

**TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING SCHOOLS AND
ECONOMIC EMPOWERMENT OF THE GRADUATES IN MUHANGA DISTRICT,
RWANDA**

A Thesis

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the Award of the Degree of Master of
Education in Educational Management
And Administration**

By

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ABSTRACT

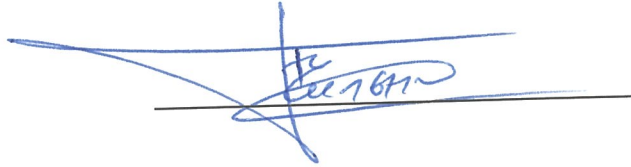
The purpose of this study was to establish the relationship between Technical and Vocational Education and Training Schools (TVETs) and economic empowerment of the graduates from TVETs in Muhanga District, Rwanda. This was based on three objectives namely to: investigate the relevance of TVETs in Muhanga District; to determine the level of economic empowerment of graduates from TVETs in Muhanga District; and finally to establish the relationship between TVETs and economic empowerment of graduates from TVETs in Muhanga District, Rwanda. The study employed a descriptive survey and a descriptive correlation design. Using universal sampling, 183 respondents were sampled from 200 targeted populations and sampling was done through snowballing technique. The study used self-administered questionnaires as research instrument and the study ensured validity and reliability of instruments using Content Validity Index (CVI) and pretesting. The researcher followed all the ethical and logistic considerations of research. Data was analyzed qualitatively and quantitatively using statistical techniques such as mean, correlation matrix and regression analysis. Findings of the study indicated that the relevance of TVETs in Muhanga District in Rwanda was still low (mean=2.44); the level of economic empowerment of the graduates from TVETs was found to be generally high (mean=2.67). The study also found out that there is positive significant relationship between the TVETs and economic empowerment of graduates from TVETs in Muhanga District at (by the *R*. value of 0.974; $F=3.355E3$, beta value of 0.974, and $p<0.000$). The finding on the relationship between TVETs and economic empowerment of graduates led to the rejection of the research hypothesis which is null hypothesis. The study concluded that the relevance of TVETs in Muhanga District is still low though the level of economic empowerment of the graduate is high. It was also concluded that TVETs and economic empowerment of the graduates is positively correlated. It was recommended that there is a need for the government of Rwanda to boost TVETs through tax incentives, sensitization, improved resource allocation and encouraging private sector investment in the sector.

DECLARATION A

This thesis is my original work and has not been presented for a Degree or any other academic award in any University or any Institution of Higher Learning.

Names, Signature of Candidate and Date

Habimana Sylvain



Date:



DECLARATION B

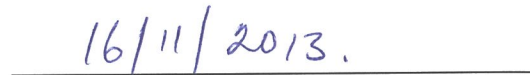
I confirm that the work reported in this thesis was carried out by the candidate under my supervision.

Names, Signature of Supervisor and Date

Dr. Kayindu Vincent

A handwritten signature in blue ink, appearing to read 'Kayindu Vincent', is written over a horizontal line.

Date:

The date '16/11/2013.' is handwritten in blue ink over a horizontal line.

DEDICATION

This work is dedicated to my beloved parents, brothers and sisters, friends, teachers, lecturers and to all my colleagues and relatives.

ACKNOWLEDGEMENT

First and foremost, I would like to convey my gratitude to the Almighty God, for the way he has been protecting me since my childhood up to this time of my final stage of this study.

I would very much like to appreciate different assistance of the following persons in the course of my research;

My first appreciation goes to the research supervisor Dr. Kayindu Vincent for guiding, directing and giving me comments while handling this thesis report. Additionally, to my brothers Mr. Ndamyeyezu Fidele, Mr. Dukundimana Anathole, Dr. Mbarubukeye Cyliaque, Mr. Hagaburimana Emmanuel, Mr. Habiyambere Ildephonse and other brothers and sisters who worked tirelessly to support me both financially and morally throughout my education career.

Further still, I would also like to express my deep appreciation and gratitude to my relatives, colleagues and friends both at attended schools and work places, for their outstanding support extended throughout this course. To all the respondents whose views have been compiled to make this study. Without their views, this study would not be as it is now. Finally, I cannot forget my lecturers and all individuals who have in one way or the other contributed to my academic, spiritual and personal growth.

May the Almighty God bless you all.

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OPERATIONAL DEFINITIONS OF KEY TERMS

Technical and Vocational Education and Training Schools (TVETs) refer to education and training schools that prepare persons for technical and gainful employments (Microsoft Encarta, 2008). In other words, TVETs refer to deliberate interventions to bring about learning which would make people more productive (or simply adequately productive) in designated areas of economic activity (e.g., economic sectors, occupations, specific work tasks).

Economic Empowerment means the ability of an individual to consistently generate income to support himself and his family's basic needs and expand business as well as enhancing its growth through capital accumulation and increase in income levels (Microsoft Encarta, 2008). In this study, socio-economic empowerment will be determined through ability to expand sources of income, access to education, health facilities and housing facilities.

LIST OF ACRONYMS AND ABBREVIATIONS

BNR	Banque Nationale du Rwanda
BNR	Central Bank of Rwanda
CBT	Competency-Based Training
CHDR	College of Higher Degrees and Research
CVI	Content Validity Index
EDPRS	Economic Development and Poverty Reduction Strategy
EFA	Education For All
GDP	Gross Domestic Product
ICT	Information and Communication Technology
ILO	International Labour Organization
IPRCs	Integrated Polytechnic Regional Centres
IPRC South	Integrated Polytechnic Regional Centre South
MFIs	Micro Finance Institutions
MDG	Millennium Development Goals
MINECOFIN	Ministry of Finance and Economic Planning
MINEDUC	Ministry of Education
NAP	National Agricultural Policy
PAT	Poverty Assessment Tool
PRC	People's Republic of China
PSTA	Strategic Plan for Agricultural Transformation
SAQs	Self-Administered Questionnaires
SPSS	Special Package for Social Science
TVET	Technical and Vocational Education and Training
UBPR	Union des Banques Populaires du Rwanda
UNESCO	United Nations Educational, Scientific and Cultural Organization
VUP	Vision Umurenge Program
WDA	Workforce Development Authority

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

1.1.1 Historical Perspective

Socio-economic empowerment is one of the most important aspects that every country throughout the globe wishes to achieve (Fry, 2006). In this regard, different governments throughout the globe have set up various agenda and techniques so as to empower their citizens so that they can achieve Millennium Development Goals (MDG) (Fry, 2006). Thus, different countries have set emphasizes on some specific aspects that they need to achieve in a given period of time. Some of these particular issues that different countries are looking at include education, health, financial needs, and many others.

Schumpeter & Backhaus (2003) also noted that due to the need to socially and economically empower their people, different developing countries have since 1980s adopted and embarked on programs that can help to empower their citizens. In some countries such as India and Bangladesh have strongly focused on socio-economic empowerment of their nationals through building and strengthening financial institutions and services.

Similarly, Subhabrata (2009) also shows that India has taken big steps forward towards empowering its national both socially and economically by working hard to improve on its infrastructure. This means that different countries throughout the globe have got different approaches towards socio-economic empowerment of their nationals.

Africa like any other developing continent has also taken different actions and programs so as to empower its people socially and economically (Johnson, 2006). According to the author, there is now free primary education in many African countries, many health services are now freely accessed in many countries in Africa, and many financial institutions have been established so as to encourage local people to access financial services and advisory. As it can be seen, different methods have been put in

place in many African countries so that their nationals can be both socially and economically empowered.

1.1.2 Theoretical Perspective

The Entrepreneurial Supply Theory by Denham James Steaurt (1767) and developed by Adam Smith (1776) can be appropriate for this study. This theory believes that for higher investment and entrepreneurial development to take path in a country, competency and skills development are necessary. Thus, resources should be directed towards such resourceful sectors. The Entrepreneurial Supply Theory therefore becomes relevant to this research since TVETs ensure hands-on skills that can help students to establish their own businesses, boost their income level as well chances of self-employment.

1.1.3 Conceptual Perspective

Technical and Vocational Education and Training (education based on technical occupation or employment) (also known as vocational education and training or VET) is education that prepares people for specific trades, crafts and careers at various levels from a trade, a craft, technician, or a professional position in engineering, accountancy, nursing, medicine, architecture, pharmacy, law etc (Brodhead, 2000). In the authors' explanation, he noted that craft vocations are usually based on manual or practical activities, traditionally none totally -academic, related to a specific trade, occupation, or *vocation*. It is sometimes referred to as technical education as the trainee directly develops expertise in a particular group of techniques.

Economic empowerment involves all measures to allow poor people to think beyond immediate daily survival and to exercise greater control over both their resources and life choices (Wilson, 1996). For example, it enables households to make their own decisions around making investments in health and education, and taking risks in order to increase their income. The author believes that there is also some evidence that economic empowerment can strengthen vulnerable groups' participation

in the decision-making. The evidence also suggests that economic power is often easily 'converted' into increased social status or decision-making power. In this regard, some of the core issues under economic empowerment include ability to expand sources of income, access to education, health facilities and housing facilities. Thus, as TVETs prepare people based on skills for specific trades, crafts and careers at various levels from a trade, a craft, technician, or a professional position in engineering, accountancy, nursing, medicine, architecture, pharmacy and law, it is expected that they can empower their graduates economically and this was the subjective of this study in the case of graduates working in Muhanga who mainly graduated from Muhanga District TVETs.

1.1.4 Contextual Perspective

Rwanda like its counterparts in Africa and other developing world launched an ambitious social and economic empowerment program in 2000 (Brodhead, 2010). As the scholar indicated, the country's social and economic empowerment programs are contained in Vision Umurenge Program (VUP). The Vision Umurenge Program (VUP) that has been described as Government's ambitious program targets and aims at attaining middle-income country status by the year 2020. The Government's long-term plan to achieve this goal is outlined in the document 'Rwanda Vision 2020' and Rwanda's Economic Development and Poverty Reduction Strategy (EDPRS) paper. Rwanda Vision 2020 and the EDPRS aim to guarantee the wellbeing of the population by increasing production and reducing poverty (National Institute of Statistics, 2007-2008).

O'Connor and Trussell (2007) pointed out that one of the ways through which Rwanda as a country has undertaken economic empowerment of its people is by ensuring development of practical skills of her nationals. Thus, in the last couple of years, Technical and Vocational Education and Training (TVET) has been an important component within the Rwandese policy to end poverty thus, empowering the local population both socially and economically.

To ensure effectiveness in the sector, a reform of the TVET sector was approved in 2008 (World Class Apprenticeships, 2008). Therefore, two new bodies have been created within the Ministry of Education: The Workforce Development Authority (WDA) and the Integrated Polytechnic Regional Centres (IPRCs). The WDA has to organize the TVET strategy at a national level and the IPRCs have to develop into centres of expertise on a provincial level.

As Brodhead (2010) noted, since the reforms, the TVET gets increased attention from the government, the private sector and international donors. The choice to have a joint programme with BTC, APEFE and VVOB was quickly made, since all partners have already been working within the Rwandan TVET sector for years.

Much as TVET in Rwanda have received a lot of support from government, private sector and international donors, the number of people enrolling for TVET programs has not yet been convincing (Brodhead, 2010). Further still, there is still scanty information establishing the popularity of TVET in relation to the socio-economic life of former attendants especially in Muhanga district in Rwanda. It is through such gaps that this study intends to establish a close relationship between Technical and Vocational Education and training Schools and Socio-economic empowerment of graduates while considering communities in Muhanga district in Rwanda.

1.2 Statement of the Problem

Much as Technical and Vocational Education and Training Schools are supposed to help to bridge the gap of skilled and trained human capital in Rwanda that was left by the 1994 genocide, there still exists massive deficiencies in terms of trained human capital and this is more so for the technical professions (O'Connor and Trussell, 2007).

Additionally, TVET were also aimed at enhance employment opportunities to attendants after completion. However, studies also show that TVETs lack effectiveness and relevance to the reality of the workplace (Brodhead, 2010). The author also shows that even in those occupational fields in Rwanda that show high demand for skilled workforce, like the construction sector, TVETs graduates remain unemployed because

they have not acquired the practical hands-on competencies. It is therefore through such study gaps that this study intends to undertake a comprehensive look and determine the extent of TVETs in meeting its goals and objectives and establish whether TVETs have helped attendants to improve on their economic status in the last few years in the case of Muhanga district.

1.3 Purpose of the Study

The purpose of this study was to test the null hypothesis of no significant relationship between the technical and vocational education and training schools (TVETs) and economic empowerment of graduates from TVETs; to generate new information from the existing ones about the relationship between the study variables; and to validate the study theory.

1.4 Specific Objectives

The specific research objectives of this research were:

- (i) To investigate the relevance of technical and vocational education and training schools in Muhanga district, Rwanda.
- (ii) To determine the level of economic empowerment of graduates from the TVETS in Muhanga district, Rwanda.
- (iii) To establish whether there is significant relationship between the relevance of TVETs and the level of economic empowerment of graduates from TVETS in Muhanga district, Rwanda.

1.5 Research Questions

This research sought to answer the following questions:

- (i) What is the relevance of technical and vocational education and training schools in Muhanga district, Rwanda?
- (ii) What is the level of economic empowerment of graduates from TVETS in Muhanga district, Rwanda?

- (iii) Is there any significant relationship between the relevance of technical and vocational education and training schools and the level of economic empowerment of graduates from TVETs in Muhanga district, Rwanda?

1.6 Research Hypothesis

There is no significant relationship between the relevance of technical and vocational education and training schools and the level of economic empowerment of graduates from TVETs in Muhanga district, Rwanda.

1.7 Scope of the Study

1.7.1 Content Scope

This study examined the relationship between relevance of technical and vocational education and training schools and the level of economic empowerment of graduates from TVETs in Muhanga district, Rwanda. In establishing this relationship, the study first determined the relevance technical and vocational education and training schools in Muhanga district; this was followed by determination of the level of economic empowerment of graduates from TVETs in the district; and at last, the relationship between relevance of technical and vocational education and training schools and the level of economic empowerment was established.

1.7.2 Theoretical Scope

Entrepreneurial supply theory by Denham James Steaurt (1767) and developed by Adam Smith (1776) is the appropriate theory for this study. This theory believes that for higher investment and entrepreneurial development to take path in a country, competency and skill development is necessary thus resources should be directed towards such resourceful sectors. The entrepreneurial supply theory therefore becomes relevant to this research since TVETs ensure hands-on skills that can help students to establish their own businesses, boost their income level as well chances of self-employment.

1.7.3 Geographical Scope

This Study was carried out in communities where technical and vocational education and training schools are established in Muhanga district in Rwanda. This district was selected for this study because the district has two famous technical and vocational education and training schools and it has so many institutions that need technicians to work in. The technical and vocational education training schools found in the district include Muhanga Private TVETs and Rwanda Training Center JAM. Thus, respondents selected from the communities where these graduates from the fore-mentioned TVETs/and or other few district graduates who work in Muhanga district.

1.7.4 Time Scope

This study was carried out in the period of ten months. It started with the research proposal in October 2012 up to January 2013. In February 2013, instrumentation was done together with determination of reliability and validity. After the pre-testing, data collection started in July, 2013. In August 2013, tallying of data by the use of Special Package for Social Science (SPSS) was done. In the same month, the first draft was presented for supervision and later for approval. After corrections in the same month August 2013, final draft was presented for approval.

1.8 Significance of The Study

This study will be significant to some of the following categories:

The government, in particular the Ministry of Education and skill development will learn from some of the achievements and challenges facing the effective implementation of TVETs hence develop appropriate strategies capable of addressing them. This will encourage high economic growth and development in Rwanda.

The study findings on TVETs and economic empowerment of the graduates will be disseminated to various stakeholders including development partners and this will enable them to start supporting government and local people in the implementation different programs including TVETs and engage themselves in the sensitization of

people about importance of TVET schools such that a good number of people join them and cases of unemployment in the country can be reduced.

The local people will benefit from the research findings on TVETs and economic empowerment of the graduates as they will be sensitized and get to learn more about importance of TVETs in economic empowerment. This will encourage them to cooperate by sending their children to such schools hence coming out of extreme poverty and contribute to the economic and social development goals of Rwanda.

As a copy of this work will be kept at the University library and may be published, the research findings will contribute to the existing theories on the relationship between level of effectiveness of TVET schools and socio-economic empowerment of graduates since it will be in particular reference of Muhanga district. This means that the study will act as a source of reference hence contributing to academic career of the researcher.

The results of the study will be beneficial to the researcher in such way that he will acquire sufficient skills while establishing relationship between level of effectiveness of TVET schools and socio-economic empowerment of graduates in Muhanga district. The skills acquired can help him to carry out further similar studies in future.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1 Introduction

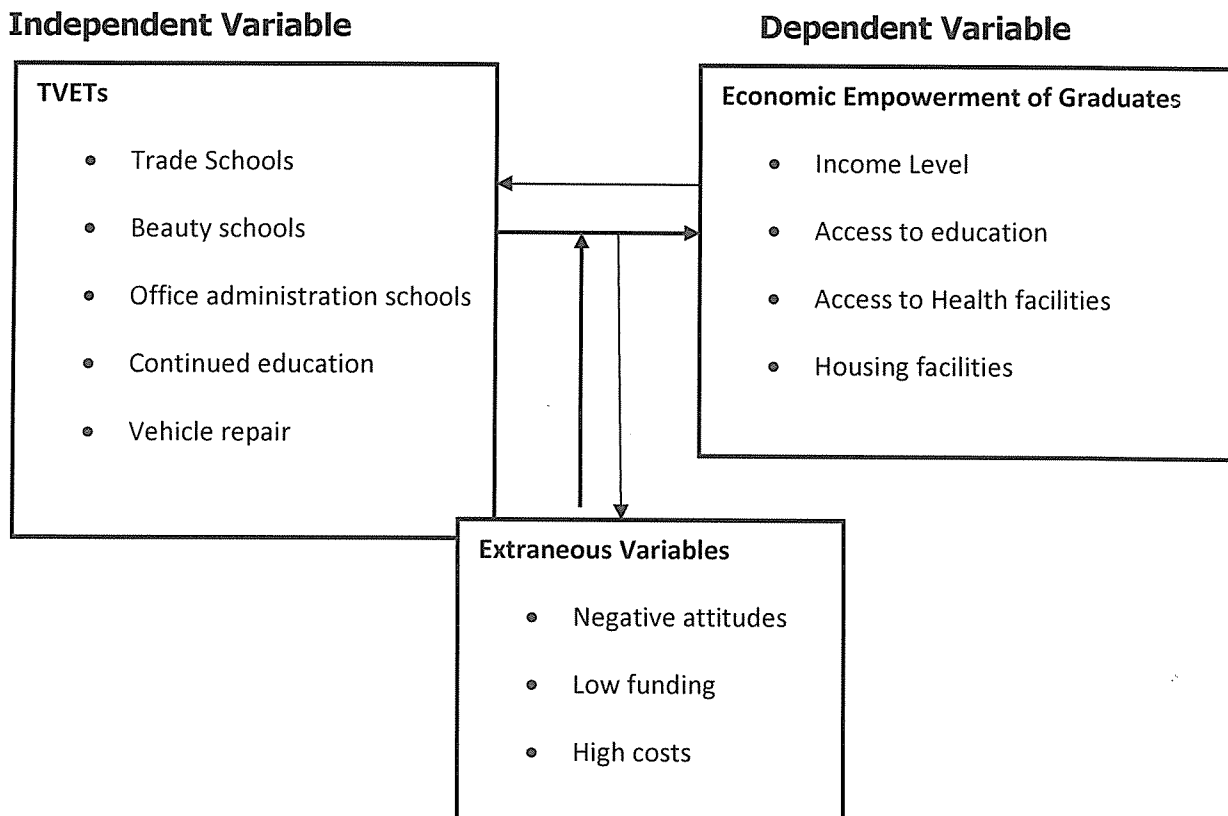
This chapter reviews discusses what other authors have said about TVETs and economic empowerment. It starts with theoretical review and then conceptual framework based research variables and then related literature.

2.2 Theoretical Perspective

This study employed Entrepreneurial Supply Theory by Denham James Steaurt (1767) and developed by Adam Smith (1776). This theory believes that for higher investment and entrepreneurial development to take path in a country, competency and skill development is necessary. Thus resources should be directed towards such resourceful sectors. The entrepreneurial supply theory therefore becomes relevant to this research since TVETs ensure hands-on skills that can help students to establish their own businesses, boost their income level as well chances of self-employment.

2.3 Conceptual Framework

Figure 2: Conceptual Framework



Source: Developed by the Researcher; Adopted from Adam Smith (1776)

The conceptual framework demonstrates the interaction between TVETs and economic empowerment of graduates. It shows that through different TVETs, skill based knowledge is imparted in students. These skills can be used by graduates to increase income level, access education, health facilities and housing facilities. However, this interaction can be affected by extraneous variables such as negative attitudes towards TVETs; low funding to TVETs and high costs.

2.4 Related Literature

2.4.1 Technical and Vocational Education and Training (TVET)

This refers to deliberate interventions to bring about learning which would make people more productive (or simply adequately productive) in designated areas of economic activity (example; economic sectors, occupations, specific work tasks).

As Achilles et al., (2003) pointed out, the beginning of TVET is difficult to trace as it connotes skills and competencies which has been embedded in surplus of other histories. However, the authors noted that the general education and training began in pre-history with the transmission of knowledge and culture from one generation to the next. Thus, the use of tools, beginning with those made from stones, evolved as humans evolved. In the explanation of the authors, they indicated that in the pre-historic hunting and gathering society, skills were passed from parent to child as members of small, usually related, migratory groups.

Later on, the transition from this stage to the settled cultivation of crops marks the beginnings of civilization and with it recorded history (Buzzell, 2007). According to Buzzell, the education and training that occurred is best embodied in the Chinese proverb:

Give a man a fish and he will eat for a day. Teach him how to fish and he will eat for a lifetime.

From this proverb, it can be noted that emphases have been drawn to equipping people with practical skills than theoretical knowledge.

Shields (2001) showed that the World Bank, International Labour Organization (ILO), United Nations Educational, Scientific and Cultural Organization (UNESCO), and other organizations have recently shown drive towards actively recognizing the role of TVETs. However, UNESCO who is at the forefront of TVET promotion had the following objectives established at the Seoul Congress (UNESCO, 1999): To provide TVET for all; to orient TVET for sustainable development; and to strengthen TVET as an integral component of lifelong learning.

Furthermore, one of the key goals of the Education for All (EFA) Framework for Action adopted in Dakar, Senegal, in 2000 (UNESCO, 2000) stipulates that the learning needs of all youth and adults should be met through access to appropriate learning and life-skills programmes. Since this is basically what TVET does, the linkage between the two thrusts already exists, but must be strengthened and broadened in the future.

As stated by Silberman (2006), TVET can take place either in formal schools (i.e. kindergarten through to grade 12 or 13), or increasingly in post-secondary community and/or technical colleges, or informally by means of training at the workplace and increasingly by distance media. TVET prepares learners for specific jobs or types of work, often including practical and/or procedural activities. The aim of TVET is to enable learners to meet needs of employers for qualified labour and/or own needs related to production of goods and services. Similarly, Reeves (2006) acknowledged that skills training in general denotes development of qualifications in the same line, but with a more limited scope and volume of training, often focusing on performance of one task (e.g. operation of a specific machine) or a limited set of tasks (e.g. different types of welding).

At a UNESCO Expert Meeting held in Bonn, Germany, 25 to 28 October 2004, approaches and practices were presented to illustrate the contribution that TVET had made towards a more sustainable future (Gordon, 2009). The author noted that learning for work, citizenship and a sustainable future is a joint responsibility of education, of the world of work, and of a variety of stakeholders in the formal and informal socio-economic environment.

Benson (2007) also contended that since education is considered the key to effective development strategies, technical and vocational education and training (TVET) must be the master key that can alleviate poverty, promote peace, conserve the environment, improve the quality of life for all and help achieve sustainable development. With this, TVET has to re-orient its agenda for action so as to continually provide scientific and technical skills in relevant and responsive programs, and consequentially develop a new generation of human resources.

2.4.2 Types of Vocational Trainings

As Boesel et al., (2004) mentioned, skills are vital for poverty reduction, economic recovery and sustainable development. The authors therefore contended that as a consequence, policy attention to technical and vocational education and training (TVET) is increasing worldwide. In establishing categories of TVET, the authors categorized TVET as formal, non-formal and informal learning for the world of work. Thus, young people, women and men learn knowledge and skills from basic to advanced levels across a wide range of institutional and work settings and in diverse socio-economic contexts.

Gray and Herr (2008) in a similar way noted that technical and Vocational training is intended specifically to provide students with job skills. Thus, most vocational training programs prepare students for hands-on work rather than academic work, and are generally geared toward one career type. The authors also pin pointed out that vocational training is generally shorter in duration than an academic education. Trade schools, community colleges and career colleges are all examples of institutions that provide vocational training. The details on types of TVETs are discussed below:

Trade Schools

Gray and Herr (2008) cited trade schools as one of types of TVET. According to the authors, trade schools provide education in the skilled trades, which include occupations such as plumbing, construction and car repair. Trade schools provide two to three years of classroom and workshop instruction, upon completion of which students seek an apprenticeship with an established employer in their chosen trade. After completing a certain number of hours of paid work, students obtain a journeyman certification, which means they are a fully licensed practitioner of their trade.

Aesthetic/Beauty Schools

Another type of TVET indicated by Gray and Herr (2008) is Aesthetic/ beauty schools. The authors also indicated that such schools focus on decorating, fashion and

cosmetics are much like trade schools, except that instead of teaching technical vocations, they teach creative vocations. Aesthetic schools are often affiliated or even merged with trade schools, and offer similar two- to three-year courses. One key difference between these programs and trade programs is that they do not usually require the student to take an apprenticeship after completing the degree. Programs include interior decorating, hair styling and cosmetology.

Office Administration Schools

According to Walter (2003), some vocational institutions provide courses in office or professional administration. These programs are intended to prepare students for careers as administrative assistants, legal assistants, medical/dental assistants and office clerks. They are usually one to two years in duration. Unlike trade schools, office administration schools are not highly regulated, and many offer online or correspondence degrees as options for students.

Continuing Education

Walter (2003) also noted continuing education, or adult education as a form of TVET that offers training for adults who are already employed. The author noted that many employers will pay for employees to complete courses or degrees before offering promotions or other forms of career advancement. International investment banks, for instance, might pay for associates to take a course in a foreign language before deploying them to a foreign office. This form of vocational training is common in police departments, government agencies, nongovernmental organizations (e.g., United Nations) and international businesses.

Vehicle Repair School

Vehicle repair school or mechanic's school provides hands-on training for passenger car, diesel truck and motorcycle repair (Scott and Sarkees, 2006). The authors also showed that although all three have the basic "anatomy," they all work

differently and have laws to make sure they run efficiently. Plus, some mechanic schools have relationships with car manufacturers so that their students can learn to work on foreign and domestic cars, as well as luxury sedans and sports utility vehicles. Also, they teach you how to do collision repair the professional way to make a car look like it never received any damage whatsoever.

2.4.3 Rwanda Scenario for Human Resources Development through TVET

Tuttle (2004) indicated that Rwanda should emulate other countries in expanding its TVET programs. According to the author, much as the country has established programs such as beauty schools, trade schools, vehicle repair schools among others, the response of many local communities towards these schools is still low. Thus, there is need to change community perception regarding TVETs.

In spite of Rwanda great geographic, economic, cultural and demographic diversity, it shares many common challenges and issues that are fundamental to improving the quality and relevance of TVET to gain a competitive edge in the market economy of the 21st century. As Warnat (2001) recommended, Rwanda must consider a coherent strategy for human capital development in which TVET plays an important role. However, the author also noted that in order to effectively tackle this problem, human resource development plans must be clearly cast within, and simultaneously linked to, the economic development vision of Rwanda.

Asche (2001) also noted that in Rwanda, Science and Technology in education is also emerging as a key priority area within the sector, recognizing its role in human resource development for the country. Thus, the author believed that such forward-looking plan, based on declared targets and indicators is an instrument to make the Education Sector Policy operational and is designed to assist in reducing poverty within Rwanda while creating a foundation for our vision of economic development based upon applications of development skills and technology.

Furthermore, Tuttle (2004) reveals that international competitiveness and employment creation serve as twin prerogatives in the context of Rwanda development.

In this case, the author provides that the provision of relevant and appropriate skills represents a significant element of the overall development pathway of the country. Skills development in all technical sectors take on an increasingly important role in virtually all dialogue of national development, more so in the advent of globalization in an ever increasing knowledge economy. This provides the basis for international competitiveness.

Indeed, the capacity of any country to attract appropriate and relevant investment is dependent on the pool of skills available (Brown et al. 2001). The development of intermediate-level skills for example in Information and Communication Technology (ICT), therefore, holds the promise of international competitiveness by attracting much-needed investment opportunities and, in the Rwanda framework; it is in its ability to provide the basis for employment creation and human resources development. The role of ICT, which is also one of the key focuses of TVET in national development, therefore, must not be underestimated. Of course, reality is never so simple, which partly explains why TVET does not achieve acceptance by all.

However, Kincheloe (2009) indicated that most TVET implementers (relevant institution heads) point to the heavy expenses required to develop curricula, train staff and equip classrooms for these specialized subjects, which generally cost three times more than academic courses. Yet, for many parents and students it remains a second-class education. The author also asserts that TVET provides training but not the guarantee of a job. Even the world's most sophisticated and expensive programme is doomed to fail if the labour market cannot absorb the students, despite their skills and expectations.

It must be recognized, that TVET is a complex differentiated socio-economic system by itself, which is influenced by involved individuals, state and companies/economy which have partly different interests (Claxton et al., 2012). According to the scholars, TVET has to be understood as a service-provider for individuals, economy and society. In recognition of the service function of TVET

regarding the labor market and its development there should be exist relevant elements in TVET, which can address specific questions and demand of the labor market.

SEAMEO (2001) identified eleven important trends and directions for TVET in its member nations, as follows: Clear national policies for TVET; the concept of lifelong learning; Competency-based training (CBT); Development of demand-driven TVET; Flexible TVET delivery systems; Encouraging a competitive spirit among TVET providers; Strong public TVET systems; Recognition of TVET; Quality output and outcome; Research and evaluation to improve TVET; Apprenticeship systems.

Therefore, the main types of vocational schools in Rwanda as of 2013 are trade schools in which programs such as plumbing, construction and car repair are offered; aesthetic or beauty schools where programs such as decoration, fashion and cosmetics are offered; vehicle repair schools in which hands-on training for passenger car, diesel truck and motorcycle repair programs are offered.

From the literature about the state of TVET in Rwanda, it can be seen that there is still a lot of gap in effective implementation of TVET in the country. However, these studies were carried out long time ago, thus the current situation of TVET will be established in this study.

2.4.4 Economic Empowerment

In establishing the level of economic empowerment in Rwanda, it has been noted that the country has made remarkable economic progress since the 1994 genocide. According to the report by WFP (2009), the per capita incomes of the country rose from US\$140 in 1994 to US\$370 in 2008. Rwanda's macroeconomic performance has been good in recent years, despite major constraints. Between 2001 -2008, growth averaged 6.8 % annually. However, it has been reported by WFP (2009) that food insecurity remains a significant threat in Rwanda, which is a low-income, food-deficit and least-developed country, ranked 167 out of 182 countries in the 2009 UNDP Human Development Report. The Government of Rwanda, through the Economic Development and Poverty Reduction Strategy (EDPRS) for 2008-2012, gives high priority to the

creation of improved safety nets for the poorest and the most vulnerable people (WFP, Report 2009).

Further still, it has also been noted that there is some greater improvement in agriculture that forms the backbone of Rwanda's economy. This has been so because the agriculture sector as per now is said to have accounted for about 39 % of GDP, 80 % of employment, and 63 % of foreign exchange earnings (Banque Nationale du Rwanda (BNR) / Ministry of Finance and Economic Planning-MINECOFIN, 2006). Out of this, rice production is said to have accounted for 3% of total agricultural value output (MINAGRI, Crop Assessment 2008). Although the share of rice in total agricultural value output and GDP is still relatively small, given the past trend, this is likely to change over time. Because the agricultural sector is so large, its performance impacts powerfully on the performance of the overall economy. The contribution of agriculture to economic growth is amplified by the strong multiplier effects that extend from primary commodity production into post-harvest value-adding activities. Agriculture also contributes significantly to national food self-sufficiency, as more than 90 % of all food consumed in the country is domestically produced.

As Rwanda is still considered as one of the poorest African countries, the Government of Rwanda in 2004 formulated a National Agricultural Policy (NAP). The goals of formulating this project was to contribute to national economic growth, improve food security and the nutritional status of the population, and increase rural incomes. The NAP was operationalized in 2005 with the launching of the Strategic Plan for Agricultural Transformation (PSTA). The PSTA encompasses four broad program areas: (i) Intensification and Development of Sustainable Production Systems, (ii) Support to the Professionalization of Producers, (iii) Promotion of Specialty Crops and Development of Agribusiness, and (iv) Institutional Development.

Analytically and empirically study carried out on the per capita income, savings and investment in Rwanda reveals that the level of Per capita income, Savings and Investment in the case of Rwanda is still low (FIAS/IFC GEM GGA, 2005). Almost all research done on various development paradigms at different times are all conclusive

on lack of significant improvement in the savings, investments, and growth. In Rwanda, available statistics indicate that the country has been dis-saving or not saving enough for long. Saving rates stood between -1% and 3% of the GDP, for the last five years. This is against Africa's average savings rate of approximately 18%. Thus, the government has put in place a number of strategic initiatives to boost national savings including; grass-root savings schemes (Umurenge SACCOs), development of Kigali Securities Market, pension schemes, Micro Finance Institutions (MFIs), Collective Investment Scheme and the awaited Provident Fund Scheme, all of which will likely improve savings mobilization. The notion that, the poor cannot save is invalid, for even smallest of savings of numerous savers adds to a huge pool of savings if pooled together. An example of the successful military savings scheme and Umwalimu SACCO (for Teachers) annul the notion that, small earnings cannot be saved. What is needed is the political will to ensure that these schemes are up and running.

Studies by MINALOC (2007) also indicate that the majority of the people living in village are still poor. In this regard, it has been recommended that any strategy to reduce poverty has to address the issues in rural areas. Financial services are a vital part of poverty reduction, enabling people to manage their consumption, life cycle events, savings and investment needs. The informal sector meets the majority of these needs in rural areas as formal providers find the higher costs of rural operations prohibitive. In this regard, Rwanda has recently experienced a flowering of micro finance institutions (MFIs). There are over 100 MFIs of various sizes operating in Rwanda. Union des Banques Populaires (UBPR) is the oldest with a network of 149 branches spread all over the country. The Central Bank of Rwanda (BNR) estimated that Micro Finance industry has an outreach of over 700,000 clients. Microfinance providers in Rwanda offer both savings and loan products either to individuals or groups. Most of the loan sizes are very small usually under 100, 000 RWF (US\$178). This still leaves most of the population poor.

According to Schumpeter & Backhaus (2003) an income-generating activity may produce more cash, but associated costs may also be high. In giving some reasons to

support his point, the Phelps (1995) noted that because micro entrepreneurs often mix business and family finances, certain costs may remain hidden; leaving an impression that income has increased more than it actually has. Thus, to consider that an individual has been economically empowered means that business cash remains for business development and growth. In this regard, when clients work hard to increase their workload significantly, there should also be marginal increases in income.

Ahorro (2008) while commenting on economic empowerment noted that the aim of commercial banks generally is to increase the income of the target group or some similar income-denominated objective. Implicit in this is that increased income results in a reduction in poverty. On a simple, money-determined level, if increased income is simply spent in the cinema or at the tea-stall or on alcohol, there is no increase in wealth and no reduction in poverty. In addition, in the words of Schuler, (1994), Poverty is not only about having inadequate income or income below the poverty line, but is also about the inability to sustain a specified level of well-being. An income is usually associated with seeing poverty-reduction as a process of moving households from a stable below poverty line situation to a stable above poverty line situation. This leads to strategies aimed at raising persistently low incomes (Abebe, 2000). In the context commercial banks offer the financial services that emphasize on the provision of credit for income-generation through self-employment. A broader, less linear, view of poverty sees income levels as fluctuating below and above the poverty line.

There is a clear statement of the case for commercial banks programmed to provide a variety of financial services tailored to the specific needs of the clients (be they extreme, moderate or not-so-poor) (Barry, et al. 2006). Therefore, Lewis (2003) stated that the financial services should allow clients to manage their household income and expenditures more effectively. To do this, the financial services should provide options both to minimize shocks (arising from illness or death in the household, crop failure, theft of key assets, dramatic price fluctuations, the payment of dowry etc.), and to invest in income generation activities with risk levels appropriate to the household's basic needs security. In short they should offer a range of both savings and credit

facilities. Credit schemes give borrowers an important one step up in income, however, survival skills rarely provide the technological or entrepreneurial basis for poor borrowers to move on to the escalator of sustained growth of income (Brooks, 2008).

The extent of income inequality has been widely documented in the literature. According to the 2005 Human Development Report, 2.5 billion people, or 40% of the world's population, live on less than \$2 per day, and their combined income equals only 5% of global income; looking at the other extreme, the income of the richest 10% of the global population accounts for 54% of global income. Furthermore, the 500 richest people in the world have an aggregate income greater than that of the poorest 416 million individuals Human Development Report (2005). Based on these statistics, there is no doubt that worldwide income inequality is quite severe, but many would argue that such inequities are inherent in a capitalist system and that despite the inequality, there is no need to pursue policies to correct the imbalance.

Conversely, Churchill (2006) discovered that income inequality within countries remains relatively stable, though income inequality across countries varies widely. Specifically, as the income distribution within a village becomes increasingly unequal, those at the top of the distribution have greater access to resources than those at the bottom. This can lead to distributional struggles, and even violence, as those at the bottom of the distribution oppose non-inclusive growth.

In various studies being carried in the globe, commercial bank services are said to have contributed directly to reducing extreme poverty by improving the income of poor people hence improving their welfare. In a study conducted in Lombok, Indonesia, Otero and Rhyne (2009) for example revealed that those clients of Bank Rakyat Indonesia's (BRI) incomes increased by 112%. Moreover, this increase was enough to move 90% of these families above the poverty line. In the study conducted with 121 respondents, 12 out of 121 respondents are said to have been the only ones reporting that their income did not increase, because their husbands used the money for other purposes.

Otero and Rhyne (2009) with the use of Poverty Assessment Tool (PAT) found out that, in India, three-fourths of the commercial bank clients saw significant economic improvements and half the clients got out of poverty. This was similar to the results declared by the World Bank in 1998, where it found out that the poorest 48% of Bangladeshi families with access to micro credit from Grameen Bank rose above the poverty line.

Commercial banks model may be incorporated as an innovation in financial technology that guarantee individuals' access and repayment of additional capital input. While the total capital limit will depend on the individuals' assets, this additional capital is independent of wealth and talent (Pitt and Khandker, 2004).

Through commercial bank services, Rwanda as a country is said to have recognized the need to devise ways and means to promote development of industrial scale agro-processing industries by developing an efficient private sector that is driven by the spirits of competitiveness and entrepreneurship. Therefore the initiatives on increasing production and quality of rice grains are in consistence with the overarching goals set by the commercial banks. Setting the framework for the medium term (2008-2012), the commercial banks seek to raise agricultural productivity and improve security. Commercial banks thus plan to expand marshlands for rice crop by increasing the area of reclaimed marshland to 16,442 hectares (Economic Policy Research Centre, 2002).

As it can be seen in the literature on the socio-economic empowerment of people throughout the world, issues such as income generating activities, diversification of income sources, access to education and health services as well as improved housing facilities seem to be measures of social-economic empowerment of people. These will also be determined in the case of communities in Muhanga district in Rwanda.

2.4.5 Technical and Vocational Education and Training schools and Economic Empowerment

In studies carried out by Gray and Herr (2008) on the role of TVETs on the economic empowerment of former attendants in south province in Thailand, the authors noted that at least 76 percent of the former students had established their own businesses and could afford basic needs unlike their counter parts. From this it can be seen TVETs programs have indeed been instrumental in empowering graduates economically.

Similar findings were also found in the studies carried out by Kincheloe (2009) in the TVETs in central province of Rwanda. According to this research finding by Kincheloe (2009), the level of unemployment among graduates from TVETs in the region was twice lower than those who did not attend TVETs. These finding shows that TVETs have been able to reduce the rate of unemployment in the country thus the graduates are able to initiate their own projects from which they earn.

Mote and Fairbank (2008) also carried out studies on the role of TVETs and economic empowerment of former students of those schools in China. Their findings showed that over 60 percent of the graduates survived cases of retrenchment as their tasks and responsibilities were based on technical knowhow. This finding tells us that the income level of the graduates of TVETs is less affected in times of economic times since many of them are likely to retain their jobs as their jobs are based on hands-on skills.

Studies by Wolf (2012) in Rwanda also showed that TVETs are positively correlated to economic empowerment of attendants. In this study, the author indicated that 68 percent of the graduates of TVETs live in their own houses; 70 percent of them have established their own business besides other jobs they were doing; and over 80 percent of them could access better health facilities. The impression from this study is indeed that TVETs are instrumental in empowering the attendants economically.

Scott and Sarkees (2006) carried out studies on the role of TVETs and economic development in Malaysia. They found out that the country's economic position would improve by at least 20% if the government supported and invested in heavily in TVETs. They argued in their studies that TVETs would greatly enable the development of the competency-based citizens; training of the development staff; improve on the country's consultancy sectors and promote existing occupations in the hospitality and tourism sector.

MKNelly and Dunford (2008) in their studies entitled *"Impact Evaluation of Freedom from Hunger Credit with Education Program in Thailand"* showed that TVETs contributed about 30% of the economic empowerment of the former students. The study therefore indicated the 72 percent of the former TVETs attendants could effectively meet their basic needs in terms of food, education and health facility. The study also cited that over 60 % of the graduates could easily access loans from financial institutions basing on their competency and skills.

Gaps in the Literature Review

From the above literature, it can be seen that most of the studies were foreign based. Even the little that was carried out in Rwanda did not focus on Muhanga district, in this regard; there was still need to examine the relevance of TVETs in Muhanga.

Furthermore, many of the studies and authors such as MKNelly and Dunford (2008) and Mote and Fairbank (2008) employed different categories of respondents including the relative of the graduates to determine their research findings. This could have affected their findings. For the case of this study, it only considered the graduates so that they could tell their experiences as regards to the relevance of TVETs and the economic benefits they have achieved from their training.

Further still, none of the authors whose study is discussed in the literature employed descriptive and correlation design to establish the relationship between TVETs and economic empowerment of graduates. Thus, there was need to employ a different research design so that the findings of these authors could be compared with the one in case of Muhanga district in Rwanda.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter described the methodology that was used during data collection and analysis. It starts research design, then research population, sample size sampling procedure, research instruments, validity and reliability of research instruments, data gathering procedures, data analysis, ethical considerations and limitations of the study.

3.2 Research Design

The study employed a descriptive correlation design. It was based on the variables of study which were quantified into numerical data to explain, predict and control phenomena of study. Through this design, the study related independent variable (Technical and Vocational education and Training Schools) and dependent variable (economic empowerment of graduates) in selected communities in Muhanga district in Rwanda.

3.3 Research Population

The research population in this study was 200 people and this comprised of the graduates from TVETs in Muhanga District (Muhanga District TVET Directory, 2010/2012). The graduates were targeted for this study because there was need to specifically determine the economic empowerment of the graduates from TVETs. Through targeting graduates from TVETs, relevant information about the study variables was obtained from TVETs graduates who work in Muhanga district.

3.4 Sample Size

Since the number of the target population was not so big, universal sampling was established. In this regard, all the targeted population was given a chance to participate in this study as respondents. Only those who failed to consent were left out and the willingness of the target population to participate in this study was used as exclusive

criteria. Thus, after considering the consent of respondents, the sample size was 183 and these were all graduates from TVETs who work in the district.

3.5 Sampling Procedures

Since the researcher could easily access the graduates, snow balling sampling technique was employed so that graduates could be accessed. Through this technique, the researcher would access one of the graduates and this would help in locating other graduates within the area. Through this process, the researcher was able to meet 183 respondents (graduates) who were willing to participate as respondents.

3.6 Research Instrument

In this research, the researcher used self-administered questionnaires for all the respondents. The first part of the questionnaire involved Face sheet and the other sections were mainly based on study variables. The research variables included: Technical and Vocational Education and Training schools and economic empowerment of graduates from TVETs in selected communities in Muhanga district in Rwanda. The reason for choosing this method was that it is quite cheap unlike others and respondents who felt shy would express themselves fully because there was no one to disapprove any answer given by the respondents as other methods would have done. Only closed ended questionnaires were used. The researcher preferred closed ended questionnaires because they were easy to answer and score.

3.7 Validity and Reliability of Research Instruments

3.7.1 Validity

The validity of instruments was measured using Content Validity of instruments. In this regard, a rater was used to set the content in the questionnaire. The expert assisted in assessing the phrasing of the questions to avoid ambiguity. The content validity addressed the degree to which the test items represented the domain of the traits or property being measured (Amin 2005). After that, the researcher viewed each

statement with the help of experts and assessed the extent to which the questions were related to the topic of the study. The researcher compiled the responses from raters and computed the Content Validity Index (CVI). The validity was determined at alpha coefficient value of 0.07 and this is established below:

$$CVI = \frac{\text{Items rated valid}}{\text{Total Number of items in Questionnaire}} \times 100$$

$$CVI = \frac{26}{28} \times 100 = 0.93 \times 100, \text{ that is } CVI = 93\%$$

From the above computation, it can be seen that the instrument used in this study was valid as its content validity index was higher than the estimates alpha coefficient value.

3.7.2 Reliability

To ensure that the instrument is consistent, appropriate and reliable in tracking the rightful data for this study, the instrument was tested and retested with 5 graduates from CFJ Remera in Kamonyi district. The answers given by these members were then verified to say if they were giving the required information or not and further adjustments were made to determine reliability of the instruments. The findings derived from the pre-testing were entered in the SPSS computer package to test for reliability. Cronbach's alpha coefficient of 0.7 was used to assess the internal consistency and the score turned out to be 0.799 and the instrument was considered reliable for the study. This was above 0.7 the requisite measure for reliability and it is supported by Amin (2005).

Table 1: Table Showing Reliability Statistics

Cronbach's Alpha	No of Items
0.799	28

3.8 Data Gathering Procedures

3.8.1 Before Data Gathering

A letter was obtained from the College of Higher Degrees and Research (CHDR) of Kampala International University as an introductory letter to the respondents. The researcher sought permission from the head of various institutions and communities selected for this study; the principal permission was obtained from the Principal of IPRC South who is in charge of all TVETs in Southern Province of Rwanda. Before sampling, the researcher selected research assistants and train, orient and brief them so that they could attain effectiveness in their duties. After this, sampling was done through snowballing sampling technique while ensuring that respondents consent was first considered.

3.8.2 During Data Collection

Self-administered questionnaires (SAQs) were administered to respondents during data collection time. Data collection took two weeks since the number of respondents was quite big. Data collection was also done with the help of researcher assistants after being trained, briefed and oriented on how to effectively collect data from respondents. The researcher kept reminding respondents to ensure that they could fill in the questionnaires within the specified period of time.

3.8.3 After Data Gathering

And after filling in the questionnaires, the researcher with the help of research assistants collected the instruments to prepare data on the findings. Issues considered here included respondents' profile, extent of TVET and economic empowerment of graduates within the establishment of TVET in Muhanga district.

3.9 Data Analysis

The researcher in data analysis used thematic analysis for qualitative data while statistical techniques were helpful for quantitative data analysis. This demanded that all

the important information collected was first coded after which the frequency of every responses was categorized using tally marks which was then summed up through tabulation of frequencies statistical techniques such as mean, correlation and regression models. And then, the research findings were ready for interpretation. The data on both the independent variable and the dependent variable were interpreted as shown below.

Mean Range	Response Mode	Interpretation
3.26-4.00	Strongly Agree	Very High
2.51-3.25	Agree	High
1.76-2.50	Disagree	Low
1.00-1.75	Strongly disagree	very Low

3.10 Ethical Consideration

The researcher collected an introduction letter from the College of Higher Degrees and Research of Kampala International University. This letter was presented to the Principal of IPRC South(Integrated Polytechnic Regional Center South, the IPRC South is in charge of all TVETs in Southern province of Rwanda, Muhanga district is one district in Southern province) so that authorization could be granted to carry out study in Muhanga district, especially by gaining information (from schools/centers) how many graduates they have had so far and if possible whether they have information of where graduates are working in the district. This letter helped the researcher to be able to locate some graduates in Muhanga district who fall into the population of this study. Also, this letter officially introduced the researcher and eased the research exercise having been granted the mandate.

To safe guard against unprofessional conduct while carrying out the research like failure to disclose facts which would cause false research findings, the researchers sought permission of the graduates who participate in the research for their consent in the intended study. The researcher would not lie to respondents and would not record findings on hidden mechanical devices.

The researcher sought approval of the University ethics committee to make sure the research did not violate any of the ethical considerations through the supervisor.

3.11 Limitations of the Study

The anticipated threats to validity in this study are as follows:

Intervening or confounding variables which were beyond the researchers control such as honesty of the respondents and personal biases. To minimize such conditions, the researcher requested the respondents to be as honest as possible and to be impartial/ unbiased when answering the questionnaires.

The research environments was classified as uncontrolled settings where extraneous variables might have influenced on the data gathered such as comments from other respondents, anxiety, stress, motivation on the part of the respondents while on the process of answering the questionnaires. Research assistants were trained and oriented to handle such issues.

Testing: The use of research assistants would have rendered inconsistencies such as differences in conditions and time when the data was obtained from respondents. This was also minimized by orienting and briefing the research assistants on the data gathering procedures.

Instrumentation: The research tools used were non-standardized hence a validity and reliability test were done to arrive at a reasonable measuring tool.

Attrition: A representative sample did not reach as computed due to circumstances within the respondents and beyond the control of the researcher. Exceeding beyond the minimum sample size was done by the researcher to avoid the situation of attrition.

CHAPTER FOUR:PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

4.1 Introduction

This chapter presents data collected from field through questionnaires. The data is analyzed and interpreted for better understanding. It begins with the profile of respondents; then data on relevance of technical and vocational and training schools in Muhanga district; this is followed by the level of economic empowerment of graduates in Muhanga; and lastly, relationship between TVETs and economic empowerment of graduates is established.

4.2 Respondents' Profile

The profile of respondents was the first aspect determined in this study. It involved respondents' gender, age group, education level and their marital status. The details regarding these are demonstrated in Table 2.

Table 2: Respondents' Profile

Gender	Frequency	Percent
Male	141	77.0
Female	42	23.0
Total	183	100.0
Age		
20-39	75	41.0
40-59	79	43.2
60 and above	29	15.8
Total	183	100.0
Education		
TVET Certificate	88	48.1
TVET Diploma	58	31.7
Bachelor	24	13.1
Master and above	13	7.1
Total	183	100.0
Marital Status		
Single	30	16.4
Married	140	76.5
Divorced	5	2.7
Widowed	8	4.4
Total	183	100.0

Source: Primary data

Table 2 demonstrates that the majority of graduates from TVET are men (77 %); thus, few women have graduated from the TVETs in Muhanga district. The number of female respondents could be few because of the cultural influences that dictate on the

roles and responsibilities between the two genders. Much as few women were respondents in this study, the research findings were not affected since the issue under investigation was not gender biased.

Table 2 also shows that majority of the respondents in this study were those who were already in their adulthood age (40-59) and they formed 43.2 %; the youthful graduates from the age group of 20-39 followed the graduates who are already in their adulthood age; and the minority in this study were the elderly from the age range of 60years and above as they formed 15.8 % of the respondents. Sampling graduates of different age bracket helped in tracking issues regarding economic empowerment of the graduates which was one of the main and important variables in this study.

Majority of the respondents were TVET certificate holders 48.1 %; next were the TVET diploma holders (31.7 %); these were followed by the bachelor degree holders (13.1 %); and the least participants were those who had masters and above (7.1 %). The TVET certificate holders were the majority because the programs were relatively short and cheaper as compared to other programs such as diploma, degree and master programs. Difference in respondents educational difference also helped in finding out differences regarding their economic empowered which may be determined by the differences of their qualifications.

As far as the marital status of the graduates is concerned, this study found out that majority of the graduates is married (76.5 %); graduates who were still single formed 16.4 % of the total percentage of respondents; they were followed by those who were widowed (4.4 %); and the least participants in this study were the divorced (2.7 %). Having majority of the graduates married could mean that their economic status was generally high as they could take care and maintain their families.

4.3 Relevance of Technical and Vocational Education and Training Schools in Muhanga District

The relevance of TVETs in Muhanga district was the independent variables in this study. So as to establish the relevance of TVETs in Muhanga district, some fifteen statements

about the operation of TVETs were formulated and respondents were asked to answer them on the basis of: 1) strongly disagree; 2) disagree; 3) agree; and 4) strongly agree. The minimum mean value in the interpretation was 1 and the maximum mean value in the interpretation was 4. The finding regarding the relevance of TVETs in Muhanga district is illustrated in Table 3.

Table 3: Relevance of Technical and Vocational Education and Training Schools in Muhanga District

	Mean	Rank	Interpretation
In this district, technical and vocational education and training:			
Instruction (teaching), English, French and Kinyarwanda languages are used	3.05	1	High
All the trainers are well equipped	3.02	2	High
Are provided to whoever wants to study	2.90	3	High
These schools have enough training equipments	2.89	4	High
Many people appreciate these schools	2.80	5	High
Even rich parents take their children to these schools	2.76	6	High
The duration of the course is normally short	2.69	7	High
In-service programs are arranged	2.48	8	Low
Many people have joined them	2.27	9	Low
The trainers are enough in all the schools	2.16	10	Low
People are so much sensitized about the importance of technical and vocational and training	2.14	11	Low
Are so much advertised by the government	2.12	12	Low
These schools are very many in the district	1.97	13	Low
Adults who have never had chance to study in schools (the illiterate) are also given chance to participate	1.78	14	Low
Are provided free of charge	1.50	15	Low
Overall Average Mean	2.44		Low

Source: Primary Data

As indicated in Table 3, some items were highly rated by respondents while some others were lowly rated. The items that were highly rated under the extent of TVETs in Muhanga district are listed below following their order of their rating scale (from the highest to the lowest). The most highly rated item was on instruction (teaching) being carried out in English, French and Kinyarwanda languages (rated at the mean of 3.05); this was followed by the all the trainers being well equipped (rated at the mean of 3.02); then followed by the TVETs being provided to whoever wants to study (rated at the mean of 2.90); after which the schools having enough training equipment (rated at the mean of 2.89); this was then followed by the many people appreciating these schools (rated at the mean of 2.80); then, even the rich parents being able to take their children to TVET schools (rated at the mean of 2.76); and finally the highly rated item under the extent of TVETs is the duration of the course being reasonably short (rated at the mean of 2.69).

However, some other items were lowly rated and these are indicated below on the basis of the rating (from the lowest to the highest). The most lowly rated item was on TVETs being provided free of charge (rated at the mean of 1.50); this was followed by the adults who have never had chance to study in schools (the illiterate) being also given chance to participate (rated at the mean of 1.78); then TVET schools being very many in the district (rated at the mean of 1.97); then TVETs being so much advertised by the government (rated at the mean of 2.12); this was followed by the people being so much sensitized about the importance of technical and vocational and training (rated at the mean of 2.14); next was on the trainers being enough in all the schools (rated at the mean of 2.16); then, many people having joined TVETs (rated at the mean of 2.27); and finally, in-service programs being arranged in TCETs (rated at the mean of 2.48).

Based on the overall average mean, it can be seen that the extent of Technical and Vocational Education and Training Schools in Muhanga district is still low. This

finding is confirmed by the overall average mean of 2.44 which is low in the rating scale.

The research findings on the extent of TVETs in Muhanga district matches with that of Silberman (2006) who noted that the governments in Sub-Saharan Africa have not done much to promote TVETs in their countries although they have enormous economic benefits. Shield (2001) had also earlier on stated that the perception of many Ghanaian about TVETs is still negative. Kincheloe (2009) also indicated that the general enrolment in TVETs in Rwanda is still low as compared to the enrollment in other education institutions.

This finding on the TVETs in Muhanga could be in agreement with those of other researchers such as Silberman (2006), Shield (2001) and Kincheloe (2009) because different African governments have not done enough to inspire their people to develop positive attitudes towards TVETs. This makes the enrollment and development of TVETs a bit low.

4.4 Level of Economic Empowerment of Graduates of TVETs in Muhanga

Level of economic empowerment of the graduates of TVETS was determined as the dependent variables of this study. Some indicators of some economic empowerment were formulated and respondents were also asked to rate them basing on their personal positions. As it was in the case of the first research objective, respondents were asked to rate the items on economic empowerment by indicating 1) to strongly disagree; by indicating 2) to disagree with the statements; by indicating 3) to mean that they agree with the statements and by indicating 4) meaning that the strongly agree with the statements. In similar way, the minimum mean range in the interpretation was 1 and the maximum mean range in the interpretation was 4. Table 3 in the next page presents the findings regarding the economic empowerment of graduates of TVETs.

Table 4: Level Economic Empowerment of Graduates of TVETs in Muhanga District

	Mean	Ranks	Interpretation
As a graduate from a technical and vocational education and training school in Rwanda;			
Many people consult me for my services and pay me for that	3.02	1	High
At home, we take at least three meals a day	2.99	2	High
Since I graduated from a technical school, I have been able to buy better clothes for my family members	2.96	3	High
I am now self-employed	2.84	4	High
I got a job immediately after finishing the studies	2.74	5	High
my income level has increased or improved	2.73	6	High
Any time I get people who bring me work to do it for them, they pay me well	2.72	7	High
I take my children (relatives) to good quality schools	2.67	8	High
I can afford good quality health facilities	2.64	9	High
I can easily get a loan from a bank since I have property to mortgagee	2.61	10	High
I am staying in a personal home	2.57	11	High
My residence is presentable (beautiful enough)	2.20	12	Low
I pay my children (relatives) school fees in lump sum and in time	1.98	13	Low
Overall Average Mean	2.67		High

Source: Primary Data

Table 4 illustrates that most of the items under the level of economic empowerment of graduates of TVETs in Muhanga district have been highly rated. Basing on the order of rating beginning from the highest, graduates indicated that many people consult them for their services and pay them for that (rated at the mean of 3.02); they also indicated that at home, they take at least three meals a day (rated at the mean of 2.99); they indicated that since they graduated from a technical school, they have been able to buy better clothes for their family members (rated at the mean of 2.96); they also noted that they are now self-employed (rated at the mean of 2.84); they also indicated that they got jobs immediately after finishing the studies (rated at the mean of 2.74); they further indicated that their income level has increased or improved (rated at the mean of 2.73); they further indicated any time they get people who bring them work to do it for them, they pay them well (rated at the mean of 2.72); they again indicated that they take their children (relatives) to good quality schools (rated at the mean of 2.67); they also contended that they can afford good quality health facilities (rated at the mean of 2.64); graduates can easily get a loan from a bank since they have property to mortgagee (rated at the mean of 2.61); and finally, they agreed that they are staying in their personal homes (rated at the mean of 2.57).

Nevertheless, respondents lowly rated some other two items on the economic empowerment of graduates. The items that were lowly rated by the respondents included the following. They lowly rated that their residence is presentable (beautiful enough) (rated at the mean of 2.20); and that they pay their children (relatives) school fees in lump sum and in time (rated at the mean of 1.98).

To determine the general position on the economic empowerment of graduates in Muhanga district, all the mean values in Table 3 were added and the sum was divided so as to determine the overall average mean. Since the average mean value determined was 2.67 and this is high in the rating scale, it can be said that the level of economic empowerment of the graduates of TVETs in Muhanga district is generally high.

4.5 Relationship between Relevance of TVETs and the level of Economic Empowerment of the Graduates in Muhanga District

In order to answer the last research question and to test the research hypothesis, relationship between relevance of TVETs and the level of economic empowerment of graduates was determined. This was done through correlation of the two study variables and establishing regression analysis with the help of model summary, ANOVA and regression coefficient. Table 5 below shows the correlation analysis between relevance of TVETs and the level of economic empowerment of graduates in Muhanga district.

Table 5: Correlation between relevance of TVETs and level of Economic Empowerment of Graduates in Muhanga District

Correlations			
		TVET	Economic Empowerment
TVET	Pearson Correlation	1	.974**
	Sig. (2-tailed)		.000
	N	183	183
Economic Empowerment	Pearson Correlation	.974**	1
	Sig. (2-tailed)	.000	
	N	183	183
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary data

Table 5 clearly shows that there is a positive significant relationship between relevance of TVETs and the level of economic empowerment of graduates in Muhanga district. This relationship is established at the r. value of 0.974 and the sig. value of

0.000. one of the interpretations that can be drawn from this finding is that TVETs account for about 97 percent of the economic empowerment of the graduates of TVETs in Muhanga district and the other 3 remaining percent is determined by other factors other than TVETs.

To test the research hypothesis, multiple regression analysis: through the model summary; ANOVA and the regression coefficient were employed.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.974 ^a	.949	.949	.15576
a. Predictors: (Constant), TVET				

Source: Primary Data

The model summary shows the *R. Square* and this tells us that 94.9 percent of the observed variability in the economic empowerment of the graduates of the TVETs in Muhanga district is explained by the independent variable which is extent of TVETs. *R.* value of 0.974 is the correlation coefficient between the observed value of independent variable and the predicted value based on the regression model. A value close to zero tells that the independent variable is not linearly related to the dependent variable. Since the observed *R. Value* is quiet large at 0.949, this indicates that the linear regression model fits well. The adjusted *R. Square* (0.949) is the proportion of the variability in the dependent variable explained by the linear regression.

Table 7: The ANOVA

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	81.388	1	81.388	3.355E3	.000 ^a
	Residual	4.391	181	.024		
	Total	85.779	182			
a. Predictors: (Constant), TVET						
b. Dependent Variable: Economic Empowerment						

Source: Primary Data

The analysis of the variance (ANOVA) was used to test the equivalent null hypothesis that stated that there is no significant relationship between the relevance of TVETs and the level of economic empowerment of graduates of TVETs in Muhanga district. The hypothesis is tested at the $F=3.355E3$, $p<0.000$ and from this it can be said that the null hypothesis is rejected.

Table 8: The Regression Coefficient between TVETs and Economic Empowerment of Graduates in Muhanga District

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.346	.042		8.308	.000
	TVET	.953	.016	.974	57.919	.000
a. Dependent Variable: Economic Empowerment						

Source: Primary Data

The regression coefficient tests the importance of the independent variable to the dependent variable.

The results show that TVETs has a significant relationship with the economic empowerment of the graduates. This is so since the beta of independent variable is more than twice larger than the corresponding standard error. Thus, by having beta value of 0.974, $p < 0.000$ and t-statistics of 57.919 implies that when TVETs improve and so does the economic empowerment of the graduates. This therefore suggests that the relationship between TVETs and economic empowerment of graduates is generally strong and this also leads to the rejection of the null hypothesis.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The role of this chapter is to discuss the key research findings; draws conclusions; and forward recommendations so as to improve on the TVETS as a way of boosting the economic empowerment of graduates in Rwanda.

5.2 Discussion

5.2.1 Relevance of TVETS in Muhanga District

This study found out that the relevance of Technical and Vocational Education and Training schools in Muhanga district is still low. This finding is confirmed by the overall average mean of 2.44 which is low in the rating scale.

The research findings on the relevance of TVETs in Muhanga district matches with that of Silberman (2006) who noted that the governments in Sub-Saharan Africa have not done much to promote TVETs in their countries although they have enormous economic benefits. Shield (2001) had also earlier on stated that the perception of many Ghanaian about TVETs is still negative. Kincheloe (2009) also indicated that the general enrolment in TVETs in Rwanda is still low as compared to the enrollment in other education institutions.

This finding on the TVETs in Muhanga is in agreement with those of other researchers such as Silberman (2006), Shield (2001) and Kincheloe (2009) because different African governments have not done enough to inspire their people to develop positive attitudes towards TVETs. This makes the enrollment and development of TVETs a bit low.

5.2.2 Level of Economic Empowerment of Graduates in Muhanga District

The level of economic empowerment of graduates in Muhanga district is generally high and this is affirmed by the overall average mean value of 2.67 which is high in the rating scale.

The study on the economic empowerment of the graduates of TVETs in Muhanga district also relates with those of Gray and Herr (2008) whose studies with former students of TVETs in Asia showed that about 80 percent of the people who attended TVETs had better economic status. Walter (2003) also conducted similar study on the economic status of people who attended TVETs in China and discovered at least 78 of the former attendants were self-employed and were able to take good care of their families. Asche (2001) also noted that TVETs create economic development based programs from which those attending in them can benefit.

The agreement in the research findings of the fore-mentioned authors and that in Muhanga district could mean that TVETs universally play a greater role in hands-on skill based development that enables students to either be self-employed or get jobs elsewhere immediately.

5.2.3 Relationship between TVETs and Economic Empowerment of Graduates

The results also show that TVETs has a significant relationship with the economic empowerment of the graduates. This relationship is supported by the *R*. value of 0.974; $F=3.355E3$, beta value of 0.974, and $p<0.000$. The finding on the relationship between TVETs and economic empowerment of graduates led to the rejection of the null hypothesis that stated that there is not significant relationship between extent of TVETs and economic empowerment of graduates in Muhanga district.

Comparing the research finding on the relationship between TVETs and economic empowerment of graduates in Muhanga district with those of other scholars, it can be said that this study findings is in agreement with those of Benson (2007) who noted that TVET is the master key to that can alleviate poverty, promote peace and conserve the environment, improve the quality of life for all and help to achieve sustainable development. The study is also in agreement with that of Reeves (2006) who acknowledged that TVET enables learners to meet the needs of for qualified labor and this leads to poverty reduction as it reduces unemployment rate in different countries. Further still, Boesel et al (2004) also indicated in his research that skills

obtained through TVET are vital for poverty reduction, economic recovery and sustainable development.

The study finding on the relationship between TVETs and economic empowerment of graduates in Muhanga district is in agreement with those of Benson (2007); Reeves (2006) and Boesel et al (2004) because students get hands-on skills which is geared towards one career type hence making them marketable among local graduates.

5.3 Conclusions

The following conclusions have been established.

It can be concluded that the relevance of TVETS in Muhanga district is still generally low. This is TVETs are not still provided free of charge; adults who have never had chance to study in schools (the illiterate) cannot be given chance to attend TVETs; then TVET schools are still very few in the district; TVETs are so much advertised by the government; people are not so much sensitized about the importance of technical and vocational and training; the trainers are not still enough in all the schools; many people have not joined TVETs; and in-service programs are not yet arranged in TVETs.

It can also be concluded that the level of economic empowerment of graduates of TVETs in Muhanga district has been generally high. This is because many people consult graduates for their services and pay them for that; graduates take at least three meals a day; they have been able to buy better clothes for their family members; graduates are now self-employed; graduates get jobs immediately after finishing their studies; their income level has increased or improved; graduates take their children (relatives) to good quality schools; they can afford good quality health facilities; graduates can easily get a loan from a bank since they have property to mortgage; and they many of them are staying in their personal homes.

Lastly, it can be concluded that there exists significant relationship between TVETs and economic empowerment of graduates in Muhanga district. In this regard, if

the government of Rwanda can support and boost the enrollment in TVETs, the economic status many of the attendants will significantly improve.

5.4 Recommendations

So as to ensure economic empowerment of the people of Rwanda through TVETs, the following recommendations have been established.

In order to promote the economic empowerment of the people in Muhanga district, the government should lower the cost of attending TVETs so that a good number of people can enrol in them. This will also boost the economy of the country since unemployment rates in the country will reduce.

The government of Rwanda should consider giving an opportunity to the illiterate to attend TVETs since most of the training in these schools is based on the skill rather than theory which illiterate can learn. This can be done by developing a syllabus in Kinyarwanda which is understood by all Rwandese. Through this approach, the rate of unemployment among the rural poor and uneducated people can be greatly reduced since many of them can begin to employ themselves.

The number of TVETs staff members should also be increased and their salaries should be increased by the government of Rwanda as a strategy of popularizing the sector. This approach can encourage people to develop a positive attitude towards TVETs and many of them would appreciate the benefits from it.

The government should increase its support to TVETs in terms of resource allocation, increasing staff salary and sensitizing community members such that people can develop positive attitudes towards TVETs and enrol in them in big numbers.

The private sector should also be encourage to heavily invest in the TVETs as it is seen to be a driving force to economic empowerment. The government can boost this by reducing taxes in the sector and other incentivises to entice investors. This approach will enable increase in the number of TVETs in the country with its related benefits to the socio-economic development to the country.

The Local Government/Muhanga district officials should also support development of TVETs by sensitizing people about the importance of such schools and increasing the number of TVETs in the district. For example, many TVETs could be built/ established in each sector. This can significantly popularize TVETs and enhance economic empowerment of local people.

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APPENDICES IA, IB & IC:

APPENDIX I A: TRANSMITTAL LETTER FROM CHDR

**OFFICE OF THE DEPUTY VICE CHANCELLOR (DVC)
COLLEGE OF HIGHER DEGREES AND RESEARCH (CHDR)**



Ggaba Road - Kansanga,
P.O. Box 20000, Kampala, Uganda
Tel: +256 - 414 - 266813 , +256 - 41 - 267634,
Fax: +256 - 414 - 501 974
E-mail: admin@kiu.ac.ug
Website: www.kiu.ac.ug

**OFFICE OF THE HEAD OF DEPARTMENT, EDUCATION, OPEN AND
DISTANCE LEARNING
COLLEGE OF HIGHER DEGREES AND RESEARCH (CHDR)**

Date: 25th July, 2013

**RE: REQUEST OF HABIMANA SYLVAIN MED/36057/113/DF
TO CONDUCT RESEARCH IN YOUR ORGANIZATION.**

The above mentioned is a bonafide student of Kampala International University pursuing Master of Education in Educational Management and Administration.

He is currently conducting a research entitled **"Technical and Vocational Education and Training Schools and Economic Empowerment of People in Rwanda: A Case of Muhanga District, Rwanda"**.

You organization has been identified as a valuable source of information pertaining to his research project. The purpose of this letter is to request you to avail his with the pertinent information he may need.

Any information shared with his from your organization shall be treated with utmost confidentiality.


Any assistance rendered to his will be highly appreciated.

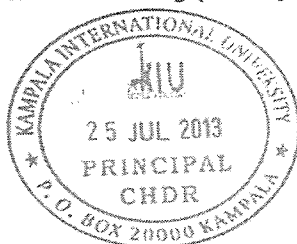
Yours truly,

for


Dr. Ssemugenyi Fred
Head of Department,
Education, Open and Distance Learning (CHDR)

NOTED BY:


Dr. Soda Sol T. Gaite
Principal-CHDR



Approved
VIP Academic
20-07-2013
[Signature]

APPENDIX I B: RECOMMENDATION FROM IPRC-SOUTH



Integrated Polytechnic Regional Center
IPRC-South
Southern Province
RWANDA

IPRC – SOUTH, 26 July, 2013

Office of the Principal

School Managers
TVET SCHOOLS
MUHANGA DISTRICT

Dear All,

RE: RECOMMENDATION FOR MR. HABIMANA Sylvain MED/36057/113/DF.

Our concerns extending to any activity that leads to the promotion and advancement of the TVET Educational System in Rwanda; and the researcher in title having proved his interest in our circle as the best reference for his research,

I have the pleasure to recommend **Mr. HABIMANA Sylvain MED/36057/113/DF** from Kampala International University who is conducting his research on “**Technical and Vocational Education and Training Schools and Economic Empowerment of People in Rwanda: A case of Muhanga District, Rwanda**”; to be facilitated along his research process in your schools/centers so as to meet required expectations.

I count on your usual kindness and flexibility,

Sincerely,

Dr. Barnabé TWABAGIRA (PhD)

Principal,

Integrated Polytechnic Regional Center South / IPRC-S

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Building Sustainable Self-Reliance

APPENDIX I C: LETTER FROM RESEARCHER

Dear Sir/ Madam,

Greetings!

I am a Master Student in Educational Management and Administration at Kampala International University. Part of the requirements for the award is carrying out a research. My study is entitled, *Technical and Vocational Education and training schools and economic empowerment of Graduates from TVETs in Muhanga District, Rwanda*.

Within this context, may I request you to participate in this study by answering the questionnaires? Kindly do not leave any option unanswered. Any data you will provide shall be for academic purposes only and no information of such kind shall be disclosed to others.

May I retrieve the questionnaire within 10 days?

Thank you very much in advance.

Yours faithfully,

Habimana Sylvain

APPENDIX II: CLEARANCE FROM ETHICS COMMITTEE

Date _____

Candidate's Data

Name _____

Reg.# _____

Course _____

Title of Study _____

Ethical Review Checklist

The study reviewed considered the following:

- ☐ Physical Safety of Human Subjects
- ☐ Psychological Safety
- ☐ Emotional Security
- ☐ Privacy
- ☐ Written Request for Author of Standardized Instrument
- ☐ Coding of Questionnaires/Anonymity/Confidentiality
- ☐ Permission to Conduct the Study
- ☐ Informed Consent
- ☐ Citations/Authors Recognized

Results of Ethical Review

- ☐ Approved
- ☐ Conditional (to provide the Ethics Committee with corrections)
- ☐ Disapproved/ Resubmit Proposal

Ethics Committee (Name and Signature)

Chairperson _____

Members _____

APPENDIX III: INFORMED CONSENT

I am giving my consent to be part of the research study of Habimana Sylvain that will focus on *Technical and Vocational Education and training schools and economic empowerment of Graduates from TVETs in Muhanga District, Rwanda*.

I shall be assured of privacy, anonymity and confidentiality and that I will be given the option to refuse participation and right to withdraw my participation anytime.

I have been informed that the research is voluntary and that the results will be given to me if I ask for it.

Initials: _____

Date _____

APPENDIX IV: Part 1: FACE SHEET: Profile of Respondents

Please tick any which applies:

Gender:

☐ Male

☐ Female

Age:

☐ 20- 39

☐ 40- 59

☐ 60 and above

Education level:

☐ TVET Certificate

☐ Diploma

☐ Bachelors

☐ Masters and above

Marital Status

☐ Single

☐ Married

☐ Separated

☐ Divorced

☐ Widowed

Part 2: Questionnaire to determine extent of TVETs in Muhanga District

Direction: Please write your preferred option on the space provided before each item.

Kindly use the rating guide below:

Response Made	Rating	Description
Strongly Agree (SA)	4	You agree with no doubt at all.
Agree (A)	3	You agree with some doubt
Disagree (D)	2	You disagree with some doubt
Strongly Disagree (SD)	1	You disagree with no doubt at all.

	SD	D	A	SA
In this district, technical and vocational education and training:				
Are provided to whoever wants to study	1	2	3	4
In-service programs are arranged	1	2	3	4
Instruction (teaching), English, French and Kinyarwanda languages are used	1	2	3	4
All the trainers are well equipped	1	2	3	4
Are provided free of charge	1	2	3	4
Adults who have never had chance to study in schools (the illiterate) are also given chance to participate	1	2	3	4
These schools have enough training equipments	1	2	3	4
Many people appreciate these schools	1	2	3	4
Even rich parents take their children to these schools	1	2	3	4
The duration of the course is normally short	1	2	3	4
These schools are very many in the district	1	2	3	4
Are so much advertised by the government	1	2	3	4

Many people have joined them	1	2	3	4
The trainers are enough in all the schools	1	2	3	4
People are so much sensitized about the importance of technical and vocational and training	1	2	3	4

Part 3: Questionnaire to determine Level of Economic Empowerment

Direction: Please write your preferred option on the space provided before each item.

Kindly use the rating guide below:

Response Made	Rating	Description
Strongly Agree (SA)	4	You agree with no doubt et all.
Agree (A)	3	You agree with some doubt
Disagree (D)	2	You disagree with some doubt
Strongly Disagree (SD)	1	You disagree with no doubt et all.

	SD	D	A	SA
As a graduate from a technical and vocational education and training school in Rwanda;	1	2	3	4
Many people consult me for my services and pay me for that	1	2	3	4
At home, we take at least three meals a day	1	2	3	4
Since I graduated from a technical school, I have been able to buy better clothes for my family members	1	2	3	4
I am now self-employed	1	2	3	4
I got a job immediately after finishing the studies	1	2	3	4
my income level has increased or improved	1	2	3	4
Any time I get people who bring me work to do it for them, they pay me well	1	2	3	4
I take my children (relatives) to good quality schools	1	2	3	4

I can afford good quality health facilities	1	2	3	4
I can easily get a loan from a bank since I have property to mortgagee	1	2	3	4
I am staying in a personal home	1	2	3	4
My residence is presentable (beautiful enough)	1	2	3	4
I pay my children (relatives) school fees in lump sum and in time	1	2	3	4

2010: Trainings in Modular system of teaching in higher institution of learning

Training in active approach /Learner Centered Approach of teaching

2009: Training in teaching Maths and Science in secondary schools

2003-2004: Training in computer skills (MS word, MS Excel, MS-power point, Internet)

2002: Training in English communication Skills at Kigali Institute of Education(KIE).

IV.PROFESSIONAL EXPERIENCE

2010 up to now: Dean, Faculty of Education at Kavumu College of Education(KCE),Rwanda

2010: Head of department and Faculty Dean at Kavumu College of Education(KCE),Rwanda

2008 up to now: Assistant Tutor of Mathematics at Kavumu College of Education(KCE),Rwanda

2007-2008: Head of science department at college Sainte Marie de Kibuye, Rwanda

2007-2008: Teacher of Maths and Physics at college sainte Marie de Kibuye, Rwanda

2006: Research done on Maths and Physics subjects": "ON PHYSICAL PHENOMENA DESCRIBED BY ANEQUATION OF THE HYPERBOLIC TYPE, A CASE OF X-RAYS IN SPACE OF FOUR DIMENSIONS OF MINKOWSKIAN"

2000-2001: Teacher at Kibumbwe and Bwenda Primary Schools, Rwanda

REFERENCES

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I swear that the information mentioned above is true.

Habimana Sylvain