EMPLOYMENT PROSPECTS AND STUDENTS' SUBJECT PREFERENCE:

A SURVEY OF PUBLIC LOWER SECONDARY SCHOOLS IN MUHANGA DISTRICT, RWANDA

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MED/0137/13

A Research Project Submitted in Partial Fulfilment for the Award of
the Degree of Master of Education (Educational Planning, Management and Administration Option) of Mount Kenya University

JUNE 2016
DECLARATION

This research project is my original work and has not been presented to any other university or for any other award.

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MED/0137/13

Signature: …………………… Date: ……………………………

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

Dr. Olukemi Asemota, PhD

Signature: …………………… Date: ……………………………
DEDICATION

To my wife Bahati Esperance and my sons Kolbe and Pedro for the support they gave me during this academic work, especially in relation to time they accorded me to achieve this work.
ACKNOWLEDGEMENT

The accomplishment of this work is a combination of efforts from different people. First, all my gratitude are extended to the lecturers who accompanied me during the post graduation studies. I appreciate the special assistance they rendered to me at all times I needed their help and they did not turn their back to my request.

I also appreciate the assistance accorded by the supervisor, Dr. Olukemi Asemota, PhD, who accompanied me along this work. I am thankful to my work mate who assisted me in accessing students’ data and other facilities such as internet and documentation.
ABSTRACT

The study assessed how employment prospects affect lower secondary students’ choice for subject combinations offered in upper secondary schools in Rwanda especially in Muhanga district. The general objective of the study was to investigate the influence of employment on lower secondary school students’ preferences for subject studied in advanced secondary school level. The specific objectives of the study include: (1) Determining factors influencing public lower secondary school student in Muhanga district, Rwanda to prefer some subjects combinations more than others. (2) Establishing the relationship between employment prospects and students’ subject preference in public lower secondary schools in Muhanga District, Rwanda. (3) Evaluating the strategies that can be taken to improve students’ subject choices in public lower secondary schools in Muhanga district, Rwanda. As methodology, a descriptive survey design was used in this research. The target population was 703 students of senior four (S4) in Muhanga District. The sampling method that was used in selecting students was simple random sampling. The sample population was 264 students from 5 schools out of 7 public secondary school located in two sectors (Shyogwe and Nyamabuye). The study collected both qualitative and quantitative data. The descriptive method was used and data presented in the form of frequency, percentage, mean and tables. The findings were that job attributes are the most important factors that influence the choice of career among undergraduates and that students do respond to local labour market signals when choosing which subject to study. The study recommends the need to diversify and increase the number of TVET schools since it is the study area most preferred by lower secondary students given that it prepares secondary school graduates to access the labour market and become entrepreneurs. It also recommends the establishment of career guidance service at secondary schools so as to guide students to make the right choice of study area in line with their performance and interests. The last recommendation it to review the scholarship scheme so as to enable secondary school graduate to access the tertiary education in great number that will equip them with more skills and become more competent and at the labour market.
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<tr>
<td>ESSP</td>
<td>Education Sector Strategic Plan</td>
</tr>
<tr>
<td>MINEDUC</td>
<td>Ministry of Education</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>REB</td>
<td>Rwanda Education Board</td>
</tr>
<tr>
<td>S3</td>
<td>Senior Three</td>
</tr>
<tr>
<td>S4</td>
<td>Senior Four</td>
</tr>
<tr>
<td>S6</td>
<td>Senior Six</td>
</tr>
<tr>
<td>STEM</td>
<td>Science, Technology, Engineering and Mathematics</td>
</tr>
<tr>
<td>TVET</td>
<td>Technical and Vocational Education and Training</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>WDA</td>
<td>Workforce Development Authority</td>
</tr>
</tbody>
</table>
DEFINITIONS KEY OF TERMS

Choice of study or subject preference the choice a student makes on a paper by indicating which subjects or educational orientation he/she will specialize in at upper secondary level.

Employment this is the service rendered by an active person and earns wage from it.

Employment prospect this refers to views or hopes of a person to get a job in the future.

Lower secondary the first three years of secondary education which is compulsory in Rwanda and all subjects are common to all students. This level is commonly called “Tronc Commun” or ordinary level.

Study subject this is a subject or combination of subjects in which a student has to specialize for career orientation of furthering studies at the higher learning level. In General Secondary, study subject or subject combination is composed of three main subjects such as Mathematics - Chemistry – Biology (MCB) or History - Geography - Economics (HEG). In technical and vocational training, study subject is generally composed of between two and four main subjects which are reinforced by taking other related subjects. For example, in construction there is mathematics and English which are general subjects. They come in to support core subjects such as quantity survey and bills of quantities and concrete structure elevation.

Technical and vocational education and training (TVET). This is any education at secondary level, training and learning activity leading to the acquisition of knowledge, understanding and skills which are relevant for employment or self-employment.

Upper secondary the second part of Rwandan secondary education which last three years. It is also called advanced level. It has two main orientations in general secondary and technical and vocational education and training. Student who finishes this level is qualified to either go for work or continue studies at the university.
CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter gives the background and context of the problem from an international to local point of view. It also states what the problem is for the study, purpose and objectives of the study, the research questions, the significance of the study, the limitations and scope of the study.

1.1. Background of the Study

In most countries all over the world especially in developed countries, secondary education has lower and upper secondary. In some countries, students can move more or less automatically from primary to lower secondary, and lower secondary education is included in compulsory education (OECD, 2010). This has been the historical trend in most OECD (Organization for Economic Co-operation and Development) countries during the last decades, while in most developing countries, lower and upper secondary education are integrated, and the entry into lower level is restricted and selective (World Bank, 2008). In Norway for example, the school system consists of a compulsory seven year primary and three year lower secondary education. After finishing lower secondary school students can either choose to leave school or they can enter one of 15 different study tracks in upper secondary schools (Strøm, 2008).

In their research, Hodgen & Pepper (2010) observed that most of the OECD countries have lower secondary and upper secondary level and the duration of both levels varies from country to country. The duration of upper secondary level is between 2 and 4 years.
and students are between 15 – 20 years of age. For some countries such as The Netherland, Hungary, Germany the upper secondary level is compulsory, for others (Australia, Czech Republic, Korea, etc) it is optional, (Hodgen, et al 2010). In Germany, for example, when joining the upper secondary school, students are required to choose only two subject or courses for specialization (Nagy, Trautwein, Baumert, Köller, Carrett, 2006). School choice or selection occurs in all OECD countries, but there are important differences between countries in the timing and form of this selection. While the median age of first formal selection is 15 years in OECD countries (OECD, 2010b) in Finland and Spain students are not separated into different tracks until the end of lower secondary education (OECD, 2012).

OECD (2011) argues that lower secondary education is the level that usually caters to early adolescents between the ages of 10 and 16. It starts between the ages of 10 and 13 and ends between the ages of 13 and 16. It marks the end of compulsory education in a number of countries. This is typically a time when young people go through profound transitions in their social, physical and intellectual development, as they leave childhood behind and prepare for adult responsibilities (OECD, 2011). These years are a critical point for maturation as children’s roles in school and society change (OECD, 2011). When making their choices, students have different motivation for their choices. Some want to continue studies at higher learning level, others want to get jobs.

In the African perspective, Gabon established three tracks after the lower secondary school: the general, the technological and the vocational where the selection has mainly occurred upstream. At the point of transition from lower secondary to upper secondary education, there is a strong hierarchy between science and literature, in general
secondary, and between general technology education and the specific areas of industrial technologies or administrative technologies. The best students study science or technology education courses while the poorer performers follow the other courses (Wolhuter, 2014).

In the East African Community (EAC), governments have embraced the universal secondary education program where secondary education is part of basic education. Uganda was the first sub-Saharan African country to introduce the program in 2007 (Khamati & Nyongesa, 2013) which increased to more than 100% of gross enrolment rate (GER) of secondary school students. The Ugandan education system follows a 7-4-2-4 pattern and it allows a parallel technical and vocational track. This includes three-year technical and farm programs that follow immediately after primary education, and three- or four-year post-secondary technical programs (Khamati & Nyongesa, 2013). In Kenya free secondary education program started in 2008 (Khamati & Nyongesa, 2013; Ndiku & Muhavi, 2008) as one of strategies to achieve the Kenya’s Vision 2030 that aimed at transforming Kenya into a newly industrializing middle income country by the year 2030. At the end of secondary education, students can join tertiary education or technical and vocational education and training schools.

In Rwanda since 1991, the education system follows a 6 – 6 – 4 pattern (MINEDUC 2012). For primary students to access secondary level (whether in public or private school), they have to sit for primary leaving national examinations. According to the Universal Primary Education Policy that was launched in 2003 all primary leavers move to lower secondary level which is free and compulsory (MINEDUC (2010). For lower secondary leavers, every student is required to choose between general secondary
education that comprises science subjects, languages, humanities/arts or technical and vocational education and training (TVET) or teacher education/teacher training colleges.

From the year 2011 to 2014, there has been a trend of subject choice where an increasing number of lower secondary student seem to choose TVET and teacher education subjects while the number of those choosing general secondary education has been decreasing. Table 1.1 demonstrates how the trend of subject choice has been evolving over three years.

**Table 1.1: Percentage of Candidates According to their Choices Made Between 2012 and 2014**

<table>
<thead>
<tr>
<th>Total students</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science combinations</td>
<td>48.5</td>
<td>28.7</td>
<td>20.4</td>
</tr>
<tr>
<td>Humanities &amp; languages combinations</td>
<td>6.9</td>
<td>12.5</td>
<td>19.3</td>
</tr>
<tr>
<td>TVET combinations</td>
<td>44.6</td>
<td>58.8</td>
<td>60.3</td>
</tr>
</tbody>
</table>

Source: Rwanda Education Board (2014)

This subject choice trend shows that there is a decrease in number of lower secondary school students choosing general secondary subject combinations while there is a growing number of students who prefer more and more TVET subjects.

Most of upper secondary level students who are not in technical and vocational education wish to continue in the higher education so as to acquire more knowledge and skill in order to be competitive on the labour market. Many of these students target the government sponsorship. The government sponsorship can be seen as a motivating factor for students’ choice of studying in higher learning institutions. For instance, since 2000s, the government of Rwanda has been prioritizing science and technology (MINEDUC,
2006; MINEDUC, 2014). One of the strategies used was to sponsor and give scholarship to students in tertiary education. So this has been the driving force for a good number of students in lower secondary to choose science combinations that are offered in the upper secondary (MINEDUC, 2006).

Now that government policy on sponsorship loan is focusing more on the promotion of science and technology, the number of students accessing that facility has been static while the number of those graduating from senior six (S6) is increasing as a result of the Nine Year Basic Education (9YBE) and Twelve Year Basic Education (12YBE) programs. Hence, many lower secondary school leavers find it better to choose technical and vocational education training (TVET) subjects, because they project their inability of covering the education costs for higher education. But rather technical and professional education would help them secure jobs or get self employed (MINEDUC, 2008).

Another driving force for students to choose vocational options is that of avoiding the prevailing cases of unemployment where lower secondary school students tend to avoid subject combinations perceived as giving little chance of getting employment or getting government scholarship. They base on the experience of their colleagues who graduated from these subject combinations and who are unemployed. This has been referred to as structural unemployment by Özbilgin, Küskü, and Erdoğmuş, (2005). When unemployment numbers are high, students who might choose subject related to areas which unemployed people were trained in, such as arts or other careers affected by a recession may opt for more vocational areas of study. Students are less willing to take risks when the costs of those risks seem higher because of high unemployment rates (Özbilgin et al., 2005).
In this study, the influence of employment prospects and other factors such as labour market, career guidance in school, career information, job attributes, school environment, and family’s economic and educational background on lower secondary school students’ preference for subjects studied in advanced secondary school level was discussed.

1.2. Problem Statement

Before sitting for national examinations at the end of lower secondary school in Rwanda, students have to indicate their preferred subject combinations for specialization in upper secondary level (Official Gazette, 2008). Over the period between years 2012 - 2014, there has been an increase in number of lower secondary school students who prefer to specialize in technical and vocational education and training (TVET) subjects in upper secondary level as compared to the number of those who prefer to specialize in science, arts and humanities subjects. For example, the number of lower secondary school students who preferred to specialize in TVET subjects grew up from 44.5 % in 2012 to 60.3 % in 2014 while the number of those who indicated their preference to specialize in science subjects decreased from 48.5 % in 2012 to 20.4 % in 2014 (see table 1.1).

The problem this study intends to investigate is “why there is an increasing number of lower secondary school students who prefer to specialize in TVET subjects in upper secondary school level as compared to other field of studies”? Does it imply that studying TVET subjects gives more chances of getting employment after secondary school as compared to studying other subjects? This would also raise the question of how employment prospects affect students’ subject preference in secondary schools, by surveying lower public secondary schools in Muhanga District, Rwanda.
1.3 Objectives of the Study

1.3.1 General Objective

The study intends to investigate the influence of employment prospects on lower secondary school students’ preference for subjects studied in advanced secondary school level so as to suggest ways those students can be helped in making right decisions. It was carried out in 5 public secondary school located in two sectors (Shyogwe and Nyamabuye) of Muhanga district.

1.3.2 Specific objectives

In order to carry out a sound analysis of the reasons that justify lower secondary school students’ choices for upper secondary school subject; the study was guided by the following objectives:

i. To Determine factors influencing public lower secondary school students in Muhanga district, Rwanda to choose a subject combination.

ii. To establish the relationship between employment prospects and students’ subject preference in public lower secondary schools in Muhanga District, Rwanda.

iii. To evaluate the strategies that can be taken to improve students’ subject choices in public lower secondary schools in Muhanga district, Rwanda.

1.4 Research Questions

In the attempt to assess the effect of employment prospects on lower secondary public school students' subject preference for subject combinations offered in upper secondary school level, the following questions can be asked:
i. What factors influence public lower secondary school students in Muhanga District, Rwanda to choose a subject combination?

ii. How do employment prospects relate to students’ subject preference in public lower secondary school in Muhanga District, Rwanda?

iii. What strategies can be taken to improve students’ subject choices in public lower secondary schools in Muhanga District, Rwanda?

1.5 Significance of the Study

This research offered an insight on factors affecting the lower secondary school students’ choice for subject combinations available in upper secondary school. It assessed the effect of factors such as labour market, career guidance in school, career information, job attributes, school environment, and family’s economic and educational background. The study will help policy makers to establish means which would favour students who graduate in secondary schools in Rwanda to find and create jobs in order to reduce the rate of unemployment among the youth.

With this study, parents and guardians will be enlightened on how to assist their children who want to make choice of subject combinations in upper secondary school by analyzing all factors related to students’ performance, the situational analysis of the current educational policy and labour market, the government sponsorship to students in higher education and the sense of entrepreneurship among young people. With this study, subject combinations offered in upper secondary school can also be reviewed and redesigned by introducing those that can help students in finding jobs after studies or by adding courses that are in favour of entrepreneurship and self employment. Schools will
so benefit from this study in terms of carrier guidance and career information offered to students wishing to make decision on subject choice.

1.6 Limitations of the Study

The study was limited to analysis of factors affecting students’ subject preference in lower secondary school some subject combinations have more students than others regardless of the students’ academic performance or regardless of the government policy establishing those combinations. In this study, it was possible to meet parents of students who have some influence on students’ choices.

1.7 Scope of the Study

The scope of the study covers the concept scope, the content scope and the time scope.

Time Scope

The study covered the period between the year 2012 and 2014. This is the period where a significant rise in number of lower secondary school students choosing TVET courses is observed while the number of those choosing science options and humanities decreases.

The Concept Scope

This study examined the significance of employment prospects on lower secondary school students’ decision making when they are choosing subject combinations offered in upper secondary school in Muhanga district. The study assessed only employment prospects in connection with other factors impacting on students’ decision making on subject choices such as labour market, career guidance in school, career information, job attributes, school environment, family’s economic and educational back ground.
The Content Scope

The study assessed only choices indicated by lower secondary students on their registration forms before joining upper secondary school level. It was not interested in the subject combinations upper secondary students are specializing in currently, since choosing or indicating one’s preference is one thing and being given the choice is another thing due to various factors, (including one’s performance in national examinations, families socio-economic status and available places for the individual subject combinations).

1.8 Organisation of the Study

This proposal for the study comprises three main chapters. Chapter one deals with introduction to the study which is composed of background of the research, statement of the problem, research questions, objectives of research, significance of the study, limitations of the study and scope of the study. Chapter two is about the literature review. It gives a review of the related literature and shows the conceptual framework of the study. Chapter three deals with the methodology of the study. It describes the design of the study, target population, sample design and data collection and analysis. Chapter four discusses the research findings while the last chapter gives summary and conclusion, recommendations and suggestions for further studies.

1.9 Conclusion

Chapter one discussed the nature of the problem that is investigated in this study and gave the objectives, significance and scope of the study. It allows then to discuss the literature review in the second chapter.
CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter discusses the related literature and development of the education system in Rwanda. It gives a theoretical literature review and an empirical literature review that highlights the following points: students’ expectation in making their choices, adolescents’ stereotype in decision making, career guidance is necessary for lower secondary school students, limited places in upper secondary, and contribution of TVET schools in solving unemployment rate.

2.1 Theoretical Literature

This study was guided by the Super's Theory discussed and developed by Zunker in 1994. The theory states that self-concept is an underlying factor in career development. It also argues that vocational self-concept develops through physical and mental growth, observations of work, identification with working adults, general environment, and general experiences. The more experiences become broader in relation to awareness of world of work, the more sophisticated vocational self-concept is formed (Zunker, 1994).
Table 2.1: Stages and Developmental Tasks over the Life Span

Super's contribution was the formalization of stages and developmental tasks over the life span:

<table>
<thead>
<tr>
<th>STAGE</th>
<th>AGE</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth</td>
<td>Birth to 14 or 15</td>
<td>Form self-concept, develop capacity, attitudes, interests, and needs, and form a general understanding of the world of work.</td>
</tr>
<tr>
<td>Exploratory</td>
<td>15-24</td>
<td>&quot;Try out&quot; through classes, work experience, hobbies. Collect relevant information. Tentative choice and related skill development.</td>
</tr>
<tr>
<td>Establishment</td>
<td>25-44</td>
<td>Entry skill building and stabilization through work experience.</td>
</tr>
<tr>
<td>Maintenance</td>
<td>45-64</td>
<td>Continual adjustment process to improve position.</td>
</tr>
<tr>
<td>Decline</td>
<td>65+</td>
<td>Reduced output, prepare for retirement.</td>
</tr>
</tbody>
</table>


Table 2.2: Vocational Development Stages

People change with time and experience, and progress through the following vocational development stages:

<table>
<thead>
<tr>
<th>VOCATIONAL</th>
<th>AGES</th>
<th>GENERAL CHARACTERISTICS/DEVELOPMENTAL TASKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystallization</td>
<td>14-18</td>
<td>Developing and planning a tentative vocational goal.</td>
</tr>
<tr>
<td>Specification</td>
<td>18-21</td>
<td>Firming the vocational goal.</td>
</tr>
<tr>
<td>Implementation</td>
<td>21-24</td>
<td>Training for and obtaining employment.</td>
</tr>
<tr>
<td>Stabilization</td>
<td>24-35</td>
<td>Working and confirming career choice.</td>
</tr>
<tr>
<td>Consolidation</td>
<td>35+</td>
<td>Advancement in career.</td>
</tr>
</tbody>
</table>

This theory is closely related to this study because it indicates different stages and developmental tasks over the life span and vocational development stages where lower secondary school students especially those in senior three are much more concerned in indicating their subject preference.

In reference to table 2.1 and table 2.2, students finishing lower secondary school education in Rwanda are aged between 14 and 15 years (MINEDUC, 2010). According to this theory, the developmental stage between 14 and 18 years, people are at the stage of forming self-concept, develop capacity, attitudes, interests, and needs, and they form a general understanding of the world of work. Regarding the crystallization vocational development stage, people are characterized by developing and planning a tentative vocational goal.

As discussed earlier, the secondary education level has lower and upper secondary stages in most countries. The duration of upper secondary level is between 2 and 4 years and students are between 15 – 20 years of age. In Germany for example, when joining the upper secondary, students are required to choose only two subject courses for specialization (Nagy, et al. 2006). As lower secondary students in Rwanda are aged between 14 and 16, they are required, when they are in their last year of lower secondary, to officially make choice of subject combinations they would study in upper secondary level which will determine career orientation, and the subject in which a student specialized will be carried on in the tertiary level (REB, 2013).

Consequently, subjects that are related to areas in which recent graduates seem to get employment are likely to have more students who choose them because they think there
is high probability to get employed with them after finishing studies at secondary level or tertiary level. They expect that after finishing their studies, they would get better jobs related to their fields of studies or they would further their studies on the government scholarship which is also given depending on the government priorities set for award of scholarships. The secondary education prepares students for higher education and enables them to play an important role in the development of the country (MINEDUC, 2010).

2.3 Empirical Literature

2.2.1 Influence of Labour Market on Students’ Subject Choices

On the global scale, international factors such as globalization, youth unemployment and economic recessions may interact with the local economies to affect career pathways of secondary school students. Nolan (2012) argues that global economic conditions that were exacerbated in 2008 by the global financial downturn have contributed to the complexity surrounding subject choice and career options for school students. For example, the aging population in OECD countries, which once favoured the employment prospects of young adolescents and the decline in the population of 15 – 29 years old, has brought adverse conditions to the labour market (Nolan, 2012).

The severe global economic recession of 2007 – 2008, opines Nolan (2012), has made the transition from school to work very difficult for young people in OECD countries, as older workers postpones retirements, employers choose more experienced workers and businesses close or cut back production. Wales (2012) asserts that students do respond to local labour market signals when choosing which subject to study at university and that
these labour market signals encourage individuals to take up particular degrees in preference to others and affect students’ decisions about training.

According to Ohiwerei & Nwosu (2009), economical and political back grounds of Nigeria where the economy of the country changed from agriculture to oil, the majority of secondary school students tend to choose to study petroleum related courses because the field employs a large number of graduates. The same scenario happens in Rwanda where lower secondary school students prefer to study construction and electricity related courses because these areas are offering many job opportunities for secondary school graduates (Rwanda Education Board, 2014).

2.2.2 Influence of Job Attributes on Subject Choice

Odia & Ogiedu (2013) opine that job attributes are the most important factors that influence the choice of career among undergraduates. The job related factors include: the job itself, compensation or security and the company or work environment, job satisfaction, higher earnings, prestige and career advancement. Lowe & Simons (1997) studied the relative importance of 13 factors influencing the choice of business major and found that the most important criteria influencing the choice of major business students are: future earnings, career options, initial earnings and ability/aptitude.

Similarly, as secondary school students wishing to continue tertiary education are required to maintain the same field of specialization, subject choice made in secondary school is made under the influence of longterm salary possibilities, prestige of the profession, job security, and starting salary (Odia & Ogiedu, 2013).
2.2.3 Students’ Expectations in Making their Choices

In the survey conducted on subject and course choices at ages 14 and 16 amongst young people in England, Jin, Muriel, and Sibieta (2011) opined that students’ course and subject choices ultimately represent a series of decisions about the sort of life they would like to lead in future and the students’ decision taken today has consequences for their future well-being and for the options available to them in the future years. In this survey about reasons why students choose courses and subjects, Jin, et al. (2011), found that there are various reasons.

76% of pupils say they chose subjects because they liked them, students’ confidence or “knowing I would do well in the exam” and needing qualifications for future job, training or career prospects. Similarly, for optional courses, the item ‘like doing these courses’ was the most popular reason for taking vocational courses. Future employment training and performance/attainment were also concerns for pupils taking vocational courses (Jin, et al., 2011).

As regard to subject selection, Siann, Lightbody, Nicholson, Tait and Walsh (1998) observed that the majority of students in their study chose subjects that they liked, facilitated progression to future careers, were compulsory or subjects where there were no other more desirable options. They also found that students tended to make these choices from a narrow viewpoint with a short term focus, often failing to fully consider their options beyond school.

Whenever students are choosing subject combinations for the advanced level, they have various aspirations and motives that nurture their choice. Most students in ordinary level
who choose general education subjects combinations wish to get the government scholarships and sponsorship to higher education, others choose to study TVET subjects because they think they would get employment easily after secondary education. As observed by Nagy et al. (2006) and Erber, (2012), the choice of school courses determines not only students’ field of study at college but also their future occupations.

2.2.4 Effect of Career Information on Subject Choice

For lower secondary students to make an informed decision on what subject to choose and on what career to embrace, information on job is required before choosing subject combinations.

Kerr, Pekkarinen, Sarvimaki & Uusitalo, (2014) argued that the effect of information on subject choice is important because there is widespread optimism about the prospects of enhancing the efficiency of educational choice by providing accurate information. Kerr et al. (2014) adds that many governments now run schemes that aim to improve the information available to students. Yet, some choices do not maximise lifetime earnings and that does not mean that they are based on incomplete information (Kerr et al., 2014). Educational choices reflect preferences and constraints. Degrees programs that do not offer good labour market prospects may attract a substantial amount of applications with their consumption value (Kerr et al. 2014).

Furthermore, Kerr et al. (2014) indicate that the degrees that are strongly associated with good labour market prospects are usually over-subscribed. Therefore, whether lack of information causes the sub-optimality of educational choice remains an open question.
As noted by Jin et al. (2012), when making their key stage 4 and post – 16 choices, secondary school student in England may clearly benefit from information advice and guidance to help them make informed decisions that best suit their plans and skills. It was found that many students who sought information from their parents found it of high quality and very useful. A large amount of research has examined the current quality of careers advice and guidance. This includes both career advice within schools and the connections service, which aims to provide direct information and advice to young people. Morris (2004) also reviewed the arrangement for careers advice within schools and concluded that practices and quality were highly variable even after the introduction of the connexions service. However, it should be said that satisfaction ratings have been found to be relatively high amongst “connexions” user (Moon, Lilley, Morgan, Gray, and Krechowiecka, 2004).

Harvey (1984) noted that students become increasingly aware of career opportunities and the availability of vocational pathways during their final years of senior schooling. Starting in Year 10 when decisions have to be made in relation to subject selection for senior school, choices must be made that influence future career opportunities and aspirations (Whiteley & Porter 1999).

In Rwanda however, majority of parents (UNESCO, 2006) have different level of literacy and this can have different effects on choices of subjects students can make choice of subject combinations. Parents with high level of literacy are likely to provide useful information on what students can choose in accordance with their academic performance
and current job market prospects, while parents with lower level of literacy are likely to provide poor or no information regarding the choice of subject or course.

2.2.5 Effect of Students’ Perception and Stereotypes in Decision Making

In making choice of subject combinations for upper secondary, Lower secondary students have different perceptions related to jobs, subjects and activities, all of which are defined by culture and belief. These perceptions are also influenced by those of parents, peers and other socialisers (Bøe, 2011). In his research on internal and external frame of reference model March (1986) explained that students compare their own achievement with the perceived achievement of other students. Since students in lower secondary in Rwanda are all teenagers and this is the stage where adolescents are struggling to find their identities, some of the students, driven by imitation or peer pressure, make choices of subjects under the influence of imitation of other colleagues in the same school, or they dream of becoming like someone they know who have academically performed well and they forget their own academic performance.

Bøe (2011) realized that adolescence becomes a crucial period, with individuals seeking their own identity and trying to fit many choices into a consistent person. Young people see their interests, their favourite school subjects, their job plans, their friends and their views as part of their identity, of who they are (Goffman, 1959; Beck, 1999). In such cases, when lower secondary school students have made a wrong choice of subjects to follow in upper secondary school, their academic performance decreases and they get stuck between the impossibility to go back and start a new subject combination and the poor performance if they decide to continue with that wrong choice (Bøe, 2011).
As observed by OECD (2012) better-off parents are more likely to exercise school choice, as they have more information and resources, and usually enrol their children in high quality schools. In contrasts, more disadvantaged parents tend to exercise choices less and send their children to their local neighbourhood schools. Less educated families may face more difficulties gauging the information required to make informed school choice decision or have different preferences over school characteristics OECD (2012). In this view, students from disadvantaged families face the risk of making school choice in domain that will not facilitate them to find job easily. Policies need to ensure that disadvantaged schools prioritise their links with parents and communities and improve their communication strategies to align school and parental efforts (OECD, 2012).

2.2.6 Effect of Career Guidance on Students’ Choice

The failure of students to make correct choice for their studies is linked to the fact that most schools in Rwanda do not have career guidance personnel to direct students when they are choosing subject combinations to embrace in upper secondary. Topple (2012) posited that bad choices lead to a waste of human talent, human capital and resources. Choosing a career that matches the interest, skills and values of a person, significantly increases the chances for success and personal happiness (Topple, 2012). Career guidance helps people to reflect on their ambitions, interests, qualifications and abilities (OECD, 2003). It helps them to understand the labour market and education systems, and to relate this to what they know about themselves. It also plays a key role in helping labour markets work and education systems meet their goals (OECD, 2003).

Career guidance promotes equity: recent evidence suggests that social mobility relies on wider acquisition not just of knowledge and skills, but of an understanding about how to
use them (OECD, 2003). In this context, the mission of career guidance is widening, to become part of lifelong learning (OECD, 2003). Therefore, before making choice of subjects to follow in upper secondary, lower secondary school students are in need for guidance in order to find their personal pathway (subject combinations), whether to choose tracks leading to higher education or choose tracks leading directly to the labour market (Dufaux, 2012) and hence the number of unemployed secondary school graduates will decrease significantly.

In principle, career guidance can assist in reducing unemployment: for example by helping to reduce the incidence of voluntary employment terminations or by reducing periods of job search (thus reducing frictional unemployment); or by encouraging those made redundant to improve their qualifications or to seek new types of work in different regions (thus addressing structural unemployment), (OECD, 2003).

2.2.7 Family Economic and Educational Background

Family economic and educational backgrounds also influence students when they choose subjects as well as their career development (OECD, 2014). Across the family structures, factors such as family size and composition were found to have little influence on subject choice or career goals, although educational levels and socio economic background it was possible to predict levels of parental involvement in career development.

Fullarton and Ainley (2000) in their study on subject choices explored the influence of parental educational levels and social background on subject choice patterns. They reported that adolescents whose parents were professionals were two times likely to choose subjects such as physics or chemistry than those whose parents were unskilled or
semi-skilled, while adolescents whose parents were from the lowest socio economic levels were more likely to be enrolled in health and physical education and technology subjects (Fullarton and Ainley, 2000). Consequently, when adolescents were choosing between an academic or vocational pathway, the educational level and social background of their family had an effect on subject choices as well as selection of post secondary fields of study.

The socio-economic differences were also noticeable in career goals, with the parental occupations having some effect on adolescents. Adolescents whose parents were in professional and skilled occupations tended to have broader interests compared with adolescents with parents employed in unskilled occupations. Nolan (2012) noted that adolescents with parents in unskilled occupations may prematurely foreclose on many career options. Fullarton and Ainley (2000) concluded that there is evidence that the economic background of the parents can have some predictive qualities regarding occupational goals for young males and that overall family economic background did have an effect on subject choice patterns and career goals.

2.2.8 Effect of School Environment on Subject Choice

Various studies have highlighted peers, the staff and curriculum perception as factors in the school environment that can impact on the adolescent subject preference.

Influence of Peers

The influence of peers on adolescent behaviour increases as they begin the transition into adulthood and parental influence decreases. Even though adolescents still need their parents for advice and support, as they grow up they develop a healthy independence
referencing parents and peers for guidance and decision making (Thomas & Webber, 2009; Warrington & Younger, 2011). It was discovered that the influence of an adolescent’s peers in encouraging them to remain at school after the age of 16 was almost as influential as parents or their socio-economic status. In Nigeria, similar findings (Owoyele & Toyobo, 2008) revealed that peer pressure was the most potent predictor of subject choice (followed by parental demand) and academic ability the least predictor of students’ choice of subject for senior secondary school level studies. Peer groups affect academic motivation (Nolan, 2012) through the reinforcement of the norms and values of the peer group, particularly noticeable in behaviours such as gossiping or laughing when a friend jokes about antisocial or deviant behaviour. Nolan (2012) concludes that peers are an important sphere of influence on adolescents where boys and girls use their peers for support in disparate ways, and the network of peers can have an adverse or positive effect on academic outcomes.

School Staff

Career counsellors and teachers in schools play important roles in advising students with career directions and recommendations coupled with assisting school administrators in preparing a career guidance programme at the school. Teachers can be formally involved in the subject selection process by advising students on subject content, course prerequisites and possible career, but ultimately the students take responsibility for the final decision (Nolan, 2012).

Subject Perceptions

According to Nolan (2012), when discussing subject choices, both students and teachers have perceptions about the curriculum offerings of the school and their relevance for
students. These perceptions are important agents in subject pathway choices. The student’s personal interests, abilities, family characteristics and school environment contribute to how the students perceive subjects on offer. In their Expectancy-Value model, Eccles & Wigfield (2002) explains students’ behaviour and academic choices, which considers the social and psychological factors that affect an individual’s expectancies of success and task value. Expectancies of success are defined as individual’s beliefs about how well they will perform on a future task while task value refers to a combination of intrinsic values, attainment value, utility value and cost (Eccles & Wigfield, 2002).

Personal characteristics such as self efficacy, gender and social background influence the choice patterns of adolescents and their career aspirations. Therefore, whenever students make judgment regarding the most appropriate subject pathway for their career aspiration, they appraise the subject criteria based on the anticipated level of enjoyment, relevance to future occupations, and the positive or negative opinions of others regarding their choice (Nolan, 2012).

2.3 Critical Review the Research Gap Identification

2.3.1 Critical Review

Various studies and researches reviewed indicated different factors that influence secondary students on subject choice. It was seen that students’ motivations are various when they want to make a decision on subjects they would offer in higher learning education. For example, Onoyase & Onoyase, (2009) analysed the relationship between personality types and career choice of secondary school students. In their studies,
Wigfield & Eccles, (1993) found that expectancies and values are assumed to influence directly achievement choices, performance, effort and persistence. The researchers continue their argument that expectancies and values are on their turn influenced by task specific beliefs such as ability belief, the perceived difficulty of different tasks, and individuals’ goals, self-schema, and affective memories (Wigfield & Eccles, 1993).

Wales (2012) argued that students respond to local labour market signals when choosing which subject to study at university. According to Ohiwerei & Nwosu, (2009), majority of secondary school students tend to choose subjects related to fields in favour with the prevailing labour markets. Jin, et al. (2011), found that there are various reasons such as liking the subject, easy for examinations, needing qualifications for future job, training or career prospects.

For the career guidance benefits, OECD (2003) reported that it helps students to understand the labour market and education systems, and to relate this to what they know about themselves. Nolan (2012) found that teachers can be formally involved in the subject selection process by advising students on subject content, course prerequisites and possible career, but ultimately the students take responsibility for the final decision.

2.3.2 The Research Gap Identification

However, the researchers do not indicate to what extent employment prospects influence lower secondary students in their decision making for subject combinations they intend to specialize in upper secondary especially in connection with employability rate. Studies do not also highlight possible consequences resulting from the fact of having too many graduates in a given study area as compared to the consumption rate by labour market. The influence of employment prospects on decision making of students when they are
choosing subject combinations offered in upper secondary school was not covered in the literature review.

The reviewed researches did not mention anything about the career guidance services at secondary schools in Rwanda as it was highlighted in other countries especially in western world. This study has established the extent to which employment prospects influence the decision making process of lower secondary school students about the subject combinations they would offer in upper secondary. It has indicated the relationship between employment prospects and lower secondary school students’ preference of subject combination chosen. It has examined how students’ choices in lower secondary school are influenced by the prevailing labour market signals.

2.4 Conceptual Framework

The conceptual framework (fig 2.1) illustrates the relationship between employment prospects and students’ subject preference for subject combinations offered in upper secondary school. The framework examines the independent variables which are employment prospects, labour market, job attributes, career guidance in school, career information. The dependant variable is the students’ choice of subject combinations offered in upper secondary education and students’ expectations. This relationship can have intervening variables such as family’s economic and educational back ground and school environment.

The employment prospects, labour market, job attributes, career guidance in school, career information affect lower secondary school students’ preferences of subject combinations offered in upper secondary school. When employment opportunities are
higher in a given field, lower secondary school students prefer to choose subject combinations that are in line with such field. For example from 2012 to 2014, students who chose to specialize in construction in upper secondary was increasing while the number of those choosing to study languages decrease because there seem to be many employability opportunities in construction as compared to language field (REB, 2014).

When lower secondary students have made a wrong choice of subjects to follow in upper secondary school, their academic performance decreases and they get stuck between the impossibility to go back and start a new subject combination and the poor performance if they decide to continue with that wrong choice. Students can make a right choice of what they want to study in upper secondary when they are assisted and guided by their teachers and parents, when they consider their academic performance and their expectations.

**Independent variables**

**Employment prospects:**
1. Labour market signals
2. Access to carrier guidance services in school
3. Access to career information process at school
4. Number of job opportunities in a given area

**Subject preference:**
1. Choice of subject combinations offered in Upper secondary

**Intervening variables:**
1. Family’s economic and educational back ground
2. School environment

**Dependent variables**

Source: Researcher

---

Figure 2.1: Conceptual framework
2.5 Summary

Lower secondary students are required to make choice of subject combinations they would offer in upper secondary. There are various factors influencing these students to choose the preferred subject combination. Regarding the influence of labour market on students’ subject choices, students respond to both global and local economic labour market signals when they are making decision on which subject to study. As students reflect on the current economical and political background in their country, they are influenced in their decision making on which subject to choose in upper secondary (Nolan, 2012; Wales, 2012; Ohiwerei & Nwosu, 2009).

Job related attributes including long-term salary possibilities, prestige of the profession, job security, and starting salary influence students’ subject choice (Odia & Ogiedu, 2013). Students have expectation in making choice of subject for specialization in upper secondary. the way students like or dislike the subject, good performance in examinations, need for job or training place teachers’ advised to students, qualifications as advantageous tool to get job or training.

Effect of career information on subject choice was also discussed and it was seen that enhances the efficiency of educational choice simply by providing accurate information (Kerr et al, 2014). Students’ perception and stereotypes in decision making on jobs are also influenced by those of parents, peers and other socialisers (Bøe, 2011). It was observed that career guidance acts on students’ choice as it helps people to reflect on their ambitions, interests, qualifications and abilities (OECD, 2003).
2.6 Conclusion

Chapter two discussed the related literature on global and national scale. It gave the theoretical literature that guided this study and viewed past studies similar to the present one. The conceptual framework was discussed and research gaps were identified. Having discussed this, the research methodology for this study can now be discussed.
CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

In this chapter, the study explains the research process through which data was collected and analysed. These processes include research design, location of the study, sampling methods, target population, data collection methods, data analysis procedure and ethical consideration.

3.1 Research Design

According to Obura and Ajowi (2012) Descriptive Survey is important when detailed description of existing situation intended for the justification of current practices is required. The study adopted a descriptive survey research design and offered an insight in employment prospects on students’ subject preference. As all students in lower secondary school have to choose their study subject for upper secondary school, an analysis of students’ motives to make such choices in Muhanga district made it possible to understand what study subjects students chose the most and why they make such choices of study subjects. Use of questionnaires enabled the study to give primary data from respondents. Survey is also economical in terms of time and resources involved because it covers large population within a short time compared to other designs.

3.2 Target Population

According to Burns & Grove (1997:236), the target population is “the entire aggregation of respondents that meet the designated set of criteria”. The study area is in Muhanga District in Shyogwe and Nyamabuye sectors. Data collection was carried out in public secondary schools that have senior four (S4) classes in two sectors of Muhanga District.
All S4 students in public secondary schools are selected by REB basing on their subject choices and performance in national examinations.

The study was limited to senior four (S4) students in upper secondary school because these students were in their first year and first term of upper secondary (since 26 January, 2015) in the subject combination they chose to specialize in when they were in lower secondary school. There are 5 public secondary schools in which the study was carried out. These schools had a total population of 703 students in S4 according to the statistics report from Muhanga District, February, 2015.

3.3 Sample design

In this study, the sample design was obtained the determining the sample size and sampling techniques required to the type of this study.

3.3.1 Sample Size

A sample is a smaller group obtained from the accessible target population (Mugenda and Mugenda, 1999). According to Salaria, (2012), it is a smaller representation of a larger whole. A good sample not only needs to be representative, it needs also to be adequate or of sufficient size to allow confidence in the stability of its characteristics. Yount (2006) opined that the larger the sample, the better it represents the population. But if the sample size is too large, then the value of sampling — reducing time and cost of the study — is negligible. In calculating sample size therefore, factors such as accuracy cost and homogeneity should be taken into consideration. In determining the sample size for schools, the study used Yamane’ s formula (1973):

\[ n = \frac{N}{1+N(e^2)} \]
where \( n \) is the sample size, \( N \) is the population size and \( e \) is the sampling error which is equal to 5%.

Therefore:

\[
\begin{align*}
\text{Therefore: } n &= \frac{N}{1+N(e^2)} = \frac{703}{1+703(0.05^2)} = \frac{703}{1+1.93} = \frac{703}{2.93} = 263.82 \text{ rounded to 264}
\end{align*}
\]

There was a sample size of 264 students. To determine the number of students from each of five schools, the study proportionally distributed the 264 students to five schools according to the number of students found at each individual school (see Table 3.1).

### Table 3.1: Table Indicating the Target Population and the Sample Size

<table>
<thead>
<tr>
<th>School</th>
<th>Sector</th>
<th>Target population</th>
<th>Proportion to be sampled (%)</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 G.S Shyogwe</td>
<td>Shyogwe</td>
<td>162</td>
<td>21.0</td>
<td>55</td>
</tr>
<tr>
<td>2 G.S ST Joseph Kabgayi</td>
<td>Shyogwe</td>
<td>184</td>
<td>23.8</td>
<td>63</td>
</tr>
<tr>
<td>3 TTC Muhanga</td>
<td>Shyogwe</td>
<td>210</td>
<td>27.2</td>
<td>72</td>
</tr>
<tr>
<td>4 GS Gitarama</td>
<td>Nyamabuye</td>
<td>148</td>
<td>19.1</td>
<td>51</td>
</tr>
<tr>
<td>5 G.S Munyinya</td>
<td>Nyamabuye</td>
<td>68</td>
<td>8.8</td>
<td>23</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>703</strong></td>
<td><strong>100</strong></td>
<td><strong>264</strong></td>
</tr>
</tbody>
</table>

Source: Report from REB, Department of Quality and Standards (February, 2015)

### 3.3.2 Sampling Techniques

Since the target population of this study is secondary school students in Senior four (S4), the sample was the selected group of respondents (students) that represented the target population. In selecting students from those 5 secondary schools, a random sampling technique was used at each school where there was probability for each individual student to be selected. According to Barreiro and Albandoz (2001) the simple random sampling is the sampling method in which each member has the same probability of being chosen. This technique is least sophisticated and easy when the population is small.
and all of its members are known. All respondents were randomly selected at each of the five schools.

### 3.4 Data collection Methods

For this section, the data collection method comprised the data collection instrument and the administration of data collection instrument.

#### 3.4.1 Data Collection Instruments

The data collection instrument was questionnaire and interview. The use of questionnaire presents an even stimulus potentially to large number of people simultaneously and provides the investigation with an easy accumulation of data. Gay (1992) argues that the questionnaire gives respondents freedom to express their views or opinion and also to make suggestions. It is also anonymous since it helps to produce more answers than are possible in an interview.

The data was collected through the use of questionnaire meant for students and interviews for headteachers. The questionnaire for students was distributed to students in S4. It allowed collection of information related to choosing subject combinations in S3 and information on how students in S4 are coping with the combination they are currently offering. Questionnaire for headteachers enabled the researcher to gather information related to how teachers offer advice and counselling to students who are going to make choice of subject combination.
3.4.2 Administration of Data Collection Instruments

The researcher got from the University Administration a permission letter which enabled him to visit the sampled schools. The researcher booked appointments with class teachers of the selected schools through their headmasters. Teachers were given instructions on how students were to fill the questionnaire and high level of confidentiality was granted. The filled questionnaires were collected one week after the distribution. Headteachers were interviewed in matters related to how the school administration gets involved in providing career information and career guidance services to students who wish to make subject choice.

3.4.3 Reliability and Validity

Reliability

Mugenda and Mugenda (1999) define reliability as a measure of the degree to which a research instrument yields consistent results or data after repeated trial. Piloting enabled the researcher to test the reliability of the questionnaire. In order to improve the reliability of the instrument, the study critically assessed the consistence of the responses on the pilot questionnaire to make a judgment on their reliability. The reliability of the instrument was obtained by piloting the instrument in one school in Gasabo district (GS Kimironko I). The questionnaire was given to respondents from this school and afterward, the researcher assessed the reliability of the data. It was found that there was no big difference in the results.
Validity

Kimberlin and Winterstein (2008) define validity as the extent to which an instrument measures what it purports to measure. In other words, it is the extent to which the interpretation of the results of a test are warranted, which depend on the test’s intended use. All assessments of the validity are subjective opinions based on the judgment of the researcher (Wiersma, 1995). The pilot study helped to improve validity and content of the instrument. The questionnaire was given to some respondents from “GS Kimironko I” in Gasabo District and were not part of the sample. The feedback from the pilot stage enabled to adjust the questionnaire. The validity of the data collection instruments was assessed by identifying whether the questionnaire content is measuring what it supposed to measure.

3.5 Data Analysis Procedure

The study collected both qualitative and quantitative data. White, (2002) opines that qualitative research requires logical reasoning and it makes considerable use of inductive reasoning, organizing the data into categories and identifying patterns (relationships) among the categories. After identifying a theme in the data using an inductive process, qualitative researchers moved into a more deductive mode to verify or modify it with additional data (Leedy & Ormod, 2001). In this study responses for each question were entered into computer and the Likert scale was used in obtaining percentages and averages. The items in the instrument were coded on a datasheet. The descriptive method was used and data presented in the form of frequency, percentage, mean and tables.
3.6 Ethical Considerations

Before the collection of data, permission was sought from the relevant authorities (Mount Kenya University and headmasters of the selected schools). The researcher explained the purpose of the study to the respondents and confidentiality of their responses was highly assured to them. Their responses were kept with anonymity and no personal identification was required from them. The respondents were free to fill or not to fill the questionnaire. Information obtained through the study was used for academic purposes only.

3.7 Conclusion

Chapter three discussed the research methodology for data collection and analysis. The research design, target population and sample design were determined. Also, the chapter allowed the identification of tools for data collection and data analysis. Having discussed this, the next step is a detailed discussion of findings and interpretation.
CHAPTER FOUR: RESEARCH FINDINGS AND DISCUSSION

4.0 Introduction

In this chapter, the study explains the demographic characteristics of the respondents and presentation of findings in tables and graphs. It discusses each objective in relation the findings.

4.1 Demographic Characteristics of the Respondents

The respondents were students in senior four (S4) from 5 public secondary schools located in two sectors of Muhanga District, Rwanda. These students were in term one where some of them were following subject combinations they chose when they were in S3 of lower secondary while others were offering subject combinations they did not choose. The total number of respondents who brought back the filled questionnaire was 253 over 264 (95.6%) who were chosen as sample size. Among these 253 students, 119 were female and male were 134 (see Table 4.1).

Table 4.1: Table indicating demographic characteristics of the respondents

<table>
<thead>
<tr>
<th>School</th>
<th>Sample size</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 G.S Shyogwe</td>
<td>55</td>
<td>26</td>
<td>27</td>
<td>53</td>
<td>96.4</td>
</tr>
<tr>
<td>2 G.S ST Joseph Kabgayi</td>
<td>63</td>
<td>27</td>
<td>34</td>
<td>61</td>
<td>96.8</td>
</tr>
<tr>
<td>3 TTC Muhanga</td>
<td>72</td>
<td>29</td>
<td>38</td>
<td>67</td>
<td>93.1</td>
</tr>
<tr>
<td>4 GS Gitarama</td>
<td>51</td>
<td>23</td>
<td>26</td>
<td>49</td>
<td>96.1</td>
</tr>
<tr>
<td>5 G. S Munyinya</td>
<td>23</td>
<td>14</td>
<td>9</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>264</strong></td>
<td><strong>119</strong></td>
<td><strong>134</strong></td>
<td><strong>253</strong></td>
<td><strong>96.5</strong></td>
</tr>
</tbody>
</table>

Source: Primary data
Table 4.2: Number of respondents by each study area

<table>
<thead>
<tr>
<th>Field of study of respondents</th>
<th>Study area of Respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science field</td>
<td>142</td>
<td>56.1</td>
</tr>
<tr>
<td>Humanities</td>
<td>54</td>
<td>21.4</td>
</tr>
<tr>
<td>Languages</td>
<td>23</td>
<td>9.1</td>
</tr>
<tr>
<td>TVET field</td>
<td>34</td>
<td>13.4</td>
</tr>
<tr>
<td>Total</td>
<td>253</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Primary data

Respondents who were offering science subject combinations were 56.1%, those in Arts and Humanities were 21.3%, those in Languages were 9.1% and those in TVET field were 13.4%. The two factors combined together are strong determinants of admission in the subject combination chosen.

Figure 4.1 indicates the schooling level of respondents’ parents. The percentage of unschooled couples were 18%, those with primary education level were 33%, those with secondary education level were 23%, those with tertiary education level were 11% and those with other education level not exiting at the formal education were 15%.

![Level of parents’ education](image)

**Figure 4.1** Figure indicating the level of study of respondents’ parents.

Source: Primary data
The level of parents’ education affects the choice of students as regard to area of specialisation in secondary school. This confirms with what Fullarton and Ainley, (2000) said that when adolescents were choosing between an academic or vocational pathway, the educational level and social background of their family had an effect on subject choices as well as selection of post secondary fields of study.

4.2 Presentation of findings

The following paragraphs focus on discussion of findings in relation to the three objectives stated in chapter one and to the empirical literature review in chapter two.

4.2.1. Factors that influenced lower public secondary school students in Muhanga District, Rwanda to prefer some subject combinations more than others

This objective was evaluated in reference to Table 4.3 using the Likert scale rating. Respondents were asked to indicated their agreement with each statement in five levels: strongly agree (SA), Agree (AG), Neutral (NE), Disagree (DI) and strongly disagree (SD). An average for each statement was also provided to indicate how each statement was supported. It was obtained by the sum of all products of percentages and rate for each statement. The average for all ten statements was also provided to indicate the extent to which objective one was supported. The rating given to respondents was as follows: SA = 5, AG = 4; NE = 3; DI = 2 and SD = 1. For example, in obtaining 90% for factor 1, respondents at SA were 70x5; at AG. 15 x 4; at NE. 9 x 3; at DI. 5x2; at SD. 0x1. The average support for factor 1 was (350+60+27+10+0)/5= 90%.
As indicated in Table 4.3, factor 1 (The choice of subject combination was made with the intension of getting employment easily) scored 90% support. The second factor that influenced students to make subject combination was that of getting scholarship in higher learning institution. This view was supported at 87%. The third factor stating that the chosen subject combination was in line with students academic performance scored 81%. The fourth factor stating that the chosen subject combination was supported by previous academic performance scored 71%. The fifth factor stating that the teacher gave advice and convinced the candidate was supported at 62%.
However, factors that got weak support were peer pressure which scored 45%, social consideration of previous graduates by the community (42%), popularity of the school chosen (40%) and forced by parents (31%). Other factors mentioned by respondents were supported at 48%. They include: “the subject combination I chose does not require too much academic effort”, “I like it”, “follow my parents’ career”.

This objective was generally supported at 60% that students are influenced by four factors: intention of getting employment easily, intention of getting scholarship in higher learning institution, students actual and previous academic performance and guidance or support provided by teachers. These findings confirm what was said by Wales (2012) that students respond to local labour market signals when choosing which subject to study and by Ohiwerei & Nwosu, 2009; Odia & Ogiedu, 2013, and Jin, et al., (2011) that job attributes are the most important factors that influence the choice of career among undergraduates. It also aligns with the views of Eccles & Wigfield, (2002) that the social and psychological factors affect an individual’s expectancies of success are attributable to subject choice.

4.2.2: Relationship between employment prospects and students’ subject preference in lower secondary public schools

In assessing the relationship between employment prospects and students’ subject preference in lower secondary, the analysis focused on Table 4.3 and Figure 4.2
Table 4.4 Perception of students about getting employment after studies

<table>
<thead>
<tr>
<th>I appreciate:</th>
<th>SA (%)</th>
<th>Ag(%)</th>
<th>Ne(%)</th>
<th>Di(%)</th>
<th>AD(%)</th>
<th>Average(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting a job just after S6 and degree after</td>
<td>50</td>
<td>37</td>
<td>12</td>
<td>1</td>
<td>0</td>
<td>87.3</td>
</tr>
<tr>
<td>Getting a degree first and job after studies</td>
<td>37</td>
<td>30</td>
<td>19</td>
<td>12</td>
<td>2</td>
<td>77.5</td>
</tr>
</tbody>
</table>

**Average** 82.4

Source: Primary data

As indicated in Table 4.4, the factor of getting employment easily was the most supported at 90% among other factors that influenced lower secondary school students to choose the subject combination in Muhanga district. Also in Table 4.4, it is shown that for lower secondary school students, the desire of getting a job just after S6 and get university degree after is supported at 87.3% while the desire of getting a university degree first and job after was supported at 77.5%. This indicates that there is a relationship between employment prospects and lower secondary school students’ preference of subject combination chosen. These findings confirm with the studies by Wales (2012), Lowe & Simons (1997) and Ohiwerei & Nwosu (2009) that students do respond to local labour market signals when choosing which subject to study.

**4.2.3. Strategies that can be taken to improve students’ subject choices**

When evaluating strategies that can be taken to improve students’ choices in lower secondary public schools, the analysis based on the findings in Table 4.5 and Figure 4.1.
Table 4.5 Level at which lower secondary school students were influenced by different people when they made choice of subject combination (in %)

<table>
<thead>
<tr>
<th>Category of people</th>
<th>SA</th>
<th>Ag</th>
<th>Ne</th>
<th>Di</th>
<th>AD</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents/guardian</td>
<td>7</td>
<td>14</td>
<td>19</td>
<td>17</td>
<td>43</td>
<td>45</td>
</tr>
<tr>
<td>Teacher</td>
<td>36</td>
<td>25</td>
<td>22</td>
<td>15</td>
<td>2</td>
<td>75</td>
</tr>
<tr>
<td>Brother/Sister</td>
<td>1</td>
<td>6</td>
<td>20</td>
<td>30</td>
<td>42</td>
<td>39</td>
</tr>
<tr>
<td>Classmate former graduates</td>
<td>6</td>
<td>5</td>
<td>11</td>
<td>35</td>
<td>43</td>
<td>39</td>
</tr>
<tr>
<td>None</td>
<td>62</td>
<td>16</td>
<td>18</td>
<td>5</td>
<td>-</td>
<td>88</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>55</td>
</tr>
</tbody>
</table>

Source: Primary data

Table 4.5 indicates the influence by parents or guardian was supported at 45%, the influence by teacher was supported at 75%, the influence by brother/sister was supported at 39%, the influence by classmate at 39%, the influence by former graduates at 45% while no influence by any body was supported at 88%. The average support was 55%. This indicates that the influence by teachers on students’ decision making had a significant role during the choice of subject combinations.

However, the fact of having students who made their subject combinations without any influence from other people was supported at 88%. This confirms what was opined by Nolan (2012) that ultimately the students take responsibility for their final decision. They chose their specialization area of study as they liked. This is due to the fact that secondary schools in Rwanda do not have career guidance services that are in charge of helping students to nurture their career aspirations.
Figure 4.2 indicates the availability of career guidance at schools

Source: Primary data

Figure 4.2 indicates the career guidance policy at sampled school. None of the 5 five schools has the career guidance office in service of students who seek information on study area available in upper secondary school level. Students who wish to get informed on which study area to choose asks their class teachers (see Table 4.3).

4.3 Conclusion

Chapter four gave a detailed presentation of research findings in line with the already set objectives. All three objective were addressed and lead to viable interpretation on why and how students in lower secondary schools prefer to chose a given subject combination. This now allows giving conclusions, recommendation for the whole study and suggesting some areas for further study according to what was discussed by the study.
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0. Introduction

This chapter summarizes the findings under each objective. It gives conclusion by answering to research questions. It ends by giving recommendations and gives suggestions for further study.

5.1. Summary of Findings

This study intended to investigate the influence of employment prospects on lower secondary school students’ preference for subjects studied in advanced secondary school level so as to suggest ways those students can be helped in making right decisions. In order to carry out a sound analysis of the reasons that justify lower secondary school students’ choices for upper secondary school subject; the study was guided by three specific objectives:

5.1.1. Objective One

The first objective of this study was to determine factors influencing lower public secondary school student in Muhanga district to prefer some subject combinations more than others. The findings show that there are factors influencing students’ preference on subject combination. Those factors include the intention of getting employment easily, intention of getting scholarship in higher learning institution, students actual and previous academic performance and guidance or support provided by teachers. This finding confirms what was said by Wales (2012) that respond to local labour market signals when choosing which subject to study and by Ohiwerei & Nwosu, (2009); Odia & Ogiedu,
(2013), and Jin, *et al.*, (2011) that job attributes are the most important factors that influence the choice of career among undergraduates.

### 5.1.2. Objective Two:

The second objective was to establish the relationship between employment prospects and students’ subject preference in lower secondary public schools in Muhanga District, Rwanda. The findings revealed that there is a relationship between employment prospects and lower secondary school students’ preference of subject combination chosen. These findings confirm with the studies by Wales (2012), Lowe & Simons (1997) and Ohiwerei & Nwosu (2009) that students do respond to local labour market signals when choosing which subject to study.

### 5.1.3. Objective Three:

The third objective of the study was to evaluate the strategies that can be taken to improve students’ subject choices in lower secondary public schools in Muhanga district, Rwanda. The findings revealed that students who made their subject combinations without any influence from other people supported the idea at 88%.

This indicates that students who lacked the advice from other people were left alone and their choices were not guided. They chose their specialization area of study as they liked. This was due to the fact that schools do not have career guidance services that are in charge of helping students to nurture their career aspirations. The strategy of career guidance at schools is highly recommended for assisting students to channel their career development at the lower age.
5.2. Conclusions

This study had three main research questions. The first question asked whether there are factors that influence lower public secondary school students in Muhanga District to prefer some subject combinations more than others. The answer to this question confirmed that there are factors influencing students’ preference on subject combination. Those factors include the intention of getting employment easily, intention of getting scholarship in higher learning institution, students’ actual and previous academic performance and guidance or support provided by teachers.

The second question asked how employment prospects relate to students’ subject preference in public lower secondary school in Muhanga District, Rwanda. The answer to this was that there is a strong relationship between employment prospects and lower secondary school students’ preference of subject combination chosen because there is a feeling that the chosen subject combination helps get employment easily.

The third question asked what strategies can be taken to improve students’ subject choices in public lower secondary schools in Muhanga District, Rwanda. The answer to this was that the first strategy is to establish career guidance at secondary schools that will help students to make an informed choice of subject combinations.

5.3. Recommendations

From the findings of the study the following recommendations were made:

As there are educated youth without job, it is important to diversify and increase the number of TVET schools since it is the study area most preferred by lower secondary
students as it prepares secondary school graduates to access the labour market and become entrepreneurs.

To establish the career guidance service at secondary schools so as to guide students to make the right choice of study area in line with their performance and interests.

To review the scholarship scheme so as to enable secondary school graduate to access the tertiary education in great number that will equip them with more skills and become more competent and at the labour market.

To involve parents in the process of subject combinations choice of lower secondary school students so as to guide and support them.

To make accessible information related to career choice for lower secondary school students before they choose their subject combinations.

To give more weight to entrepreneurship subject offered in lower secondary schools and encourage the sense of innovation and creativity among the youth.

5.4. Suggestions for further study

From the present study the researcher felt that there was need to conduct further research on the following suggested areas:

While this study was limited to schools in Muhanga District, another study relating employment prospects to students’ subject preference in secondary public school should be carried out.
The research was limited to public secondary schools. A similar study should be carried out in private schools to determine whether the students’ subject preference is similar to those in public secondary schools.

A deep analysis should be carried out in matters related to career guidance in secondary schools in Rwanda.

Also there is need to carry out a study comparing gender and students’ subject preference in respect to career aspirations in secondary schools in Rwanda.
REFERENCES


Gardner, M. (2002). The review of pathways articulation: Through the post-compulsory years of school to further education, training and labour market participation. Brisbane: Department of Employment and Training and Department of Education


APPENDIX 3: QUESTIONNAIRE FOR STUDENTS

The purpose of this questionnaire is to enable the researcher to obtain information about factors influencing Lower secondary school students when they make choice of subject combinations they would offer in upper secondary. You are kindly requested to fill in all the questions as honestly as possible. Your responses will be used only for the purpose of this study and you are guaranteed a high level of confidentiality.

Part A: General Information

1. Please, indicate your gender: Male ☐, Female ☐

5  In the box at right side, please indicate your current subject combination/Trade ☐

6  In the table below please indicate the level of study of your parents by ticking the right box:

<table>
<thead>
<tr>
<th>Level of your parents’ education</th>
<th>Mother</th>
<th>Father</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unschooled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part B: Information related to choosing subject combinations in S3

7 Among the specialisation areas available in the table below indicate which one was your first preference when you made your choice in S3. Tick only one specialisation area.

<table>
<thead>
<tr>
<th>Specialization area</th>
<th>1st preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td></td>
</tr>
<tr>
<td>Technical and Vocational Education Training</td>
<td></td>
</tr>
<tr>
<td>Languages</td>
<td></td>
</tr>
<tr>
<td>Humanities/Arts</td>
<td></td>
</tr>
</tbody>
</table>

8 As you made such choice, one of the following reasons/factors may have guided and enlightened more your choice? (rate the factors using numbers from 5 to 1. Tick only one option in each row. 5 = strongly agree; 4 = agree; 3 = neutral; 2 = disagree; 1 = strongly).

<table>
<thead>
<tr>
<th>Possible reasons that pushed you to make your choice</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Get employment easily</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>2 Get a government scholarship</td>
<td></td>
</tr>
<tr>
<td>3 Fits well with my academic background</td>
<td></td>
</tr>
<tr>
<td>4 Peer pressure</td>
<td></td>
</tr>
<tr>
<td>5 Social consideration of previous graduates</td>
<td></td>
</tr>
<tr>
<td>6 My previous academic performance</td>
<td></td>
</tr>
<tr>
<td>7 Popularity of the school</td>
<td></td>
</tr>
<tr>
<td>8 Forced by parents</td>
<td></td>
</tr>
<tr>
<td>9 My teachers advised and convinced me</td>
<td></td>
</tr>
<tr>
<td>10 Other factors, please explain</td>
<td></td>
</tr>
</tbody>
</table>
9  What do you appreciate more than the other between the following. Tick only one option in each raw. 5 = strongly agree; 4 = agree; 3 = neutral; 2 = disagree; 1 = strongly disagree

<table>
<thead>
<tr>
<th>I appreciate:</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting a job at the end of secondary education and studying at university</td>
<td></td>
</tr>
<tr>
<td>when you have a job</td>
<td></td>
</tr>
<tr>
<td>Continuing with university studies immediately after secondary education</td>
<td></td>
</tr>
<tr>
<td>immediately after secondary education and get a job when you have a university degree</td>
<td></td>
</tr>
</tbody>
</table>

10 Among 9 examinable subjects in national examinations at lower secondary indicate your performance at the end of term I for each subject in the table below (tick only one option in each raw):

<table>
<thead>
<tr>
<th>9 examinable subjects in national examinations</th>
<th>Your score in national examinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>1  2  3  4  5  6  7  8  9</td>
</tr>
<tr>
<td>Biology</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
</tr>
<tr>
<td>Kinyarwanda</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td></td>
</tr>
</tbody>
</table>
11 Among the following people, indicate who has greatly influenced you (who gave you advice) when you made choice of your subject combination. Indicate their level of influence using number from 5 to 1.

<table>
<thead>
<tr>
<th>Category of people</th>
<th>Level of influence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Parents/guardian</td>
<td></td>
</tr>
<tr>
<td>Teacher</td>
<td></td>
</tr>
<tr>
<td>Brother/Sister</td>
<td></td>
</tr>
<tr>
<td>Classmate</td>
<td></td>
</tr>
<tr>
<td>former graduates</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 4: QUESTIONNAIRE FOR HEADTEACHERS

The purpose of this questionnaire is to enable the researcher to obtain information about factors influencing lower secondary school students when they make choice of subject combinations they would offer in upper secondary. You are kindly requested to fill in all the questions as honestly as possible. Your responses will be used only for the purpose of this study and you are guaranteed a high level of confidentiality.

Part A: General Information
1. Please, indicate your gender Tick (✓) only one option: Male □ Female □

2. How long have you been head teacher at your school? ...........................................

Part B: Information related to career guidance services at school
3. As a headteacher, you are required to give advice to students during the period of choice making of study subject, students would like to offer in upper secondary. Do you take time to analyse students’ performance and guide them accordingly in their decision making of subject combinations? Yes □ No □

4. (i) Does the school have career guidance policy? Yes □ No □
    (ii) If yes, who is it intended for .................................................................?
    (iii) Is there any document proving it is existence .................................?
    (iv) Who is the initiator: .................................................................?
    (v) Who does its Monitoring and evaluation .................................?
    (vi) What level of education does the career guidance officer (s) have?
        ........................................................................................................
    (vii) What do they do in career guidance
        ........................................................................................................
        ........................................................................................................
5. (i) Do you meet from time to time students who may have chosen a wrong subject combination in comparison to their academic performance? Yes □ Non □
5.(ii) If yes, what advice do you give to them? .................................................................
........................................................................................................................................

6.(i) Do you meet from time to time students who may have chosen a wrong subject combination in comparison to their academic performance? Yes ☐ Non ☐

6.(ii) If you yes, what advice do you give them? Yes ☐ No ☐
........................................................................................................................................

7. i) If you analyse students performance in S4, do you realise students made right choice? Yes ☐ No ☐

7.ii) If yes, who strategies do you opt for to help students not discontinue their studies?
........................................................................................................................................
........................................................................................................................................
........................................................................................................................................