of the grade. The final examination is weighted heavily and accounted for 70% of the student's final grade. The following statements were the responses from teachers and administrators:

Winston -

We give them practical assessment or examination, or assignments, for instance, in the business department there are projects that they do. They choose the line of business they want to do. We do not choose for them. Then we decide the kind of business that they want to do. Most of them they are in the retailing business. They buy and they sell and they are doing well, even though some of them, you find they have problems here and there, we try to help them. There is an examination they write. It is from the examinations council...the exam that they write... (They) take continued coursework, continuous assessment – all the work they do, class work, assignments, practical work, tests. We record the assignments they do...and allocating the math, we take 30% that is the class average then the examination is 70%.

Preston -

The Ministry of Education through the Examination Council of Swaziland (ECOS) put in place examination structures for the program and the first exam was set, administered and processed in the country in 2004. This was a great achievement. Also, worthy of note is that Swazi professionals are used in developing curricula, syllabi, and assessment guidelines. They are also used to set, moderate and set standards for the localized examinations. The same are used to mark (grade) and process the examinations.

A summary of grade performance for all schools between 2004 and 2006 is shown in Appendix F.

The general nature of curricula was such that the developers took into account the business sector's needs for skills. In the process of developing the curriculum for the various program areas, professionals from business and industry were consulted and as such, standards were established so that students were not being taught redundant matter. There was confusion as to whether or not standards existed for the teachers. Some teachers implied that there were no standards, another teacher said that the standards were an expectation and that they used curriculums from other institutions to compare with theirs to see if the curriculums were consistent. Teachers used curriculum manuals to remain consistent. The following statements were made:

Samuel -

They do (have standards). That is why we also take them to the industries to see what is done in the industries and what expectations are there by the industries, for the students we are producing.

Winston -

There are no standards really that we have here.

Anthony -

That is our expectations even though we don't have an instrument to test whether they really do (have standards). We do try to have some curriculums from other institutions which more or less teach the same stuff. Just to see whether we are teaching ... what ever we are teaching is in line with (what) other institutions have.

Daniel -

They do need to know certain things. But...prevocational is providing them with entry skills. Once they enter then they are given some kind of instruction which they may not have gotten or acquired when they were still here. But when the student is specializing, usually, they should be actually fully equipped to where he is going to evolve.

Preston -

The involvement of DIVT ensures that standards set by Business and Industry is adequately met. The involvement of professionals from business and industry in curriculum development examination setting and moderation also ensures that the standards set are met.

Student dropout rates were kept at the school but were confidential and not available for review. Phillip, however, did imply that dropouts were generally caused by pregnancies or the lack of funds for school fees. Phillip stated:

In fact here, we do have a data on all the students that dropout. We normally compile it. For this year we had about seven students who dropped out. In the prevocational area we had only one. Normally, some mostly become pregnant. Some may be having a problem of money, paying fees.

Students graduating from the prevocational education program were perceived by teachers to be facing certain challenges. These challenges included the lack of student self-

confidence, lack of financial support from the government for business ventures, and lack of jobs.

Student self-confidence was seen by some prevocational education teachers as being negatively impacted by teachers of the traditional academic track. This loss of confidence that was inflicted on students in the prevocational education track translated into a fear of starting a business and possibly forced the students to rethink their career paths. Samuel reported that students had chosen to return to secondary school after they graduated from the prevocational education program to pursue a chance at making it into university by taking traditional academic courses so that they could have the necessary credits to apply. Samuel stated:

...some of the students; we train them, we train them to ...to prepare some proposals for businesses, we train them to be productive, we train them how to manage their businesses. So thinking that now they are confident and they pass our examinations...but we find that the student at the end of the day has met somebody who believes in the higher college system and tells him that “you are supposed to go and restart”. We find that when you meet the student the next year, you find that the student has restarted in one of the schools and has gone back to the modern subjects. Whereas, we have so many graduates from the University (who) are not employed and they cannot start their own businesses. But this one has the basics on starting a business. Because of confidence he could not make it.

Winston had a similar argument and felt that the negative attitude by the traditional academic teachers was affecting the student’s confidence level. Winston stated:

...initially when we started a lot of our students wanted to do prevocational courses, they liked them. And then there is this conflict between the vocational and academic courses. We find that the teachers, they pass negative remarks, “what are you doing that thing for. You won’t get anywhere with that because when you finish you will be nothing. You will not be able to further your studies; you will not be able to go to the University.

Another challenge for graduating students was the inability to secure funding for their businesses. Since jobs were generally scarce, teachers and school administrators tried to encourage students to be entrepreneurial and taught students how to develop businesses of their own. The reality however, was that funding of these potential businesses was a rarity and seldom did students live out their dreams. Teachers even suggested that the government establish a trust fund to sponsor student business ventures. This is what some of the teachers said:

Samuel -

I think government has to get in and help in this problem by adopting our students and if they have their proposals and they approve these proposals, they should just support our students.

Winston -

The most difficult challenge really is to set up their own business because you find that most of our students they are from poor families. They don’t have the money to set up their own business, no matter how small the

business is, because we tell them that (they) need to start small businesses.

So that is the most difficulty challenge.

Phillip -

The difficult part or challenging part is that of getting equipment to start.

If they could get that; in fact I was talking to some of those students who are up there in the technical department, they say, "Sir, we have the skill, but when we get out we wish we could get equipment to continue working, and than we would be able to do our business."

Another challenge was the lack of jobs in the country. The economic outlook for Swaziland was progressing very slowly. This factor in itself was an obstacle for students graduating from the prevocational education program, especially as it related in employment opportunities for the students. The following was stated:

Louise -

Jobs, because these (students) from here, when they graduate from here...the problem is that everybody wants to be employed...you see. So that is the most difficult challenge...if ever you have that in mind (getting a job) and you don't get a job, because jobs are very scarce, very, very, scarce. Then to start a business, you don't have the capital. It's a frustration. That's a big challenge I'd say.

Anthony -

The challenge that we normally face is...as soon as we are through with your training we've got to get a job. So for some that is somehow difficult...

Summary

This chapter stated the purpose of the study; the questions the study sought to answer; and summarized the findings of the research study. The chapter was organized in terms of the four related questions which formed the basis for the main question. The topics that were addressed included: 1) the roles and responsibilities each participant played in the Education 1 Project as it related to its establishment and its deliverance of prevocational education; 2) the history, background, and how the Education 1 Project was established; 3) how the prevocational education program was delivered to students; and 4) what impact the program had on the skills and opportunities for students. The research method included the use of interviews and document search to arrive at the results contained in this chapter.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATION

The conclusion and recommendation of this study evolved from analyzing the findings of the case in each of the following areas: 1) roles and responsibilities of the individuals and agencies who were associated with the Education 1 Project; 2) the history, background and basis which led to the establishment of the Education 1 Project; 3) the manner in which the project was implemented and delivered; and 4) the impact of the project on the skills and prospects of the students. These areas were derived from the original research question and the four supporting questions. The associated recommendations that emerged from the conclusions of this study were presented with relevant issues and discussions following each conclusion.

Roles and Responsibilities of Key Individuals and Agencies

Conclusion 1: The organizational structure for prevocational education lacked the degree of autonomy that could have given the program its own identity to allow it to operate within its own budget and rules. The study found that the roles and responsibilities of the key individuals and agencies that played a part in establishing and delivering the project were well defined as noted by the responses of the participants and supporting documents provided by the Ministry of Education. The organizational chart also defined the roles as it applied to the overall structure of the education system in Swaziland. It was noted in the study that during the implementation phase of the Education 1 Project that the project was directly managed through the office of the Chief

Inspector of Secondary Education. While this was an acceptable arrangement during the implementation phase, the question could now be raised as to whether or not this current structure was in the best interest of the continued success of the project. The failure to give prevocational education its own identity within the educational system could diminish its organizational effectiveness by limiting the program's access to resources such as funding for personnel, training for teachers, and development of new or improved curriculum. The availability of funding to keep the project thriving and progressive is dependent on the overall allotment of finances made to all of the secondary schools, which also includes prevocational education. In principle, prevocational education after it was implemented did not undergo reorganization to elevate its status to the same level of importance as the that of the academic track and as a result the current arrangement posed a threat to the growth and strength of the program especially since available funds currently had to be shared out of the same budget as that of all secondary schools. If those who view the academic track to be superior to prevocational educational or are prejudiced against prevocational education, then they would tend to be less supportive of it.

Recommendation: A reorganization of the prevocational education system in terms of its position in the organizational hierarchy is needed to provide a clearer definition of its purpose and its relative importance within the education community. A distinct, new line of authority needs to be established to distinguish prevocational education as a unique and relevant option within the secondary education domain. The new span of control should give the program access to its own budget and allow it to function with continuity in such areas as: 1) the training and hiring of new teachers; 2) the procurement

and maintenance of equipment and facilities; 3) the implementation of new and improved curriculum and; 4) the providing of professional development opportunities for existing teachers.

The History, Background, and Establishment of the Education 1 Project

Conclusion 2: There was no comprehensive written history on the Education 1 Project. This study found that there was no written account of the how the Education 1 Project was established. Documents were found that addressed the results of various committees and commissions who looked at prevocational education but a historical account of the project itself was difficult to find. The study also found that some of the participants did not have a clear understanding of the Education 1 Project. They did not know with precision what individuals, organizations, or resources played key roles in the establishment of the Education 1 Project or what obstacles were encountered during the early stages of the program. According to Crabtree (1993), “history matters; he who controls the past controls the future. Our view of history shapes the way we view the present, and therefore it dictates what answers we offer existing problems” (p.1). A historical perspective could inform all levels of staff working within the organization on the issues surrounding prevocational education and could prepare them to more effectively make sound decisions as they confront obstacles in their daily functions.

Recommendation: A comprehensive historical account of the Education 1 Project could improve the understanding of prevocational education. This historical account of the program could help to educate all levels of staff within the Ministry of Education and especially those teachers who are adverse to the program. The general community including educationalists from around the world could benefit greatly from such

knowledge or information. The government web site could be a good source for dissemination of this information.

Conclusion 3: Government support was essential in overcoming barriers to the Education 1 Project. This study showed that the participants felt that the Swaziland government had initially made a strong commitment to prevocational education. This commitment was also made evident through documented legislation. Subsequent to the implementation of the program, government support seemed to decline as substantiated by its decreased funding for the hiring of teachers, repairing and replacing of equipment, funding of an evaluative study of the program, and expanding of the program to other schools.

Recommendation: A task force was needed to lobby for prevocational education support from government. Lobbying government for support would help legislators stay informed about the issues surrounding prevocational education. The task force would also have to collect the necessary data, such as program effectiveness, that would help to educate government and the public on the benefits of prevocational education. Commissions were established to assess the need for the program but these commissions were dismantled after the program was initiated leaving a void in the support mechanism of the program.

The Implementation and Delivery of the Education 1 Project

Conclusion 4: A Plan for the next phase of the prevocational education program would be an essential step for the survival of the program. The implementation and establishment of a hands-on prevocational education program in Swaziland was a well orchestrated process which involved the efforts of many key individual who were also

fortunate to have the full support of government. All expenditures on facilities, training, and curriculum development were on target and within the projected budget as noted in the final report from the ADB. However, once the program was established and became operational, no future plans were developed to serve as a guideline for the growth and development of the program. As a consequence, the program did not have a system of measurable benchmarks to assure its progression and growth. Having defined short-term and long-term goals for prevocational education could benefit the community in that it could assure the program remained focused on its mission to open up opportunities for the students.

Recommendation: An annual plan was needed to help steer the program in a direction of growth. Planning would assist government to budget and allocate funds to support the growth and efficiency of the program. The Ministry of Education by working from a set of goals and objectives could evaluate the program's effectiveness more efficiently and could be in a much better position to inform government of its needs and successes.

Conclusion 5: A plan to train new teachers for prevocational education and a plan to provide professional development training for current teachers would assure that a quality education was being offered to students. When the program was initiated, it was necessary to train teachers on how to instruct students in the various newly established prevocational education subjects. Teachers in this study were very vocal about their lack of training in the subjects they were responsible for teaching and indicated a strong need for both incoming teachers and current teachers to receive continuous training to upgrade their skills. The subjects available to students appeared to be numerous, but the teachers'

knowledge of the subjects was limited to only those that were familiar to them. This forced them to concentrate on those areas they had knowledge of and to neglect those areas they were unfamiliar with. The prevocational education program also lacked incumbency of new teachers to replace retirees and teach the strands that were being neglected. For example, in technical studies there were four strands offered: building construction; mechanical and building drafting; metal fabricating; and woodworking and carpentry. Only one technical studies teacher was available at the school to teach all of these strands. Furthermore, it did not seem practical for one teacher to have expertise in all of the strands. More teachers were needed if students were to be exposed to any of the strands available to the program.

Recommendation: A plan to address this dilemma was immediately required, if the prevocational education was to continue being successful. Teachers who were currently qualified to teach the subjects of prevocational education needed to be given the chance to enroll in professional development classes that would have enhanced their knowledge of the subjects they taught. A web-based online offering could possibly address the problems by making professional development available to teachers at each high school. A professional development package could possibly take into account the following: 1) the course content of the web-based classes would be consistent with the curriculum being offered at the high schools; 2) the classes being offered need to be from accredited institutions and would culminate into a nationally or internationally accepted certificate, diploma, or degree; 3) access to web-based classes would be available to all teachers and would not require them to have to leave the school; 4) all classes taken would be paid for by the government and the costs would not be transferred to the teachers; 5) teachers

would be compensated for successful completion of the training. This opportunity would also be made available to all new teachers who were interested in teaching prevocational education classes.

Conclusion 6: Prevocational education programs were being offered at the school where other, older vocational education classes were also being taught. It was noted that both prevocational education and the modern vocational subjects were being taught at the school where the study was conducted. This dual offering showed that the government's commitment to prevocational education was lacking. The absence of the government's total commitment to the program could lead to the programs continuing struggles and could be a hindrance to its growth and maturity. It was recognized that the modern subjects were electives required for the "O" level academic track.

Recommendation: Only one vocational education program in Swaziland schools was necessary to address youth unemployment. A concerted effort by all relevant stakeholders to consolidate the modern technical subjects and the prevocational education subjects was needed to eliminate the existing confusion between these 2 tracks. A task force to address this issue could be a step in the right direction.

Conclusion 7: A negative attitude toward prevocational education that came from some teachers, students, and the community posed a threat to the program's growth and effectiveness. Since there were conflicting programs being offered at the school, i.e., the prevocational education subjects and the modern technical subjects, competition for students was high. As a result, negative attitudes toward the new program were more common than naught. Also, since there were no historical perspectives by which all of the teachers, students and community could relate to, the lack of understanding of the

program was more likely to promote confusion and distrust. Having more than one vocational program in the school was not very helpful either. The awareness of the prevocational education program and the understanding of it lacked completeness.

Recommendation: Having only one prevocational education program in the schools could help to eliminate the negativism towards it. Also, a marketing campaign could be undertaken to help educate the community about the program. Trust in the program and a clear understanding of its mechanisms could become a reality if the community was made aware of it. It would be helpful for the schools to invite the community to open house events and to display some of the projects students have created.

Conclusion 8: Prevocational education was viewed by teachers as being overly aggressive and too rigorous for the students. Students in the prevocational education program were perceived by teachers as receiving an overly aggressive schedule. The prevocational education program required students to enroll in general education classes such as mathematics, science, English, and SiSwati in addition to the prevocational subjects, entrepreneurship, information technology, and their class projects. This intense schedule forced students to arrive earlier than most other students and also forced them to have to leave school much later so that they could accomplish the tasks required of them. This did not leave much time for studying and extracurricular activities which they were also expected to participate.

Recommendations: Continuous review of the program was needed so that revisions and improvements could be made to bring it to the level of prominence that was comparable with that of the academic track. A study of student loads could reveal problems and perhaps solutions to this concern.

Conclusion 9: The lack of a system to certify student graduates and accredit the program with a nationally or internally recognized body posed a threat to the marketability and growth of the program. The prevocational education program was a newly implemented initiative by the Swaziland government to address the issue of youth unemployment. Because the program was so new, it had not as yet become recognized and could not be seen with respect by the business community. The certification of student graduates from the prevocational education program was necessary for them to be recognized with equal importance as their counterparts in the academic track. The students in the academic track were privileged to qualify under the Cambridge International Examinations (CIE) diploma, an educational standard that was recognized worldwide. But for prevocational education there were no external bodies of standards available by which students could be measured against that would qualify them for employment with local businesses. This factor made it difficult to attract students into the prevocational education program. Fortunately, the decision was made to create a localized system to examine the skills of the students at the end of their course work. The collaboration between the Examinations Council of Swaziland and the Directorate of Industrial and Vocational Training (DIVT) resulted in the development of a locally accredited certificate for practical skills in Woodwork and Carpentry, Metal Fabrication, Building and Construction, and Building Drafting. This certification took effect in 2004. The examination process required external oversight to maintain its validity and reliability.

Recommendations: A committee to address the challenges facing the accrediting of the program was needed to foster acceptance of student credentials by the business

community. This committee would have representatives from both the education sector as well as from local businesses and would need to be held in high esteem for their recommendations and commitment to prevocational education's success.

Conclusion 10: The lack of funding from government to repair, upgrade or replace broken or obsolete equipment was a hindrance to the effective deliverance of the program to the students. Equipment that was engaged in operation for long period loose their functioning ability because of wear and breakage. Some of the equipment at the school was in need of repair or replacement and was no longer benefiting student learning. The shortage of funds was noted as a major contributor to this dilemma. In some instances, equipment was not being used and remained idle because teachers could not operate the equipment because they lack the training necessary.

Recommendations: An inventory of all equipment was needed at regular intervals to determine whether or not the equipment was operational, if it needed repair, or needed to be upgraded. This inventory list could be useful for budgeting and determining what changes were needed in the curriculum to make the prevocational education program more effective and efficient. It would be critical for procedures to be in place that identified problems and took corrective action.

The Effects of the Program on the Skills and Prospects of Students

Conclusion 11: A formal system to track students after they graduated from the prevocational education program was not available and this made it difficult to determine if students were benefiting from the program. Once students graduated from the prevocational education program, monitoring their progress in their post secondary environments would provide some indication of the program's success. The ability to

track students, however, was dependent on the availability of a consistent communications link between the students and the school system. The only way that teachers were able to determine what students were engaged in once they left school was through reports from family members and from some of the students themselves who returned to the school to inform them of their whereabouts.

Recommendation: A system to track students after they graduate was needed to monitor their progress. A possible way to accomplish this task could be through the use of the general mail service, or through the use of computer models.

Conclusion 12: A formal system to place students into prospective jobs when they graduated from the prevocational education program was not available, which could be a reason for why some students lacked enthusiasm for the program. The placement of students into jobs related to their skills was dependent on the number of jobs available. Swaziland had a very slow employment growth rate and student graduates outnumbered the jobs that became available. This could be an obstacle for administrators wanting to offer employment referral service. It was currently the student's responsibility to find their own jobs.

Recommendation: The issue of job placement for students could be eased if a strong effort was made by the government to attract more international businesses to the country. Swaziland, with its numerous natural resources and relative stability was capable of providing incentives for businesses to invest there.

Conclusion 13: A source of financial assistance for students with business start-up aspirations was not available, and if it was, it was not communicated to them. Teachers at the school encouraged students to explore entrepreneurial opportunities because jobs in

Swaziland were few and starting a business was perceived to be easier than finding a job. Also, there were not many opportunities to attend a college or university. The problem for students, even those with good business ideas, was getting the capital to start. Teachers were not aware of any opportunities available for students to seek loans for their business proposals. The objective of the Education 1 Project was to provide students with practical skills to assist them in finding jobs, going on to post secondary education, or starting their own business. Unfortunately no support mechanisms were in place to help students accomplish these goals.

Recommendations: A loan guarantee system was needed to assist students who wanted to establish businesses of their own, or funds needed to be created and awarded to students with viable business plans. A business support center was also needed to assist these businesses through their first years of operations. Another source of funding could be through non-profit organizations that would provide business expertise and financing. If student successes became evident then more students would want to enter the program.

Conclusion 14: Student skills were measured through daily assessments by the teachers as well as the final examinations administered by the Examinations Council of Swaziland. The prevocational education curriculum in its modules clearly defined the content of courses and also specified the daily assessments teachers had to conduct in order to determine what students had learned. This process of delivering the content and assessing it was followed up by final examinations which verified that the student had acquired the necessary competencies and was therefore qualified for the tasks required by the profession they chose. The overall performance of prevocational education students in all of the high schools was reported by the Ministry of Education. The percentage of

students in the prevocational education program who passed with credit in the various subjects averaged between 36.38 percent and 56.64 percent (see Appendix F). These results were considered by the Ministry of Education as fair and in need of improvement. The Ministry of Education attributed the results to inadequate training of teachers, the aggressive schedule of the program, and the small number of inspectors available to monitor the curriculum delivery.

Recommendation: In order for student performance to improve, the government should take measures to increase its support of prevocational education. In addition to increasing funding to promote the program's growth, the government should totally embrace prevocational education as the preferred curriculum for practical skills training at all high schools. An effort is needed by the government to commit to an increase in funding of the program that would address the concerns of teacher training, making the program less compressed by beginning prevocational education in Form I rather than waiting until Form IV, and by increasing the number of inspectors available to monitor the program in the schools. The total commitment to the program by the government cannot be overstated.

Conclusion 15: *There appeared to be very little involvement between the prevocational education program and the local business community in the assessment of the employers' needs and the placement of students in jobs.* The prevocational education program must be revised continuously for it to evolve to its maximum potential. These revisions have to involve local industries in defining what skills are needed and together with the educational sector, engage in discussions to determine the most suitable curriculum for the community. If the local industries participate in determining the best

model for the curriculum, then they are more likely to become accepting of the program and begin hiring graduates out of the program.

Recommendation: A committee of representatives from both the business and education sectors needs to be activated to look at the effectiveness of the prevocational education program curriculum and to determine the most appropriate changes needed to improve it. This committee must be committed to the success of prevocational education and should have the full support from government to make their recommendations come into effect.

Conceptual Principles

As stated in chapter three, the theoretical basis for this study was grounded theory. The underlying principles that emerged from the application of this theory included: communication, collaboration, organizational structure, and research and training.

In order for prevocational education in Swaziland to improve and become accepted by the community with minimal resistance to it, these principles should be applied. Communications within any organization must be accessible to all parties, both internal as well as external to the organization. All governing agencies and all levels of the administration, and including all teachers and staff at all schools, all need to be in the communications loop of the prevocational education program. When forming collaborations, it is crucial to have cooperative agreements to define what each organization's roles and responsibilities will be within the collaboration. Collaborations must also have substance and cannot be there merely for show. The government support of collaborations must also be visible and obvious otherwise very little would be accomplished at the discussion table. Joint oversight committees from both sides of the

collaboration would be needed if input from each side were to have meaning when designing, establishing, administrating and governing the prevocational education program in Swaziland.

The organizational structure that defined the roles and responsibilities of all participants in the prevocational education program and the development of a joint mission, vision, goals, and objectives could bring about organizational synergy. The organizational structure must be clear and should let other agencies know where the prevocational education fits in the overall scheme for economic development in the country. A weak organizational structure will not succeed in carrying out the mission. The vision, goals, and objectives will have no substance if the program was not supported with a strong organizational structure. The final principle that could be applied to this study was research and training. Research in areas of curriculum effectiveness and consistency in delivery; students' employability and success in business after graduation; fitness of facilities; evaluations and outcomes; and best practices could improve the success of prevocational education in Swaziland high schools. Training on the unique characteristics of the program, policies and procedures, as well as training of teachers and the community on the value of the program could also lead to the success of the program.

Recommendations for Future Research

Recommendations for future research evolved from the findings and conclusions of this study. The recommendations and other relevant discussion items are as follows.

Descriptive research may need to be conducted on the prevocational education history.

Historical documents play an important role in the development of prevocational education in Swaziland. An accurate account was needed of the modern vocational

subjects that academic track students took and it needs to be compared with the Education I Project prevocational education program.

Research is needed to see if the prevocational education program is taught to the specification of the modules and assessed accordingly.

This study did not include an in depth analysis of the methods and techniques used by the teachers. Teachers were concerned that they did not have the knowledge to adequately teach the subject matter to the students. Such a study could give a better insight into how effective the delivery of the program is.

A study is needed to determine to what extent teachers' personal knowledge of vocational skills influence what they teach to their students.

This study revealed that some teachers, because of their limited training in the subjects they were teaching, tended to focus their teaching on those areas they were comfortable with. This type of study will benefit stakeholders who need to address the issue of teacher training and who want to know how to properly license teachers for the prevocational education program.

A study is needed to compare the effectiveness of rural schools to that of urban schools to determine what factors differentiates one from the other.

This study was conducted at only one school and does not necessarily reflect what is prevalent at other schools. Since the research on prevocational education is very limited, the knowledge gained about what is significant at other schools can be very valuable and is warranted.

A study is needed to assess the perceptions of the parents, the students, and the business community's towards the prevocational education program.

It is important to know what the stakeholders think about the prevocational education program. This information can be useful to administrators because it could give them a basis upon which to address needed changes in the program to make it acceptable to the public.

Summary

This chapter restated the research problem and briefly explained how it arrived at the conclusions. This chapter also discussed implications for practice and theory, made recommendations of its findings, and suggested further research topics. The conclusions of this study were: 1) the organizational structure for prevocational education lacked the degree of autonomy that could have given the program its own identity to allow it to operate within its own budget and rules; 2) there was no comprehensive written history on the Education 1 Project; 3) government support was essential in overcoming barriers to the Education 1 Project; 4) a plan for the next phase of the prevocational education program would be an essential step for the survival of the program; 5) a plan to train new teachers for prevocational education and a plan to provide professional development training for current teachers would assure that a quality education was being offered to students; 6) prevocational education programs were being offered at the school where other, older vocational education classes were also being taught; 7) a negative attitude toward prevocational education that came from some teachers, students, and the community posed a threat to the program's growth and effectiveness; 8) prevocational education was viewed by teachers as being overly aggressive and too rigorous for the students; 9) the lack of a system to certify student graduates and accredit the program with a nationally or internationally recognized body posed a threat to the marketability

and growth of the program; 10) the lack of funding from government to repair, upgrade or replace broken or obsolete equipment was a hindrance to the effective deliverance of the program to the students; 11) a formal system to track students after they graduated from the prevocational education program was not available and this made it difficult to determine if students were benefiting from the program; 12) a formal system to place students into prospective jobs when they graduated from the prevocational education program was not available, which could be a reason for why some students lacked enthusiasm for the program; 13) a source of financial assistance for students with business start-up aspirations was not available, and if it was, it was not communicated to them; 14) student skills were measured through daily assessments by the teachers as well as the final examinations administered by the Examinations Council of Swaziland; and 15) there appeared to be very little involvement between the prevocational education program and the local business community in the assessment of the employers' needs and the placement of students in jobs.

The recommendations emerged from the findings and conclusions. The recommendations are: 1) a reorganization of the prevocational education system in terms of its position in organizational hierarchy is needed to provide a clearer definition of its purpose and its relative importance within the education community; 2) a comprehensive historical account of the Education 1 Project might improve the understanding of prevocational education; 3) a task force needs to be formed that would lobby for prevocational education support from government; 4) an annual plan is needed to help steer the program in a direction leading towards the growth and attractiveness of the program; 5) teachers of prevocational education need to be enrolled in professional

development classes that would enhance their knowledge of the subjects they teach; 6) all prevocational education programs in Swaziland schools need to be consistent and there should only be one program teaching vocational subjects; 7) a marketing campaign is needed to help educate the community about the program; 8) a survey or study is needed to address student loads and seek recommendations for improvements; 9) a committee is needed to address the challenges facing the accrediting of the program and to make recommendations for it to be acceptable to the business community; 10) an inventory of all equipment is needed at regular intervals to assure they remain functional and in good repair; 11) a formal system to track students after they graduate is needed to monitor student progress; 12) a strong effort by the government to attract large businesses to the area is needed so that students can have jobs to survive; 13) a loan guarantee system is needed to assist students who want to establish their own businesses; 14), the government must take measures to increase its support of prevocational education by adequately funding it, offering only one program for vocational training, and expanding the program from 2 years to a total of 5, if student performance is to improve; and 15) a committee of representatives from both the business and education sectors needs to be activated to look at the effectiveness of the prevocational education program curriculum and to determine the most appropriate changes needed to improve it.

And finally, recommendations for further research were derived from the conclusions and implications. These recommendations include: 1) descriptive research may need to be conducted on the prevocational education history; 2) research is needed to see if the prevocational education program is taught to the specification of the modules and assessed accordingly; 3) a study is needed to determine to what extent teachers'

personal knowledge of vocational skills influence what they teach their to students; 4) a study is needed to compare the effectiveness of rural schools to that of urban schools to determine what factors differentiates one from the other; and 5) a study is needed to assess the perceptions of the parents, the students, and the business community's perceptions of the prevocational education program.

BIBLIOGRAPHY

- The African Development Bank Group. (2001). *Education I Project Supply of Pre-vocational Education Tools & Equipment: Special Procurement Notice*. Retrieved January 22, 2004 from http://www.afdb.org/opportunities/business/ADB_procurement_notice_swaziland.htm
- African Development Report: Summary. (1998).
- African Development Bank. (1999). *Education Sector Policy Paper*.
- African Development Fund. (2003). *Kingdom of Swaziland Education I Project: Project Completion Report*. Retrieved January 22, 2004 from <HTTP://www.afdb.org/pls/portal/url/ITEM/F5CA84C0308CBF8AE030A8C0668C4EF1>
- Alberta Education. (1998). *Career & Technology Studies: Manual for Administrators, Counselors and Teachers*. Retrieved November 5, 2007 from <http://ednet.gov.ab.ca/cts>
- Alberta learning, Edmonton. Learning and Teaching Resources Branch. (2000). *Promising Practices in Career and Technology Studies (CTS)*. Retrieved November 5, 2007 from http://learning.gov.ab.ca/k_12/curriculum/bysubject/cts/pro
- Booth, M. Z. (2003). Settler, missionary, and the state: contradictions in the formulation of educational policy in colonial Swaziland. *History of Education, 32*, 35-57.
- Booth, M. Z. (1997). Western schooling and traditional society in Swaziland. *Comparative Education, 33*, 433-452.
- Brock-Utne, B. (n.d.). Whose education for all?
- Chan, B.Y. M. (1990). Development of prevocational education policy and curriculum during the last quarter century. *CUNK Education Journal, 18*, 179-184.
- Crabtree, D. (1993, November). *The importance of history*. Retrieved February 25, 2008, from <http://www.mckenziestudycenter.org/society/articles/history.html?print=Y>
- Daly, J. L. (2002). Strategic marketing of training initiatives in underdeveloped countries: the case of Swaziland. *Public Personnel Management, 31*, 309-317.
- Davey, L. (1991). *The application of Case study evaluations* Report No. EDO-TM-91-9). Washington, DC: Office of Research and Improvement. (ERIC Document Reproduction Service No. ED338706.
- Delano, R., & Mittelsteadt, S. (2005). Building career tech programs into career academies. *Techniques: Connecting Education & Careers, 80(5)*, 25-58.

- U. S. General Accounting Office. (1990). *Case Study Evaluations*. (GAO/PEMD Publication No. 91-10-1-9). Washington, DC.
- Glocker, J.J. (2005). An assessment of tech prep: students' educational and psychosocial outcomes in a case study model. *Dissertation Abstracts International*. (UMI No. 3176992).
- Hall, D., & Thomas, H. (2005). Links between higher education and employers in Malawi: the need for a dialogue? *Journal of Higher Education Policy & Management*, 27(1), 67-79.
- Hall, J., Education seen as the savior in Swaziland. *Inter Press Service*. Retrieved March 7, 2005 from http://www.unesco.org/education/efa/know_sharing/grassroots_stories/swaziland.shtml
- Healey, C. (2006). Swaziland. *Our World: Swaziland*, p1-6.
- Holsinger, D. B. & Cowell, R.N., (2000). Positioning secondary school education in developing countries. *UNESCO International Institute for Educational Planning*. Retrieved January 7, 2004, from <http://www.unesco.org/iiep>
- Klein, A. (2006). Vocational ed programs might receive early renewal. *Congress Daily*, p5.
- Leedy, P. & Ormrod, J, (2001). *Practical research: planning and design*. Upper Saddle River, NJ: Prentice-Hall.
- Lehmann, W. & Taylor, A., (2003). Giving employers what they want? New vocationalism in Alberta. *Journal of Education and Work*, 16(1), 45-68.
- Lewis, A. C. (2005). The high school initiative. *Tech Directions*, 64, 5-6.
- Lubben, F., Campbell, B., Maphalala, T., & Putsoa, B. (1998). Science curriculum material development through a teacher-industrialist partnership: industrialists' perceptions of their role. *Research in Science & Technology Education*, 16(2), 217-231.
- Mcgrath, S., (2005). The multiple context of vocational education and training in southern Africa. In S. Akoojee, A. Gewer, & S. Mcgrath (Eds.), *Vocational education and training in southern Africa: a comparative study* (pp.1-8). Cape Town, SA: HSRC.
- Merriam, S. (1998). *Qualitative research and case study applications in education* (2nd ed.). San Francisco: Jossey-Bass.

- Minnis, J.R. (2006). Non-formal education and informal economies in sub-Saharan Africa: Finding the right match. *Adult Education Quarterly*, 56(2), 119-133.
- Mndebele, B.S. (1997). Developing a competence-based teacher education program in Swaziland. *Education & Training*, 39(6, 7), 237-242.
- Mndebele, B.S., & Hlophe, Z.F. (2001). Computer literacy among practical arts teachers in Swaziland vocational schools. *Journal of Vocational Education and Training*, 53(2), 341-352.
- Mndebele, B.S. (2000). Home-based vocational agriculture student enterprises: the experience of a developing country. *Journal of Agricultural Education*, 6(4), 259-262.
- Mndebele, B.S. & Lukhele, L. B. (1996). Cooperation between technical and vocational education institutions and enterprises in Swaziland. In The International Project on Technical and Vocational Education (UNEVOC), *The development of technical and vocational education in Africa* (pp. 344-383). Dakar, Senegal: UNESCO.
- Mndebele, B.S. (1994). Professional vocational technical education competencies for Swaziland teachers of agricultural, commercial, home economics, and technical studies. *Dissertation Abstracts International*, 55 (04), 945A (AAT No. 9425582).
- Mndebele, B.S. & Dlamini, Z.C. (1999). Home/parental-related problems associated with home-based vocational agricultural projects: the case of Swaziland. *Journal of International and Extension Education*, 37-44.
- Mndebele, B.S. & Mkhonta, S. (n.d.). *Ensuring relevance and quality in the delivery of high school vocational education: The case of Swaziland*. Unpublished manuscript, University of Swaziland.
- Roberts, J. (2005). The kingdom of Swaziland: escaping the colonial legacy. In S. Akoojee, A. Gewer, & S. Mcgrath (Eds.), *Vocational education and training in southern Africa: a comparative study* (p118-138). Cape Town, HSRC.
- Stake, R. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.
- Suter, L. (2005). Multiple methods: research methods in education at NSF. *International Journal of Research & Methods in Education*, 28(2), 171-181.
- Swaziland Ministry of Education (n.d.). *The education system at the end of the twentieth century: an overview*. Retrieved May 4, 2006 from <http://www.gov.sz>
- Taylor, A. (2006). 'Bright lights' and 'Twinkies': career pathways in an education market. *Journal of Education Policy*, 21(1) 35-57.

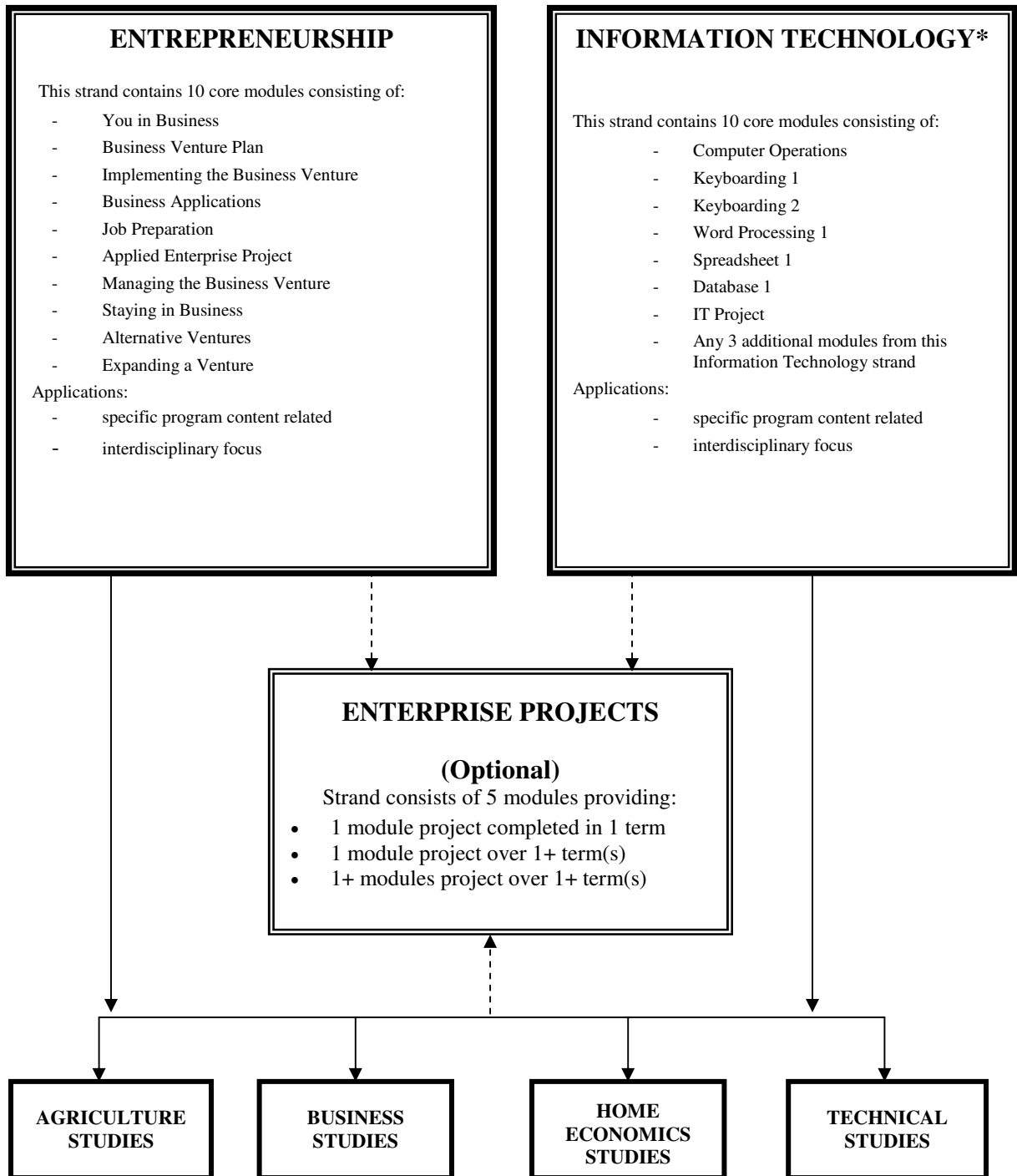
- Taylor, A. (2002, April 1-5). *Credentialing the high school*. Paper presented at the Annual Meeting of the American Educational Research Association. (ERIC Document Reproduction Service No. ED464148).
- World Bank (2000). *Swaziland: reducing poverty through shared growth* (Report No. 19658-SW). Human Development Group, Eastern and Southern Africa, The World Bank.
- VanWynsberghe, R. (2007). Redefining case study. *International Journal of Qualitative Methods*. 6(2), 1-10.
- Yin, R. (2003). *Case study research designs and methods* (3rd ed.) Thousand Oaks, CA: Sage.

APPENDIX A: INTERVIEW QUESTIONS

1. Would you briefly summarize your work history and education for us?
2. What is important to you in college setting? What things do you look for in any organization?
3. Describe a time when you decided you should change your actions or approach to adapt to the needs of a situation.
4. Give us an example of a project or task that you started on your own.
5. Describe a time when a team member strongly disagreed with your ideas or actions. How did you handle the situation?
6. Please share with us your philosophy of customer service in an academic environment and give us an example that would illustrate your view.
7. Describe a major trend in the welding profession today.
8. How would you prepare to make presentations or teach welding classes?
9. What has been the highest pressure or most frustrating situation you have been under in recent years? How did you cope with it?
10. Why did you decided to enter the field of welding?
11. What motivates you in your job? What have you discovered that motivates others?
12. What else besides your education and job experience qualifies you for this job?
13. Some people have the ability to “step into another’s shoes.” When has this skill been required of you?
14. Describe how you determined your priorities on your last job.
15. What is your favorite process or task?
16. Think about a coworker from the present or past whom you admire, and tell us why you admire them?
17. How would you describe your capacity to work where there is little structure? That is, flexible hours, working in multiple locations, maintaining focus when confronted with multiple projects?

18. What do you feel is the role of the community college in higher education, and what role does the welding department play in the success of community college students?
19. What has been your most important work-related contribution or innovation?
20. How would your coworkers describe you?
21. How do you like to be supervised? Do you feel most comfortable with being given suggestions or most comfortable with detailed instructions?

APPENDIX B: PREVOCATIONAL EDUCATION PROGRAM CORE STRANDS



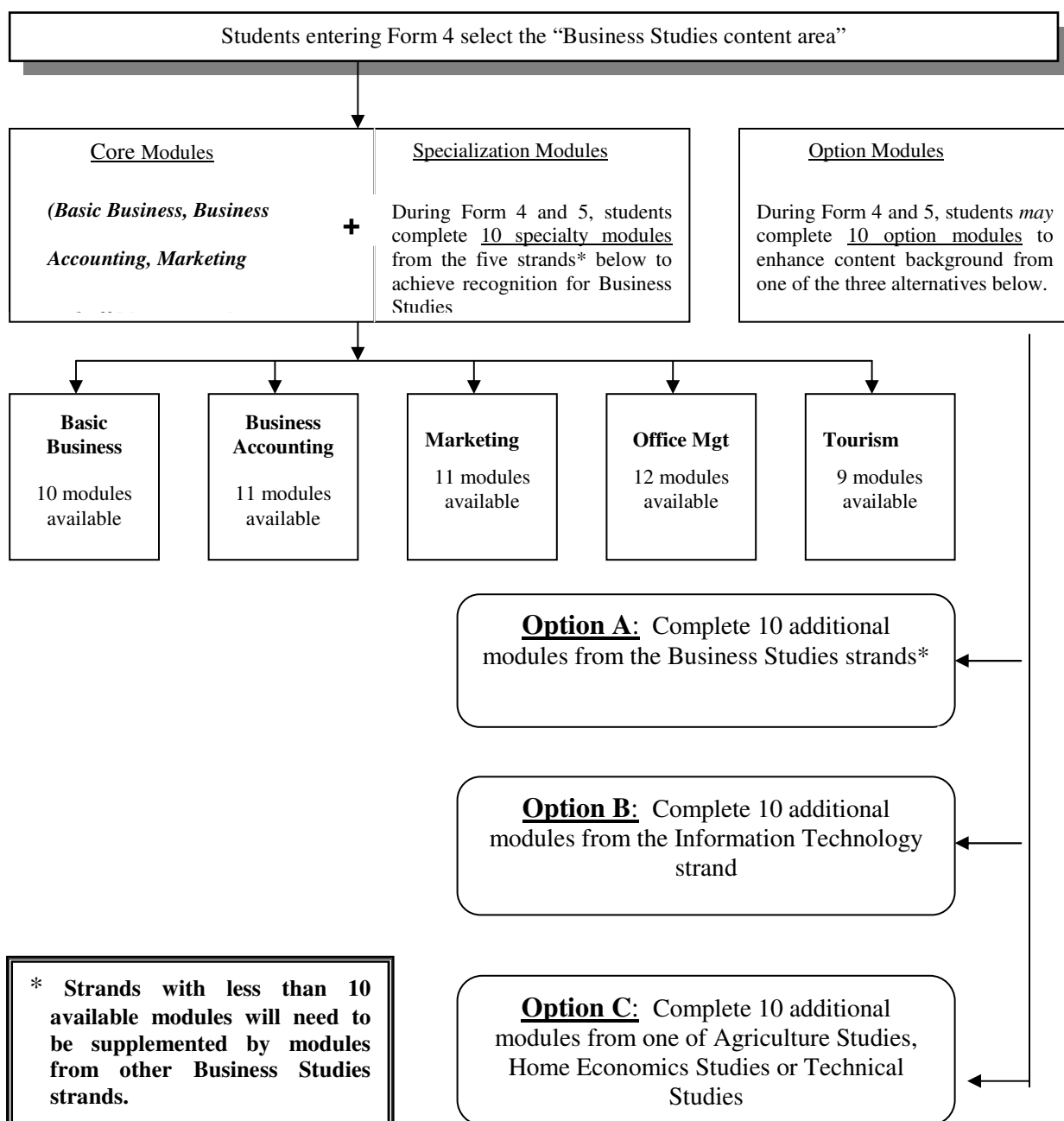
*** This IT strand contains 26 total modules – the 7 listed modules are identified as core plus 3 additional optional modules taken from the remaining 26.**

APPENDIX C: PROGRAM STRAND INFORMATION

Business Studies Program Structure

Business Studies consists of 5 strands: *Basic Business, Business Accounting, Marketing, Office Management, and Tourism*.

- Students complete 10 “Core Modules” drawn from *Basic Business, Business Accounting, Marketing, and Office Management* strands to develop a foundation for Business Studies.
- Students select and complete 10 specialty modules from one or more Business strands* to receive formal Business Studies program area recognition.
- Students may also choose to complete an additional 10 optional modules either from within the remaining Business Studies strands, Information Technology strand or select 10 modules from another program area.



Home Economics Program Structure

Summary: Home Economics Studies Program Areas

- Consists of 3 strands namely: *Family Living*, *Foods and Nutrition*, and *Fashion Arts*
- To receive credit in the Home Economics Studies Program Area, students must complete 10 modules from the Family Living core program and 10 modules from either the Fashion Arts Strand or the Food and Nutrition Strand..
- Students may choose to seek a second credit by completing an additional 10 optional modules from the Fashion Arts Strand, Food and Nutrition Strand, or Tourism or Marketing strands; or

Students entering Form 4 select the Home Economics Studies Program

Core Strand (Family Living)

- Student begins program and completes 10 modules from Family Living in Home Economics Studies during Forms 4 & 5.

+

Selection of area of specialization

- Student selects one of the following strands as an area of specialization:
 - ◆ Foods and Nutrition
 - ◆ Fashion Arts
- Student completes 10 specialisation modules in chosen strand

Option Selection

- Student selects one of the following three options in Form 4

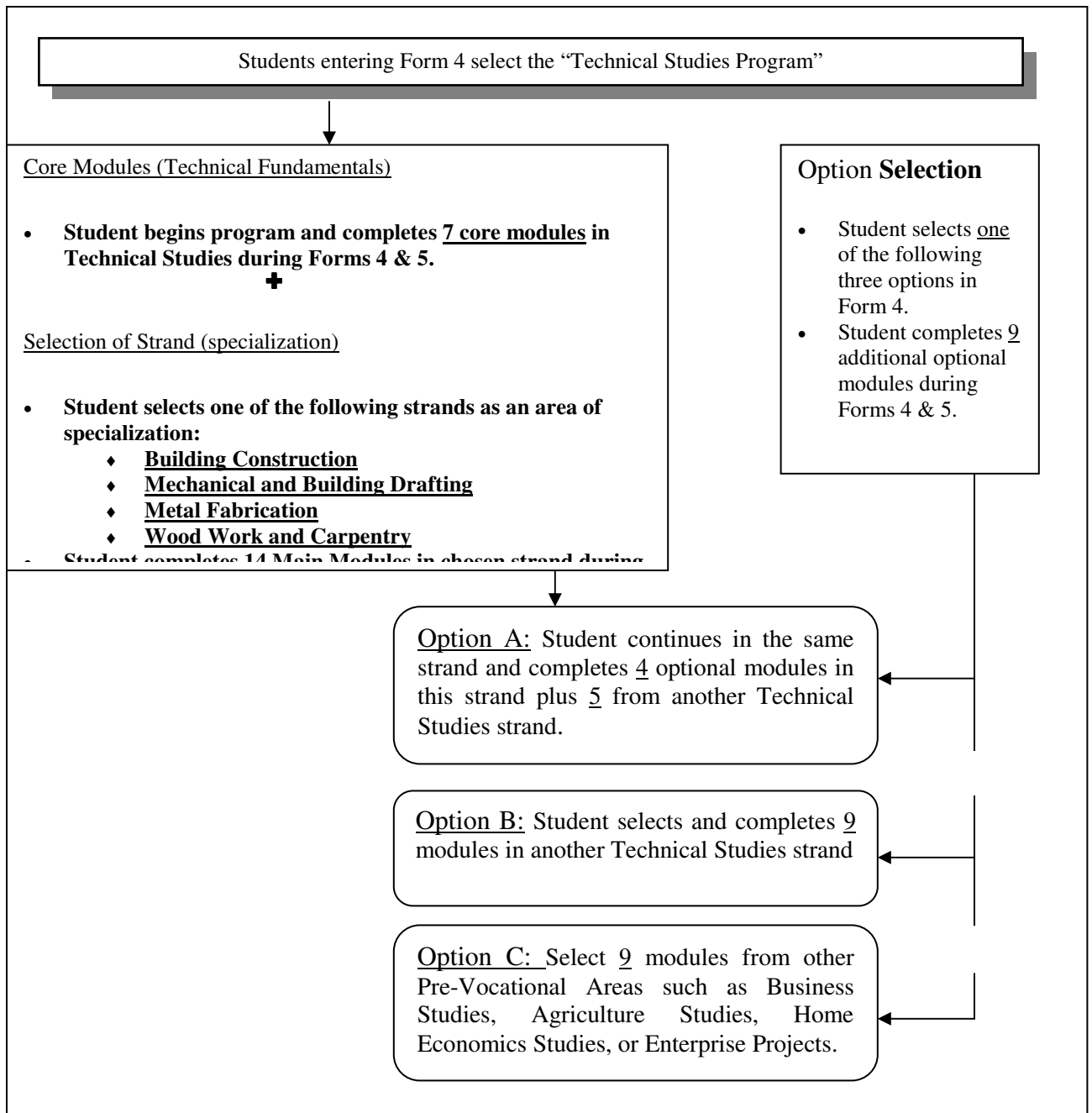
Option A: Select and complete 10 additional optional modules from any strand in Home Economics Studies

Option B: Select and complete 10 modules in either *Tourism* or *Marketing* strands (Business Studies)

Option C: Select 10 modules from another Pre-Vocational Area such as Business Studies, Agriculture Studies, or Technical Studies.

Technical Studies Program Structure

- Consists of **4 strands** as follows: *Building Construction, Mechanical & Building Drafting, Metal Fabrication, & Wood Work & Carpentry*
- Students take **7 “Core Modules”** that provide a foundation for Technical Studies; this cluster of 7 modules is entitled “**Technical Fundamentals**”
- Students select and complete **14 Main Modules** from one particular strand in order to receive formal recognition and credit within the Technical Studies Program.
- Some students may choose to complete an additional **9** modules as options either from within the remaining Technical Studies strands or select 9 modules from another Pre-Vocational program area. To obtain two credits, student must complete a total of **30** modules (21 + 9 optional modules).



Agriculture Studies Program Structure

Not Available

APPENDIX D: SAMPLE MODULE

MODULE TMF09: Sheet Fabrication 1

Theme:	Tools, Materials, and Metalworking Fundamentals
Prerequisite Modules:	TMF02: Hand Tools, Materials and Their Uses TMF07: Machinery and Power Tools
Supporting Modules:	TMF01: Workshop Organization, Management and Tool Maintenance
Module Description:	Students use tools, materials and processes to fabricate sheet materials into finished products, models, prototypes, or mock-ups

MODULE COMPETENCIES			
Competencies	Assessment Criteria, Conditions and Standards	Suggested Emphasis	%
<i>The student will be able to:</i>			
9.1 apply health and safety rules and precautions for using materials, hand tools, machines and portable power tools	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> Demonstration of the safety rules and precautions for the use of sheet materials, hand tools, machines and portable power-tools in the shop. <p><u>Assessment Tools:</u> Tools and Materials Utilization Performance Checklist</p> <p><u>Standard:</u> Minimum performance rating of 2 for each applicable task</p>	10	
9.2 identify and describe the basic tools and fabrication processes used with sheet stock	<ul style="list-style-type: none"> Identification, description and use of basic set of sheet fabrication tools to include one or more: <ul style="list-style-type: none"> -measurement and marking tools -layout and squaring tools -cutting and drilling tools -fastening and forming tools. <p><u>Assessment Tools:</u> Presentation/Reporting Performance Checklist Tools and Materials Utilization Performance Checklist</p> <p><u>Standard:</u> Minimum performance rating of 2 for each applicable task</p>	10	
9.3 measure and lay-out patterns or templates	<ul style="list-style-type: none"> Use of measurements and layout techniques to create patterns or templates that are +/-1 mm of the original plan. 	10	

Competencies	Assessment Criteria, Conditions and Standards	Suggested % Emphasis
<p><i>The student will be able to:</i></p> <p>9.4 use basic sheet stock fabrication skills and techniques to produce a product</p> <p>9.5 prepare a career exploration portfolio for sheet metal fabrication occupations</p>	<p><i>Assessment of student achievement should be based on:</i></p> <p><u>Assessment Tools:</u> Project Planning and Implementation Performance Checklist Tools and Materials Utilization Performance Checklist</p> <p><u>Standard:</u> Minimum performance rating of 2 for each applicable task</p> <ul style="list-style-type: none"> • Successful completion of a sheet stock product that uses appropriate separating, combining and forming techniques associated with a given material. <p><u>Assessment Tools:</u> Project Planning and Implementation Performance Checklist Tools and Materials Utilization Performance Checklist</p> <p><u>Standard:</u> Minimum performance rating of 2 for each applicable task</p> <ul style="list-style-type: none"> • preparation of an exploration portfolio for sheet metal fabrication career <p><u>Assessment Tools:</u> Oral presentation or written report Presentation/Reporting Performance Checklist</p> <p><u>Standard:</u> Minimum performance rating of 2 for each applicable task</p>	<p>60</p> <p>10</p>
<p>9.6 demonstrate basic competencies; e.g., working responsibly and safely</p>	<ul style="list-style-type: none"> • observations of students showing responsibility by working safely and efficiently with sheet materials, machines and power tools at all times and displaying other life skills and personal attributes <p><u>Assessment Tools:</u> Sheet Fabrication 1: Module Assessment Summary Checklist</p> <p><u>Standard:</u> Minimum performance rating of 2 for each applicable task</p>	<p>Integrated throughout</p>

SUGGESTED LEARNING ACTIVITIES		
Concept	Suggested Tasks	Notes
9.1 Health and safety	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • describe the characteristics of a safe and healthy working environment as it applies to metal fabrication • identify and describe the appropriate dress code when working with metals • list the common causes of accidents working with metal fabricating tools, machines and power tools and the ways to prevent these accidents • describe a safety action plan in case of an accident. • demonstrate the safe use of metal fabrication materials 	Sheet fabrication involves many dangerous materials and equipment and students need to be aware of this and to proceed with due caution when they work.
9.2 Basic tools and processes	<ul style="list-style-type: none"> • demonstrate basic skills related to the use of: <ul style="list-style-type: none"> - layout and marking tools - cutting tools - forming tools - bonding materials - fastening devices • identify the common types of sheet stock, e. g. <ul style="list-style-type: none"> - sheet metal - Perspex glass • describe the process of separating sheet stock by: <ul style="list-style-type: none"> - shearing - scoring and snapping - sawing - hot wire cutting • describe the process of forming sheet stock using machines like: slip roll, box and pan brake, etc. 	<p>By working with a variety of sheet materials, students can better understand the working properties.</p> <p>Students will require a lab demonstration of these processes</p>
9.3 Measurements and layout skills and techniques.	<ul style="list-style-type: none"> • identify and demonstrate the appropriate transfer and marking processes for a variety of sheet and board materials templates that are + or -1 mm of the original plan. • prepare a pattern or template to transfer folding and cutting lines 	
9.4 Basic sheet stock fabrication skills and techniques	<ul style="list-style-type: none"> • create on chart a systematic sequence of operations to fabricate a product • demonstrate basic skills related to the use of: <ul style="list-style-type: none"> - layout and marking tools cutting tools - forming tools - bonding materials - fastening devices • apply typical joining and fastening techniques related to the use of: <ul style="list-style-type: none"> - mechanical joints and fasteners - adhesives and cohesive 	Consider the use of a sheet stock to make models of products

Concept	Suggested Tasks	Notes
	<i>The student should:</i>	
	<ul style="list-style-type: none"> • apply suitable finishes and surface details to a model, prototype or product. • complete the “Tools and Materials Utilization Performance Checklist” to assess one’s performance in sheet fabrication operations. 	
9.5 Career exploration portfolio	<ul style="list-style-type: none"> • describe the specific things that you learned in this module. Describe how you can improve on your practical work. • compile a record showing the tools and machines used and the tasks or operations performed. • complete the “Project Planning and Implementation Performance Checklist” as a way of assessing one’s skills and competencies in producing the product/project. • describe some of the employment opportunities in the metal fabrication industry using skills learned in this module 	

Module Resources:

Environment: Students are to work in a safe workshop/shed or construction project site complete with the necessary tools and materials for a project and to receive instructions from an individual with the appropriate skills and training in sheet fabrication.

Students must have access to use the appropriate tools and equipment that are required to achieve the stated competencies.

Students will be required to follow procedures for maintaining tools, equipment, and materials used in workshop and at construction site. Also, students will be expected to follow environmentally friendly methods of disposing/recycling wastes.

Key Learning Resources:

Lye, P. F. *Metalwork Theory* Books 1 - 4 Metric Edition. Harrap, London.

Potgieter, M. J. *Metalwork 1*. Lexicon Publications, Jo'burg.

Haaris, H. J. *Plumbing Drainage and Sheet-metal work*. MaskewMiller, London.

For additional books see *Bibliography and Reference Books for Metal Fabrication* in Section 12, Appendix C, of the Manual.

Additional Resources:

Detailed description of tools from a manufacturer. These charts could be displayed in workshop

Recommendation:

Students should be encouraged to develop a culture of keeping and maintaining the workshop or work site and all tools and materials in a clean state. The attitude will pay off when the students run their own personal workshops. Prevention is *cheaper* than the cure.

Sheet Fabrication 1: Presentation/Reporting Performance Checklist

Student's Name: _____

Module competencies to be assessed:

- 9.2 identify and describe the basic tools and fabrication processes used with sheet stock
- 9.5 prepare a career exploration portfolio for sheet metal fabrication occupations

Performance Checklist:

All tasks or steps must be evaluated with a performance rating of 2 or greater in order to demonstrate achievement of the overall module competency.

Task, Process, or Product Quality	First Attempt		Second Attempt	
	Performance Rating	Date Done & Teacher Initials	Performance Rating	Date Done & Teacher Initials
Assess how well the student:				
Prepared written reports with correct spelling, punctuation, grammar, and basic format				
Gave an oral report or presentation using good voice projection and body language				
Used technical terms/language correctly both in writing and orally				
Prepared suitable and attractive drawings and sketches of project/product for presentation				
Prepared and presented concise and accurate descriptions/explanations of <u>module content</u> (in either oral/written reports). Tools and processes, types of sheet stock				
Average Score:				

Comments:

.....

Assessment Guide		
Letter Grade	9-Point Scale	Range
A	1-2	85-100
B	3-5	70-84
C	6-7	60-69
D	8	50-59
E	9	< 50

Performance Rating Scale	
Rating	Level of Performance
4	Excellent. Exceeds standards; high quality and productivity; works creatively; is very self-directed; very skilful execution of tasks.
3	Very Good. Meets defined standards; quality of work and productivity are very good; works in a self-directed manner; good execution of tasks/production steps.
2	Good. Meets standards. Quality of work and productivity are satisfactory. Can perform tasks satisfactorily, but requires periodic supervision.
1	Fair. Meets minimum standards. Quality of work and productivity are acceptable but of minimum standard. Can perform tasks but requires assistance or constant supervision.
0	Poor. Not up to standard. Quality of product is not acceptable. Tasks not performed correctly.

Sheet Fabrication 1: Project Planning & Implementation Performance Checklist

Student's Name: _____

Module competencies to be assessed:

9.3 *measure and lay-out patterns or templates*

9.4 *use basic sheet stock fabrication skills and techniques to produce a product*

Performance Checklist:

All tasks or steps must be evaluated with a performance rating of 2 or greater in order to demonstrate achievement of the overall module competency.

Task, Process, or Product Quality	First Attempt			Second Attempt		
	Performance Rating	Date Done & Teacher Initials		Performance Rating	Date Done & Teacher Initials	
Assess how well the student:						
Prepared himself/herself for the project tasks						
Developed an effective and safe work plan						
Organised materials and tools for project						
Interpreted working drawings for product and carried out instructions accurately						
Implemented project according to work plan						
Produced a product/project that met customer expectations and specifications						
Demonstrated the correct and safe use of the sheet metal fabricating machines and tools in various operations						
Conserved materials and resources						
Took steps to protect the natural environment						
Average Score:						

Comments:

Assessment Guide			Performance Rating Scale	
Letter Grade	9-Point Scale	Range	Rating	Level of Performance
A	1-2	85-100	4	Excellent. Exceeds standards; high quality and productivity; works creatively; is very self-directed; very skillful execution of tasks.
B	3-5	70-84	3	Very Good. Meets defined standards; quality of work and productivity are very good; works in a self-directed manner; good execution of tasks/production steps.
C	6-7	60-69	2	Good. Meets standards. Quality of work and productivity are satisfactory. Can perform tasks satisfactorily, but requires periodic supervision.
D	8	50-59	1	Fair. Meets minimum standards. Quality of work and productivity are acceptable but of minimum standard. Can perform tasks but requires assistance or constant supervision.
E	9	< 50	0	Poor. Not up to standard. Quality of product is not acceptable. Tasks not performed correctly.

Sheet Fabrication 1: Tools and Materials Utilization Performance Checklist

Student's Name: _____

Module competencies to be assessed:

9.1 apply health and safety rules and precautions for using materials, hand tools, machines and portable power tools

9.3 measure and lay-out patterns or templates

9.4 use basic sheet stock fabrication skills and techniques to produce a product

Performance Checklist:

All tasks or steps must be evaluated with a performance rating of 2 or greater in order to demonstrate achievement of the overall module competency.

Task, Process, or Product Quality	First Attempt			Second Attempt		
	Performance Rating	Date Done & Teacher Initials		Performance Rating	Date Done & Teacher Initials	
Assess how well the student:						
Selected and used appropriate tools, materials, and facilities to perform a particular task						
Handled, recycled, stored, and disposed of waste materials properly						
Followed the safety rules and regulations for specific work procedures						
Identified and correctly used the tools and machines required in this module						
Wore the proper personal protective clothing or equipment						
Maintained a clean and orderly workshop and worksite						
Took precautions to protect and conserve the natural environment						
Maintained and stored sheet fabricating machines and tools properly.						
Average Score:						

Comments:

.....

.....

.....

.....

.....

Assessment Guide		
Letter Grade	9-Point Scale	Range
A	1-2	85-100
B	3-5	70-84
C	6-7	60-69

Performance Rating Scale	
Rating	Level of Performance
4	Excellent. Exceeds standards; high quality and productivity; works creatively; is very self-directed; very skilful execution of tasks.
3	Very Good. Meets defined standards; quality of work and productivity are very good; works in a self-directed manner; good execution of tasks/production steps.
2	Good. Meets standards. Quality of work and productivity are satisfactory. Can perform tasks satisfactorily, but requires periodic supervision.

D	8	50-59
E	9	< 50

1	Fair. Meets minimum standards. Quality of work and productivity are acceptable but of minimum standard. Can perform tasks but requires assistance or constant supervision.
0	Poor. Not up to standard. Quality of product is not acceptable. Tasks not performed correctly.

Sheet Fabrication 1: Module Assessment Summary

Student: _____ Teacher: _____ Date: _____

Module Competencies	Assessment of Student Performance		
	Grade	Percentage (%)	Performance Rating
<i>After completing this module, the student was able to:</i>			
A. Theory (30%)			
9.2 Identify and describe the basic tools and fabrication processes used with sheet stock			
9.5 Prepare a career exploration portfolio for sheet metal fabrication occupations.			
Average Score:			
B. Practical (70%)			
9.1 Apply health safety rules and precautions for using materials, hand tools, machines and portable power tools			
9.3 Measure and lay-out patterns or templates			
9.4 Use basic sheet stock fabrication skills and techniques to produce a product			
9.6 Demonstrate basic competencies: (the student ↓)			
Assesses his/her work critically			
Manages and directs his/her learning and sets clear goals			
Manages resources and time effectively			
Identifies and solves problems effectively and is innovative			
Communicates effectively (speaking, writing, listening)			
Shows leadership and service to community			
Works effectively with others (teamwork)			
Is responsible (works safely, cares for others and the environment)			
Average Score:			

General

Comments:

.....

Assessment Guide		
Letter Grade	9-Point Scale	Range
A	1-2	85-100
B	3-5	70-84
C	6-7	60-69
D	8	50-59
E	9	< 50

Performance Rating Scale	
Rating	Level of Performance
4	Excellent. Exceeds standards; high quality and productivity; works creatively; is very self-directed; very skilful execution of tasks.
3	Very Good. Meets defined standards; quality of work and productivity are very good; works in a self-directed manner; good execution of tasks/production steps.
2	Good. Meets standards. Quality of work and productivity are satisfactory. Can perform tasks satisfactorily, but requires periodic supervision.
1	Fair. Meets minimum standards. Quality of work and productivity are acceptable but of minimum standard. Can perform tasks but requires assistance or constant supervision.
0	Poor. Not up to standard. Quality of product is not acceptable. Tasks not performed correctly.

APPENDIX E: STUDENT ENROLMENT

2006/2007 Enrolment in Prevocational Education at Secondary Schools in Swaziland

Name of School Form	Agriculture		Business		Design & Technology		Home Economics		TOTAL
	IV	V	IV	V	IV	V	IV	V	
1. Entfonjeni National	12	4	0	0	12	0	0	0	28
2. Evelyn Baring	7	2	8	5	4	9	3	2	40
3. Sikhunyana	19	18	11	6	4	6	10	7	81
4. Franson Christian	12	5	5	5	0	2	5	5	39
5. Cana	14	10	4	0	14	7	4	10	63
6. Somnjalose	7	10	7	8	12	6	11	7	68
7. Lobamba National	14	7	4	3	3	3	0	2	33
8. Salem	5	7	0	0	5	3	4	2	26
9. Swazi National	16	10	8	5	9	3	0	4	55
10. Vuvulane	4	4	1	1	0	1	0	1	12
11. Lavundlamanti	2	6	0	8	2	15	3	5	41
12. Ekukhanyeni	4	6	6	4	3	4	9	3	39
13. Motshane	13	7	7	11	11	2	7	3	61
14. Ngwane	7	7	0	0	4	5	7	7	37
15. Emvimbeko	6	6	6	5	18	13	13	8	75
16. St. Phillips	7	2	3	1	3	0	6	0	22
GRAND TOTAL	149	111	70	62	104	76	82	66	720

APPENDIX F: STUDENT PERFORMANCE ON EXAMINATIONS

Examination Performance for Candidates Who Registered for Prevocational Education at all 16 Secondary Schools in Swaziland between 2004 and 2006

Agriculture Studies Summary of Results for the Year 2004 to 2006

Year	Performance According to Prevocational Education Grades													
	1	2	3	4	5	6	7	8	9	X	No. of Credit pass	% Credit Pass	No of pass	% of pass
2004	1	2	12	4	8	14	23	12	14	3	41	45.56	76	84.44
2005	0	0	2	2	18	12	22	10	2	16	34	50.00	66	97.06
2006	1	1	16	8	6	22	27	24	4	5	54	49.54	105	96.33
Total	2	3	30	14	32	48	72	46	20	32	129		247	

Business Studies Summary of Results for the Year 2004 to 2006

Year	Performance According to Prevocational Education Grades													
	1	2	3	4	5	6	7	8	9	X	No. of Credit pass	% Credit Pass	No of pass	% of pass
2004	1	2	12	2	6	21	18	5	12	5	35	50.00	58	82.86
2005	0	0	4	3	2	8	12	1	2	11	17	53.13	30	93.75
2006	0	0	5	3	5	16	7	5	0	27	29	70.73	41	100.00
Total	1	2	21	10	13	45	37	11	14	43	81		129	

Home Economics Summary of Results for the Year 2004 to 2006

Year	Performance According to Prevocational Education Grades													
	1	2	3	4	5	6	7	8	9	X	No. of Credit pass	% Credit Pass	No of pass	% of pass
2004	0	0	2	2	2	8	23	17	6	16	14	23.33	54	90.00
2005	0	1	4	4	8	19	12	2	1	10	36	70.59	50	98.04
2006	0	0	6	4	8	21	10	3	6	4	39	67.24	52	89.66
Total	0	1	12	10	18	48	45	22	13	30	89		156	

Technical Studies Summary of Results for the Years 2004 to 2006

Year	Performance According to Prevocational Education Grades													
	1	2	3	4	5	6	7	8	9	X	No. of Credit pass	% Credit Pass	No of pass	% of pass
2004	0	0	4	4	10	15	22	6	3	5	33	51.56	61	95.31
2005	0	0	1	3	8	14	12	10	13	8	26	42.62	48	78.69
2006	0	1	2	3	7	20	19	7	5	10	33	51.56	59	92.19
Total	0	1	7	10	25	49	53	23	21	23	92		168	

Entrepreneurship Summary of Results for the Years 2004 to 2006

Year	Performance According to Prevocational Education Grades													
	1	2	3	4	5	6	7	8	9	X	No. of Credit pass	% Credit Pass	No of pass	% of pass
2004	0	5	8	10	18	66	126	61	8	16	107	35.43	294	94.90
2005	0	3	14	7	20	43	85	56	20	11	87	35.08	228	91.94
2006	0	2	16	13	17	68	103	62	21	17	116	38.41	281	93.05
Total	0	10	38	30	55	177	314	179	49	44	310		803	

Information Technology Summary of Results for Year 2004 to 2006

Year	Performance According to Prevocational Education Grades													
	1	2	3	4	5	6	7	8	9	X	No. of Credit pass	% Credit Pass	No of pass	% of pass
2004	0	5	19	20	37	70	80	48	15	29	151	51.36	279	94.90
2005	0	1	10	14	37	64	63	30	24	16	126	51.85	219	90.12
2006	1	2	21	26	29	77	89	30	6	37	156	55.52	275	97.86
Total	1	8	50	60	103	211	232	108	45	82	433		773	

Notes:

- 1.) The grade scores are listed in descending order where a 1 is a high score and 9 is a low score.
- 2.) "X" means students who did not participate in the exams.
- 3.) A credit pass is any candidate with a score of 1 to 6. A credit pass is required for admission into post-secondary institutions.
- 4.) A pass is any candidate with a score of 1 to 8. A 9 is considered a failing grade.