INFLUENCE OF EDUCATIONAL COSTS ON STUDENTS' PARTICIPATION RATE IN PUBLIC BOARDING SECONDARY SCHOOLS IN KICUKIRO AND RUHANGO DISTRICTS, RWANDA

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DECLARATION

This thesis is my original work and has not been presented in any other University or institution for consideration for an award of a degree.

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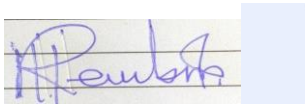
Signature:  Date: 26/07/2022

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This thesis is dedicated to Almighty God, my parents and relatives.

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LIST OF ABBREVIATIONS AND ACRONYMS

12YBE	Twelve Years Basic Education
9YBE	Nine Years Basic Education
CG	Capitation Grant
CPD	Continuing Professional Development
DEOs	District Education Officers
EACEA	Education, Audiovisual and Culture Executive Agency
EFA	Education For All
EQS	Education Quality Standards
FGDs	Focus Group Discussions
GDP	Gross Domestic Product
GER	Gross Enrolment Rate
GOR	Government of Rwanda
Ksh	Kenyan Shilings
LODA	Local Administrative Entities Development Agency
MINECOFIN	Ministry of Economic Planning and Finance
MINEDUC	Ministry of Education
NER	Net Enrolment Rate
NGOs	Non-Governmental Organizations
OECD	Organization for Economic Co-operation and Development
PER	Public Expenditure Review
PTA	Parents-Teachers Association

REB	Rwanda Education Board
Rwf	Rwandan Francs
SBS	Sector Budget Support
SIIP	School Infrastructure Investment Program
SPSS	Statistical Package for Social Sciences
SSA	Sub-Saharan Africa
SSAC	Sub-Saharan African Countries
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's for Emergency Fund
USA	United States of America
UTDBE	Untrained Teachers Diploma in Basic Education
WHO	World Health Organization

ABSTRACT

Despite the Rwandan government's effort to improve the quality of education by increasing the participation of students in public boarding secondary schools, little attention is given to the amount of money that government and household invest in education. This study was guided by four objectives which were to determine the influence of households' education expenditures on students' participation rates, to examine the influence of government education expenditures on students' participation rates, to establish the correlation between education costs and students' participation rates, and to analyze the mechanisms put in place to improve students' participation rates in public boarding secondary schools. The study was anchored on correlation research design to establish the relationship between education costs and students' participation rates. Data was collected from students and their parents, school head teachers and Districts Education Officers (DEOs). The target population comprised of all two DEOs and 10 school head teachers, 4382 students corresponding to 2186 parents. Yamane (1967) formula used to get a sample of 252 students, 126 parents while both DEOs and all school head teachers were selected purposively. The study used questionnaires, interview guide and education documents analysis for data collection. The data was analyzed using SPSS software tool version 21. Through data analysis, the study proved that most of households have more girls in boarding secondary schools than boys. The study revealed that there is a strong negative correlation between households' education cost and students' participation with $r = -.824$ and $p < .01$. The study also revealed that cost of girls' school materials is 10% higher than those of boys and there was evidence of a negative relationship between school material cost and student' participation rate ($p<.05$). In terms of household average educational expenditure in public boarding secondary schools, the study revealed that the household education cost is 165,427Rwf for girls and 156,794Rwf for boys. However, parents of children in schools of urban areas pay 12.6% higher compared to parents of children in schools of rural areas on school fees. The study also showed that the average government educational expenditures per students were 157,452Rwf per year. The study found that it is less likely to have full participation in boarding secondary school once the households' educational expenditures is continuing to be higher than the government expenditure. However, there is positive relationship between government education expenditures and student' participation rate in public boarding secondary schools. Based on calculating the cost of education, the study concludes that parents of girls in public boarding secondary schools and parents of children in schools located in urban areas pay a high cost of education especially in terms of school materials and transport. The study, therefore recommends the transfer of students to local schools; increase of contribution to boarding schools by government and more school income generating activities, which can promote students' participation rate in boarding secondary schools. Finally, study suggests further research be carried out to indicate the influence of hidden costs of education on students' participation.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Education needs to be provided equally to the youths in order to improve the economic status of future generations and countries as indicated by United Nations Children's Fund (UNICEF, 2016). Article 26 of the Universal Declaration of Human Rights, paragraph 2, stipulates that education needs to be geared toward the complete development of human personality in order to strengthen respect for human rights (World Bank, 2016). According to Johan (2016), education has become a critical component in people's efforts to improve their lives, and both men and women must have equal educational opportunities. Education is also viewed as a bridge that connects people to a brighter future and to the development of a country, with the latter being influenced by whether or not its population has access to schools (Johan, 2016).

Since education is viewed as an investment, there is a need to consider the cost involved. Educational cost is the amount that a student, an institution of learning or the public has to spend to educate the youths (Joel, 2018). The cost provided to any economic activity performed could be valued in various ways in which all stakeholders take into consideration various activities done in terms of education. The cost provided in education may be sub-divided into two categories: social cost and private cost. Social cost is the cost of education spent by the government. This type of education cost includes teachers' salaries, textbooks and school infrastructures for improving the welfare of citizens. On the other hand, there is private cost which is considered to be expenditures

incurred by parents or relatives like school fees, lunch fees, teachers bonus fees, transport fees from household to school, pocket money, student materials and school uniform in order to improve the equitable access to education (Kumar, 2004).

Many factors can affect access to education. For instance, access to education in Pakistan is associated with income of parents where high-income youths usually channelized into high school preparatory courses (Memon & Muhammed, 2018). This implies that, the higher the income of parents, the greater the demands for students' education. According to Ghuman, Gerard, Neon and Aoron, (2019), parents with high income are ready to pay considerable amounts of money to enable their children participate in various education activities in case there is the absence of state support. The private cost of education or the cost of education spent by parents or guardians has the crucial role in the determination of access to education and various courses as well as raising the completion rate of education level and reducing dropout rate (Roger, Ann, Reed, & George, 2016).

Since education has been perceived as an investment, governments and individuals have been investing in it. There has been a lot of concern as to who finances it as well. This can be attributed to complexities involved in financing education. These complexities arise from the fact that education has many sectors to finance ranging from pre-school to university and financing several components such as teaching and learning materials, physical facilities, salaries for workers as well as social amenities. The complexities involved in financing education calls for a proper methodology of establishing the unit cost of education (Mutegi, 2015).

The organization for Economic Co-operation and Development (OECD, 2017 & Mutegi, 2015), stated that the unit cost spent to educate a child, should be calculated due to the expenditure spent by educational institutions at the level of the related education to be acquired, with the number of students accessed. The average cost of equitable access to education identified, might be based on the ratio of cost of education per student and government educational expenditures that are also corresponded with the number of students, which should be represented as a percentage of GDP per capita (Mutegi, 2015).

According to Tansel and Bircan (2016), households or parents' educational expenditures can influence student participation due to their capacity of income where the completion and dropout rate of students can be affected by households' income. On the other hand, government expenditures can also influence students' participation like teacher salary and well -equipped school infrastructures, which can stimulate the visible increases of teacher effort, used while teaching, high students' performance, behavior in school settings and students learning conditions. In addition, Anit (2017) revealed that governmental expenditure on education could also affect students' access to education. This is mostly influenced by government intervention in education, which is responsible to ensure that opportunities for education are equitable and accessible across socio-economic groups done to make adequate school infrastructures and to increase the number of qualified teachers as well as reducing teacher: students' ratio, which results to the increase of students' participation in schooling (Anit, 2017).

Students' participation refers to an action of taking an active part in education by students in terms of access, dropout, performance and completion. Participation of students in secondary schools in developed countries like United State of America, Britain and

Germany offer students the opportunity to participate to secondary education for having high completion rates of the students at the secondary level of education that results to an increment of socio-economic status of the country (Miller, 2004). In Cyrus, Memos (2005) carried out the study related to students' access in secondary school in which the study found that the effective students' equitable access to secondary education increases socio-economic status of the country, completion rate and reduce illiteracy to citizens. This can also result to the increase of enrollment rate to the higher education.

Education access of students in secondary school in Sub-Saharan Africa (SSA) is lower than any other region of the world due to facing various problems related to the socio-economic status in such countries to help students to get effective education. Therefore, there is still a lack of students' access to secondary education, which is increasing, and this led to the lack of ability in the related countries to perform their effective economic growth and development strategies that help the governments to fund their community and to get an opportunity of expanding secondary education (World Bank, 2017).

The overpowering the resources spent by SSAC due to the requirement of financing education, it is expected to be found from domestic government resources as well as from international development assistance continued to support the education of the poorest countries. Despite such support of international development, assistance has reduced in the range of 28 out of 46 Sub-Saharan African Countries (SSAC) done between 2002 and 2016 for increasing the equitable access to education in such countries (Asma & Pauline, 2018). According to United Nations Educational Scientific and Cultural Organization (UNESCO, 2018), domestic education expenditure has been done due to the government

GDP which was increased from 3.8 percent to 4.3 percent between the periods of 2000 to 2017 for Sub-Saharan African governments.

In Africa, education systems have been influenced by many economic transformations that countries have undergone in many years ago (Ebaidalla, 2018). Mainly, the adaptation of liberalization and free market policies has caused a decrease in the public to finance education. Therefore, affect the amount of private investment known as household educational expenditure has increasingly. Since the educational expenses provided by households has gone rising up, also the basic of education like secondary education is still financed by public sector which is represented by the state government (Nour, 2020). Moreover, the reduction of educational expenditure provided by the government has contributed greatly in reducing the quality of public education where a big number of populations are forced in private education, which is financed by the households. This leads to a significant increase of households' education expenditures particularly those households with high income as indicated in Table1.1.

Table 1. 1: public education expenditure as a percentage of GDP in Rwanda and sample of Sub-Saharan African countries

Countries	**2014**	**2015**	**2016**	**2017**
Burundi	6.8	6.4	4.7	4.8
Cameroon	2.7	2.8	2.7	3.1
DRC	2.0	2.2	2.1	1.5
Ghana	6.2	5.9	5.8	4.5
Kenya	5.3	5.3	5.4	5.3
Rwanda	**4.3**	**3.8**	**3.5**	**3.2**
South Africa	6.1	6.0	6.0	6.1
Uganda	4.5	3.9	3.4	3.0
Tanzania	3.9	4.2	4.3	4.0

World Bank, 2018

Table 1.1 presents the public educational expenditures provided by the government as the percentage of Gross Domestic Product (GDP) in Rwanda and other sampled Sub-Saharan African Countries (SSAC) since 2014 up to 2017 where the government expenditure in Rwanda, on education as a percentage of GDP kept decreasing from 2014 until 2017. This implies that, this decrement of educational expenditures by government of Rwanda where the public educational expenditures as a percentage of GDP was 4.3 in 2014, 3.8 in 2015, 3.5 in 2016 and 3.2 in 2017 created a burden to households to pay a high cost of education. Therefore, this can be attributed to one of the factors, which can affect the students' participation rate due to the increment of household educational expenditures.

In Rwanda, the budget allocation for education sector has been changed in the past seven years, where it was reduced from 16.2% of country budget to 11.5% (UNICEF, 2017). This implies that the education budget which was supposed to be allocated in secondary schools, reduced from 36.5 percent in the year of 2012/2013 to 26.5 percent in the year of 2017/2018 while other levels of education (pre-primary and primary levels). Education budget increased from 27.8 percent to 41.7 percent and this presents that government puts much emphasis in pre-primary and primary schools while in secondary boarding schools (UNICEF, 2017). This also implies that majority of parents carried the burden of financing education of their children, took decision to enroll them in Nine Years Basic Education (9YBE) and Twelve Years Basic Education (12YBE). However, the government of Rwanda made a decentralization of educational expenditure where education budget delegated to be allocated and executed at the district levels (UNICEF, 2017).

Ministry of Education in Rwanda (MINEDUC, 2017) stated that the number of students accessing lower and upper secondary schools increased in the years of 2011 to 2016 from 486,437 to 553,739 because most of the students got an opportunity of being enrolled in 9YBE as well as 12YBE. This increased the transition rate of students in secondary level of education as well as gender equality, which was mentioned due to the effort of government of Rwanda by encouraging the retention of female students. However, the access to secondary school was still less equitable in the rural and urban area due to insufficient financial capacity of households to finance education of their children.

Local Administrative Entities Development Agency (LODA, 2014) created new *ubudehe* categories of households basing on their socio- economic status such as category I, II, III and IV. Category I present families, which do not have house and it is very hard to afford their basic needs. Families in Category II have their own home or are able to rent but find it difficult to find full-time work. Families whose jobs and farmers who can go far above substance farming to generate an excess that can be sold are represented in Category III, while families with large-scale businesses, people working with international organizations and industries, and civil employees are represented in Category IV. These households' *ubudehe* categories can play an effect on student educational enrolment and dropout rate. Therefore, the Table 1.2 shows Gross Enrolment Rate (GER), Net Enrolment Rate (NER) and dropout rate of the student in secondary school by districts in Rwanda in 2017.

Table1. 2: GER, NER and dropout rate of secondary school students by districts in 2017

Districts	GER	NER	Dropout rate	Districts	GER	NER	Dropout rate
Gisagara	2.5	1.7	0.8	Gatsibo	4.0	1.8	1.2
Huye	3.0	2.4	0.6	Kayonza	3.0	1.9	1.1
Kamonyi	3.5	2.7	0.8	Kirehe	2.9	2.0	0.9
Muhanga	4.1	2.8	1.3	Ngoma	2.8	1.8	1.0
Nyamagabe	3.4	2.7	0.7	Nyagatare	3.9	3.1	0.8
Nyanza	3.3	2.2	1.1	Rwamagana	3.2	2.7	0.5
Nyaruguru	3.3	2.1	1.2	Burera	3.0	2.2	0.8
Ruhango	**3.8**	**2.3**	**1.5**	Gakenke	2.8	2.1	0.7
Karongi	3.8	2.9	0.9	Gicumbi	4.1	3.2	0.9
Ngororero	2.6	1.5	1.1	Musanze	4.2	3.5	0.7
Nyabihu	2.9	1.6	1.3	Rulindo	3.1	2.3	1.2
Nyamasheke	4.2	3.5	0.7	Gasabo	3.4	2.8	0.6
Rubavu	3.9	3.1	0.8	**Kicukiro**	**3.4**	**2.3**	**1.1**
Rusizi	4.1	3.5	0.6	Nyarugenge	2.6	2.1	0.5
Rutsiro	3.0	1.9	1.1	**Total**	**100**	**72.6**	**27.4**
Bugesera	2.8	1.9	0.9				

Source: MINEDUC, 2018

The Table 1.2 presents GER, NER and dropout rates of students in public boarding secondary schools in all districts located in Rwanda. Ruhango district presents the highest rate of student's dropout in all districts located in rural areas in Rwanda and Kicukiro district in urban.

Basing on the data found, there was a need to establish whether the costs of education in public boarding secondary schools such as government costs (school staff salary, school

material costs, professional training costs and school infrastructures costs) as well as households' educational costs (school fees, lunch fees, transport fees, teachers' bonus and school uniform) can affect students' participation rates in terms of student access, dropout rate, performance and completion rate.

1.2 Statement of the Problem

In most African countries, the government plays a greater role in the provision of financial support to educational development of its citizens. However, there is various sponsorship of education given by external partners of the school system. Private entities like non-governmental organization (NGOs), religious institutions, communities and various companies working privately have been supporting the costs of education (UNESCO, 2017). In Rwanda, this enhances the Ministry of Education to achieve its mission based on making transformation to Rwandan citizens to become more skilled and developing socio-economic status of the country. The heavy support of education was done to ensure equitable access to education in order to combat illiteracy, to promote science and technology and to get critical thinking and positive values (MINEDUC, 2016). Therefore, the government of Rwanda made an effort to ensure that every child has access to education, for instance, the establishment of boarding secondary schools for the students who have excellent performances in national examination. However, the drop out of students from such public boarding secondary schools going to Nine Years Basic Education (9YBE) and Twelve Years Basic Education (12YBE) is high despite the government effort to such education even though the households are supposed to pay some amount of helping their children to participate in such schools. According to MINEDUC (2018), argued that a total of 27.4 percent of students' dropout from public

boarding secondary school with 1.1 percent from Kicukiro district and 1.5 percent from Ruhango district. The households who need full participation of their children in public boarding secondary schools are complaining a wide range of educational costs required to finance education of their children to have access to education in public boarding secondary school due to the problem of socio-economic status of their families (UNICEF, 2017). This study therefore sought to establish the influence of educational costs on students' participation rates in public boarding, secondary schools in Kicukiro and Ruhango districts in Rwanda.

1.3 Purpose of the Study

The purpose of this study was to determine the influence of educational costs on students' participation rates in public boarding secondary schools in Kicukiro and Ruhango districts, Rwanda.

1.4 Objectives of the Study

i. To determine the influence of households' educational expenditures on students' participation rates in public boarding secondary schools in Kicukiro and Ruhango districts.

ii. To examine the influence of government educational expenditures on students' participation rates in public boarding secondary schools in Kicukiro and Ruhango districts.

iii. To establish the extent to which educational expenditures correlate with students' participation rates in public boarding secondary schools in Kicukiro and Ruhango districts.

iv. To analyze the mechanisms to put in place to improve students' participation rates in public boarding secondary schools in Kicukiro and Ruhango districts.

1.5 Research Questions

i. To what extent do the households' educational expenditures affect the students' participation rates in public boarding secondary schools in Kicukiro and Ruhango districts?

ii. To what extent do the government educational expenditures affect the students' participation rates in public boarding secondary schools in Kicukiro and Ruhango districts?

iii. To extent educational expenditures correlate with students' participation rates in public boarding secondary schools in Kicukiro and Ruhango district?

iv. What are the mechanisms put in place to improve the students' participation rates in public boarding secondary schools in Kicukiro and Ruhango districts?

1.6 Significance of the Study

Significant of a research determines who may benefit from the study conducted and how the specified audience (s) will benefit from the study findings (Draven, 2018). The significance of the study should be highlighted basing on the problem of the study as well as the conceptual framework and society as a whole, which may get benefit from the

finding of the study (Regoniel, 2015). Therefore, the results obtained may support the knowledge associated with the standard cost of education to be provided to the students in public boarding secondary schools in Kicukiro and Ruhango districts where such costs can affect the rates of students' participation in education. Educational stakeholders for a variety of uses may use the results of the study. The findings of this study, for example, may be useful to educational planners in determining the impact of the cost of education supplied to students in public boarding secondary schools on student participation rates. This may become aware of specifying the range of costs given to student participation in public boarding secondary school in their planning process related to boarding schools. Secondly, the households may benefit much from the findings of this study, to find out ways through which the provided cost of education can influence students' participation rates. This may become aware of identifying the standard cost of education paid to their children to get access to education in boarding secondary schools. This may also help them to get information, which can be helpful to them while planning and budgeting for education of their students in public boarding. Findings can also be beneficial to the Ministry of Education (MINEDUC) in such way that it may be aware of identifying the cost of education invested in public boarding secondary schools, which can help the students to participation in public boarding secondary schools. It may enhance the provision of guidelines and limitation related to the cost of education provided in such schools.

1.7 Limitation of the Study

Limitation of the study is the potential weakness through which a researcher may face during data collection, and considered to be out of the study control (Simon, 2017).

Therefore, the researcher indicated the strategies to be employed to overcome such limitation which is aware off so as not to affect the study outcomes. The researcher may confront a variety of problems when gathering data for this study. For starters, during data collection, the researcher may not have control over the impact of intervening variables. As a result, the study overcomes this by employing a basic random sample methodology and a proportion methodology to obtain responses from the respondents. Second, even during data gathering section of this research, participants may be unable to grasp the queries raised during scheduled interviews. The researcher overcame this limitation, by providing full explanations related to the given questions and record immediately the obtained responses by the researcher himself but for questionnaires, the researcher prepared questions with simple language that could help the students to understand the prepared questions. Thirdly, during data collection, the researcher may find other factors that can influence students' participation like drug abuse; the researchers overcame this limitation by suggesting to be conducted as the further study.

1.8 Delimitation of the Study

The study focused on public boarding secondary schools in Kicukiro and Ruhango districts because public boarding secondary schools are not sponsored by government completely to give some supports needed to the cost of education in terms of students' participation in public boarding secondary schools. The study did not include any other public boarding secondary schools outside of the two districts.

1.9 Basic assumption of the Study

This study was built on the assumption that;

The costs of education vary by the students' school name and location, the students' gender and class level as well as the households' socio-economic status. Despite, the amount of educational cost invested varies with the level of students' participation like access, performance, dropout rate as well as completion rate.

1.10 Definition of Significant Terms

Boarding school: refers to a school where students are lodged and fed as well as taught in the school.

Cost: Refers to the amount of money spent as an exchange of goods and services given. The concept of cost in terms of education is taken as the amount of money spent as to buy education at any given level of education.

Direct cost of education: refers to the cost of education that is directly visible like teachers' salaries and expenses of school textbooks as well as imputed rent to provide education to citizens.

Education cost: refers to educational expenditure, which is directly related to getting oneself formally educated like school fees, library fees, laboratory fees as well as the cost of buying textbooks.

Government educational expenditures: refers to the costs incurred by government to education for improving welfare of citizens.

Household: Refers to a group of people who live in the same house and share the same resources.

Households' educational expenditures: refers to the costs incurred by households for improving equitable access to education given to their children.

Influence: refers to the extent related to the effect of educational cost in public boarding secondary schools on students' participation rates.

Levy fees: refers to the charges imposed on something done.

Maintenance cost of education: refers to the cost of education added to the academic cost in order to help a student in the process of acquiring formal education like clothes, transport from home to school and expenses for lodging to those who are in boarding schools.

Participations: refers to an active engagement in a schooling system. Student intake and transition in an educational system are included in the concept of participation in education.

School fees: refers to the fees incurred by parents or households, guardians as well as relatives to help a child to attain the school instruction as well as the school instructional materials provided.

School materials: refers to such materials like textbooks, pens and notebooks as well as boarding materials like mattress, soaps and shoes and other materials like spoon and plate.

Student completion rate: refers to the number of children or students who arrive at school on time and move through the educational system without experiencing significant delays in order to complete the corresponding educational attainment on time.

Student dropout: refers to leaving high school, college, university or another learning institution by students for practical reasons, necessities or disillusionment with the system from which the individual or a student in question leaves.

Students' participation: refers to the action of taking an active part in education by students in terms of access, dropout, performance and completion.

Student performance: Refers to various skills and knowledge got by students to achieve the desired schooling objectives.

1.11 Organization of the Study

This study comprises of five chapters, the first chapter covers the introduction with background of the study, statement of the research problem, purpose of the study, research objectives as well as research questions. Significance of the study, limitation of the study as well as delimitation of the study, assumption of the study, definition of significant key terms and organization of the study are also presented in chapter one. The second chapter covers the literature review indicating literatures related to educational costs and students' participation rate. The third chapter is composed of research methodology. The fourth chapter is composed of data presentation, analysis and interpretation and chapter five is composed of the summary as well as conclusion of the study, recommendations and suggestions for further study.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

Literature review is the important part of the study, which helps the researcher to get the frontiers associated with the relevant skills and knowledge (Gall & Borg, 1989). It comes to represent what other researchers of the related area of the study where one may develop a study, which can make the contribution of the existing knowledge, have done or not. According to Hart (1998), presented a literature review as an objective, which comes to summarize and criticize the related available study on the topic being conducted.

A literature review can also be defined as a systematic survey of all existing information on a certain topic up to that point (Rishibha, 2018). As a result, it is a component of the research, which aids the researcher in learning more about past research on the themes under investigation. It is also considered one of the cornerstones on which previous investigations give valuable content and the foundation of the research problem to be discovered in the research (Rishibha, 208). A review of the associated literature, according to Kakoli (2015), offers a vital overview of the published content on the specific issues.

2.2 The concept of educational costs

The cost of education refers to something which is valuable in monetary term and given up as an exchange a transaction done to get goods or services. In the sectors of education, it is expressed as a factor associated with getting education service; this also presents the same meaning of cost given. The production of education usually consists, transmitting

and assimilating the body of knowledge and certain ways of capturing effective behavior. According to Kumar (2004), the number of students who have succeeded, although the quantity of education supplied by the producers known as educational institution, teachers, the ministry of education, and households that support youths. However, Johan (2016) indicated that it is not always corresponding or equal to the quantity acquired by consumers known as students and parents or guardians who are to some extent considered the buyers of their children' education.

Akangbou (2017) classified the cost of education into private or individual costs and public or social costs. The private or individual expenses of education are those spent by a student or his or her parents or guardians that affect individuals in their families and indicate the costs that people and families must face in exchange for the education they get. Such costs include tuition fees, cost of manuals, books and transport while public or social costs of education can be defined as a schooling cost spent by the government or any other institution (Akngbou, 2017). The public or social cost is composed by both direct and indirect cost. Direct cost refers to the cost of education, which could not immediately charged at a specific program but associated the services of education that are operated like budgeting, payroll preparation and data processing services (Kumar, 2004). Finally, opportunity cost of education presents the value of students' time, which is measured as earing foregone where students time is taken as cost, used while performing various activities (Mutegi, 2015).

2.3 The concept of students' participation

Students' participation is defined as the action of taking an active part in education by students in terms of access, performance, dropout as well as completion of an academic level of education attained by students (Wanjala & Koriyow, 2017). Therefore, access, dropout, performance and completion measure the act of students' participation in boarding secondary schools. According to Matiangi (2016), the increase of students' participation rate requires the greater commitment of both government and households or guardians. This was earlier confirmed by Mwangie (2020) that the participation of government in secondary schooling reduces the costs of education provided by households in the world. Chepkoech (2018) presented that, the households might contribute 60 percent to boarding secondary education of their children in terms of tuition fees, lunch fees, school uniform, boarding fess as well as transport fees from home to school location. Chipkoech (2018) also added that while government should contribute the remaining of 40 percent as the total expenditures of secondary school education like teachers' salaries, school infrastructure costs and teachers' professional training costs.

Khamati and Nyongesa (2019) conducted the study, which was related to tuition free secondary education and students' participation rates, and found that, free secondary education finances could be attributed to school based on the number of students enrolled in the school. Khamati and Nyongesa (2019) also realized that, this method disadvantaged most of schools with few numbers of students and motivated the schools already enrolled a big number of students, as they get high economies of scale due to having a big number of students in a school setting. Khamati and Nyongesa (2019) also added that this method of making free education in secondary school, did not consider

regional disparities as well as inflation effects. Since fund was horizontally distributed to public secondary school, to increase the number of student access to education.

The same study was conducted in Kenya by Chepkoech (2018) stated that the government of Kenya provided Ksh12,870 corresponding to Rwf1125,830 Rwandan francs per student per year as tuition fees to participate in secondary school in 2016 which was also increased in 2018 and became Ksh22,272 per student per year as corresponding to Rwf200,448. However, the contribution provided by households or guardians continued to become very high and some students precisely from families whose issues associated with financial capacity may fail to afford the school fees which was Ksh53,554 corresponding to Rwf481,986. This reduces students' access and completion rates with high increase of students' dropout rates (MOEST, 2015).

In Rwanda, the universal schooling was rapidly developed in the last decade, by restructuring Rwandan school system, which was accompanied with an introduction of a policy, which was used to establish 9YBE (MINEDUC, 2016). 12YBE to all Rwandan children who were completing 6 years of primary school to reduce educational costs and the rate of students' dropout and to increase students' access and completion rates (MINEDUC, 2016). However, the government also established the schools for excellent which were used to be accessed by students of high performance in national examination, where the greater part of financing education in such schools, are sponsored by households whose children need to access in boarding secondary school.

UNESCO (2017) presented the statistics of secondary school in Rwanda, required to be accessed by students attaining secondary education where in 2015, 15.4 percent

secondary school were private, 29.4 percent of secondary school were public secondary schools and 55.2 percent of secondary schools were found in government aided of boarding schools. The highest students' participation rate was found in government aided boarding secondary schools at the average rate of 54.5 percent. However, there is still a gap of students' participation in public boarding secondary schools (Jost & Nick, 2019).

2.4 Government costs and students' participation

Countries invest in education to improve human capacity and society in general by removing out the issue associated with inequalities and enhancing the growth of economic in the region. The amount of expenses in education is a condition and is regard to be depending on the school population size, the salary level of teachers and delivery of instruction (Beata et al., 2017).

Tsang (2018) also categorized the factors that can affect educational costs as the demands of education such as teachers' salaries, repeaters and dropout rates, technologies needed to implement effectively the system of education, utilization of resources and teachers' salary. The educational demand occurs due to the increasing of educational demand which can be attributed in case, education creates its own demand, powerful political pressure to meet the demands for education, high economic growth and adoption of educational policies (Tsang, 2018). Technologies in educational factor, comes whenever education uses highly labor-intensive technologies that cannot be changed much while teacher salary structures factor occurs when teaching force comprising many experienced and long serving teachers attracts high salary cost than that with more newly recruited and inexperienced teachers who need more training related to their tasks (Joel, 2018).

Consequently, teaching force, this is fair; bring the new and long serving teachers in more cost-effective (Tansel & Bircan, 2016).

Anit (2017) stated that drop out and repeat rate factor occurs when repeaters and dropouts increase due to the average number of years invested per graduate. Tsang (2018) stated that the increased number of years needed for individual student to complete studies, which can translate into high unit costs. The factor of utilization rates occurs when the unit cost per students is substantially influenced by the rate of utilization of teachers as well as educational facilities and equipment. Therefore, poor utilization of educational resources increases the government costs in education. Finally, the factor of market forces occurs when the price of educational in puts is generally affected by the interplay of forces in the market place like when teachers of science subjects are offered more remuneration.

The educational system should be in response of raising its payment package in order to retain them and to encourage more students (Joseph et al., 2020). This implies that cost of education incurred by the state government is associated with gender disparities within secondary schooling system in Rwanda. According to John (2009), students enrolled in 2008 were only 92 female secondary school students for every 100 male students enrolled in 689 secondary schools in Rwanda as average number of students per school in which 68 percent were public schools while 32 percent were private. Gender disparity of students who enrolled in secondary boarding continued to be increased in 2017 as indicated by the total net of enrollment rate in Kicukiro and Ruhango districts (MINEDUC, 2018). For female, there was 27.0% in in lower secondary and 24.6% in upper secondary while the enrollment rate in such districts for male was 21.8% in lower

secondary and 22.9% in upper secondary (MINEDUC, 2018). This gender disparity of students' enrollment in secondary boarding schools was increased due to the pass mark of boys and girls who are to be enrolled in boarding schools where the pass mark for girls is low, compared to the one of boys. Therefore, girls are the ones whose high chance of being enrolled in boarding secondary school.

In 2018, the number of secondary schools increased proportionally with the number of students enrolling in secondary education within 1567 schools with 42 schools in Kicukiro district and 52 schools in Ruhango district where 461 are for public, 871 schools are for government aided while 235 schools are for private schools. In Kicukiro district, there are two public boarding secondary schools while in Ruhango district there are eight public boarding secondary schools as the Ministry of Education (MINEDUC, 2018) presented it. This shows that there is an increment of secondary schools in Rwanda due to the implementation of educational policies, which prevent students dropout and increase completion rate.

2.4.1 School staff salary as the cost of education

Remunerations given to the school staffs are taken as the key determinants used to make teaching profession more attractive and relevant (Anang, 2018). However, there are other factors, which bring people into the profession such as the structure of working conditions, career prospects, profession development opportunities like professional trainings and workshops as well as recognition (Anang, 2018). These ensure that teachers are satisfied and sufficiently motivated so that they continue keeping the provision of high quality of teaching (Mwangie, 2020).

According to Education, Audiovisual and Culture Executive Agency (EACEA, 2018), the majority of countries in Europe have clear statutory salary which is shared basing on the level of education that a teacher is registered in. Teachers teaching in the sections providing basic education, teachers are paid less than those teachers who are registered in lower and upper secondary levels of education. Despite, there is a small difference of secondary teachers earning based on their profession where teachers in upper secondary, tend to get a greater statutory salary that the teachers who are registered in lower secondary level of education. EACEA (2018) also added that, there are some pushing progressions related to teachers' salary and incentives in the performance of their career within various European countries such as Denmark, Lithuania, Iceland, Norway, as well as Serbia. However, in these countries there is some difference in teachers' payments where there is a difference of 20 percent of the salary, which is paid to the beginning teachers, and the top expected range salary. Nevertheless, the top range salary is almost double the starting teacher's salary in some countries of Europe like Romania, Ireland, Greece, Portugal, Hungry and Austria (Dupas & Kremer, 2020).

Furthermore, the top range presented in statutory school staff salary, is determined by various factors like those that individual performance presented in the working place and time of in - service of an employee, which is taken as working experience. In some countries like United Kingdom, Sweden, and Liechtenstein, it takes approximately 28 years of working experience to reach at the level of getting top statutory range salary (Susan, 2019). According to the council of European Union (2014), the level of salaries and various incentives given to the employees in a given institution, is considered as the key determinant factors that attract people in various working sectors including teaching

profession and performing various school activities. Therefore, the Table 2.1 presents the ways through which teachers in Europe are paid basing on the educational levels that they are registered due to the starting salary and top range salary.

Table 2. 1: Average annual basic gross teachers' statutory salary in Europe

Educational levels	Starting salary (EUR)	Top range salary (EUR)
Pre-primary education level	22,573	35,176
Primary education level	24,225	38,620
Lower secondary level	25,066	40,513
Upper secondary level	25,910	42,788

Source: EACEA, 2018

Apart from salaries given to teachers in Europe, all systems of education in Europe enhance the provision of allowances to teachers (EACEA, 2018). This was done for helping them, to improve their outstanding performance; to make further formal qualification and to overcome some challenges that they meet in various circumstances of teaching, where teachers are given approximately a half of their education system (EACEA, 2018).

According to UNESCO (2018), teachers and their actions in classroom setting, play fundamental impact on students learning conditions. Educational system is good because of the quality held by schoolteachers and the way that they are treated in their career, as they are people to which society charges them with simultaneously proving care for its children as well as developing their skills for both learning and living in a normal life. In this case, teachers are supposed to be remunerated due to their teaching services provided (Dupas & Kremer, 2020).

According to Vermeersh and Kremer (2016), salaries given to teachers and other school staff salaries as well as supporting staff salaries in various Sub-Saharan African countries, meet some limitations based on socio-economic status of the countries in Africa where such counties spend too much to in-service professional training and teachers support.

In Africa, the changes occur in distribution educational budget by various state government depend on the size of school population and the sustainability of the country' educational sectors which should be done by basing on the total government spending (Susan, 2019). African countries, Susan (2019) added that Morocco allocated about 26 percent of the total government educational expenditures with 18 percent, which was taken as the salaries given to teachers. Zimbabwe on the other hand, the government allocated approximately 8 percent of the total government expenditures in educational sector in which 100 percent this payment, was given directly to salaries distributed in education (UNESCO, 2018). Therefore, teachers in Sub-Saharan African countries experience too little spending of government in education sector especially on salaries paid to teachers. This therefore comes as the results, which affects the provision of quality education done to low valuation of teaching activities to teachers as their profession and discouraging potential candidates who need to be one of the members doing teaching profession because of remunerations given to teachers and low allocated salaries in education sector (UNESCO, 2018).

Figazzolo (2020) suggested that teachers have to be paid a high salary compared to the salaries paid to the average citizens as they intend to be more educated than average citizens regardless to the income presented in the country. However, many sub-Saharan

African countries are tracking on how they can get some opportunities, which could be used to make some investments, which can be used while increasing access to secondary schooling (OECD, 2017).

In Rwanda, MINICOFIN distributes the public funding and it is subdivided into categories such as Capitation Grant (CG) and teachers' salaries (MINECOFIN, 2012). The capitation grant which is paid from the Ministry of Economic Planning and Finance is sent directly to school head teachers as they are taken as the school representatives of school setting especially in terms of school management and also this capitation grant is composed by two different elements related to two ways capitation grant payment. The first payment is paid basing on the number of students enrolled in school at the average of 21,000 Rwandan francs per students and this payment is paid once in a year. The second payment related to teacher' bonus due to teacher performance, which is paid per month per teacher, registered in education sector (Transparent International, 2012).

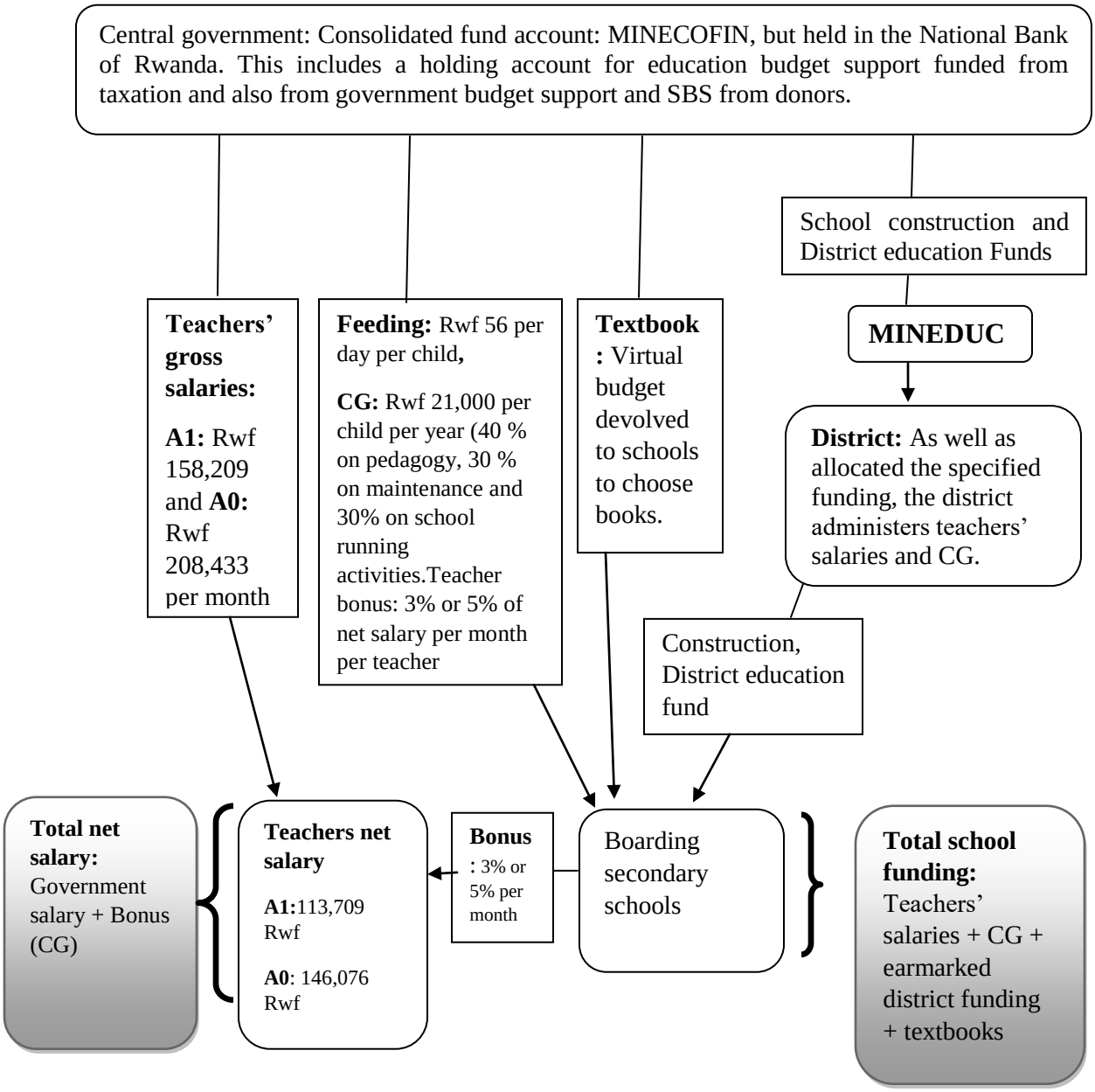
The allocation of capitation grant given to teachers teaching in public school in Rwanda, it is taken as the formal consideration of teachers' bonus done, by basing on their performance presented in their teaching subject (MINEDUC, 2014). Nevertheless, such capitation grant is given to all teachers teaching in secondary schools and it is taken as an addition to their salaries (MINEDUC, 2014). Therefore, the system of financing which is used to pay teachers, is automatically administered to all districts as they are thirty districts found in the whole country of Rwanda due to the fact that, educational budget is decentralized at the level of each district (MINECOFIN, 2012). Therefore, the assessments done in each district of Rwanda, to find out the number of students and teachers presented in each school setting where the school head teachers who are in

charge of implementing of the daily school management activities have the duty of providing teachers' bonus to the respective teachers in school. Transparent international Rwanda (2012) presented the policy, which stated that 50 percent of capitation grant should be distributed to schools to buy the school textbooks, 35 percent of the same capitation grant should be allocated in the school maintenance and the remaining 15 percent should be allocated in teachers' professional trainings.

On the other hand, the educational funding provided by the state government for improving teachers' welfare, is teacher's salary. The salaries paid to teachers, are paid from the Ministry of Economic Planning and Finance and sent to teachers basing on the information and monitoring done at the district level (MINECOFIN, 2012). The basic teachers' salaries in secondary school in Rwanda are the same to all teachers teaching in public schools in Rwanda. However, the difference is for teacher's teacher' bonus may vary due to teacher's performance and other added teachers bonus provided by parents to those who are teaching in public boarding secondary schools and the total net starting salary of teachers teaching in secondary school is 113,709 Rwf for diploma (A1) teachers and Rwf146,076 for bachelor (A0) teachers (MINEDUC, 2014).

Lillian and Will (2020) stated that educational public funding system in Rwanda is flat. This implies that the given educational funding is established to ensure that students get equitable access to education regardless where they come from, or socio-economic status of their families and any eternal circumstances, they receive the same level of funding. The Figure 2.1 presents teacher' salary and school budget in Rwanda.

Figure 2. 1: Public funding in Rwandan secondary school



Source: MINEDUC (2014)

The Figure 2.1 shows the distribution of public funding in secondary schools in Rwanda. The figure 2.1 reveals that the total net teacher' salary in secondary school, is Rwf 113,709 for A1 teachers and Rwf146,076 for A0 teachers. The bonus of 3 % of net salary

counted due to teacher performance that varies from 60 % to 80 % or 5% of the same net salary counted due to teacher performance that varies from 80 % and above. The figure 2.1also indicates that, government spends Rwf56 per child per day to school feeding to support lunch fees paid by parents and Rwf21, 000 per child per year where 40 percent is used to support pedagogical activities, 30 percent to maintenance of the school infrastructures and 30 percent to other school running activities. However, the figure 2.1 also summarizes that, the total school funding by government, comprises teachers' salaries, capitation grant, as well as school feeding, earmarked district funding and school textbooks and other school materials.

2.4.2 School material cost as the cost of education

The government and any other school stakeholders (Jonathan & Justine, 2018) supply the school materials, which are used by school in the implementation of teaching aspect, and other school activities. The improvement in participation of students to education where such supplied materials are taken as the major characteristic that emerged immediately all over the World especially in Europe (Jonathan & Justine, 2018). The distribution of school materials by the state government in Europe is done by basing on the students mean, which is presented in a given school like students chairs in classroom and beds to be allocated in the students hostels as a boarding school (Anang, 2018).

According to Bransford (2016), the school materials, which could be supplied by the government in order to make effective schooling process in order to improve students' participation, are curriculum, school library textbooks as well as pedagogical materials like materials of school laboratory, chalkboard, white board and also other needed teaching and learning aids. According to Lindahi (2017), there is the major issue related

to the development of curriculum to be used in formal secondary science education in the World, as well as the difficulties of making recruitment of science teachers. Mostly, Lindahi (2017) added that in various countries since the world like sprain and Poland, curriculum is considered as a major determinant of any education that can accumulate the students' retention in case curriculum is well prepared and implemented by qualified teachers.

Mercer et al. (2016) added that well prepared curriculum used in school setting, effective distribution of pedagogical materials like school library materials and qualified teachers whose effective communication to students during teaching and learning process, enhance students' access and completion. According to Lyons (2016), the cost spent to school materials to be supplied by the government in the developed countries, continued to be increased and this can have a greater effect on students' participation especially in secondary schools, as they need many materials. However, it was stated that, without proper school material supplies, it is virtually not possible to develop a meaningful and relevant education (Au, 2018).

In Kenya, the cost of school material supply is cheaper, compared to European countries or North America, where school materials needed to be distributed by the government are supplied at high cost as it was stated by Organization, Economic for Cultural Development (OECD, 2013). Despite, the cost of school materials in Kenya is low than the cost of school materials in developed countries, some public secondary schools in Kenya do not have sufficient materials needed to be used in school setting like school library textbooks and well- equipped school laboratory (Handley, 2019).

In Rwanda, the establishment of cost strategic plan related to school materials provided by the government of Rwanda was done to make clear framework of policy, which was needed to be implemented in terms financing education (MINEDUC, 2017). This helped the government to effective planning in education related to Sector Budget Support (SBS) and support the discussion happened to focus and highlight the financial gap related to education as the Government of Rwanda (GOR, 2017) stated it. Through MINEDUC, resource allocation to public boarding secondary schools might be done due to Sector Budget Support (SBS) to education (Fofack, 2019). Public Expenditure Review (PER) showed that children get opportunity of accessing in 9YBE and 12YBE however it is still a challenge to students of public boarding secondary school where some school materials are allocated due to charges provided by households whose students participating in such public boarding secondary schools (Fofack, 2019).

Educational statistics presented by the Ministry of Education in Rwanda (MINEDUC, 2018), there is a greater number of students in boarding schools basing on the students increment in term of GER and NER. However, there is a big gap in school material caused by the reduction of governmental school material supply. For instance, the number of students' desks was reduced in classroom setting in public boarding secondary school that could not match with the number of children who are supposed to be enrolled as they increase day to day (MINEDUC, 2018). Therefore, this can be one of the challenges affecting students' participation in education and good student learning condition. Secondly, there is an increment in distribution computers to be used in public secondary school in Rwanda, but there is still a challenge having access to such computer due to high student ration per computer where in 2017, one computer was supposed to be

used by nine students in secondary school. Thirdly, the distribution of school reading textbooks was low, in all subjects taught in secondary school (MINEDUC, 2018).

2.4.3 Professional training cost as the cost of education

According to Linda and Madelyn (2017), teacher professional training refers to the structured professional learning added to teachers' knowledge and practices to improve effective students learning conditions, which can also enhance better learning outcomes. The formal professional development given to teachers represents a sub-set range of teachers' experience that may come to improve the quality of teachers (Linda & Madelyn). Therefore, the state government is the one of the most stakeholders of education sector, to finance professional development needed by teachers to help teachers to get opportunities of increasing their teaching career through getting professional relevance skills and to enhance effective learning condition in classroom setting (Allen et al., 2015). The professional development platform that is also considered the opportunities offered to teachers to get professional content which must be done basing on duration and the amount of money invested by the government or any educational stakeholders (Shaha & Ellsworth, 2019).

The organization for Economic co-operation and development (2019), conducted the study in Europe related to teacher professional development done through the provision of professional trainings, this organization stated that various professional training given to teachers teaching in public schools. Linda and Madelyn (2017) stated that the state government to support teachers to full participation in various professional should finance such trainings. For instance, professional workshop, conferences related to education, programs related to teachers' qualification, observation visits to other school,

which helps to share knowledge and skills among teachers, participation in the network, related to teachers (Linda & Madelyn, 2017). This implies that professional development of teachers as well as individual or collaboration research related to various topics lead to improvement of both teacher and students' performance.

OECD (2016) added that the cost of teacher professional development established by the state government, keeps increasing mostly in the provision of secondary education due to the fact that, the duration of preparing training programs given to secondary teachers takes long. Teachers who participated in the provision of professional development were at the rate of 88.5 percent (OECD, 2018). This shows that, there is a high cost invested in the provision of professional training to teachers by the government, which can also help schools to get high-qualified teachers and greater competent students, which results to having high completion rate. Nevertheless, OECD (2016) presented that there is a part of unsatisfied demand raised by various teachers in a world, in which they stated that, there is a lack of interconnection between supports provided by the government to professional training and teachers development needs valued in terms of content and modes of delivery. Therefore, teachers noted that, what is the most effective to their development to be paid in full or partial of cost needed to participate in such given qualification programs so to enhance their living standards (Namit, 2017).

Raphael and Claudia (2012) conducted the study in Benin, related to teacher professional development in SSA, in which they presented that, most African countries are having the common issues related to the improvement of quality and equity in education, which should be maintained as the most factors that lead to having high students access in education. Cobbod and Dare (2017) added that professional development given to

teachers should be emphasized by all African countries through having greater commitment related to financial context, which should be settled regularly and sufficiently to African teacher's professional development.

Leach (2015) stated that, in Sub-Saharan African countries, there is a big number of untrained and under qualified teachers in their career compared to professional development given to teachers in United States and in European countries due to the fact of having poverty and legacy of late colonialism in African countries. Kriek and Grayson (2019) also added that, the training format used in Sub-Saharan African countries, should service the aim of strengthening the professional development of teachers given in terms of lectures, workshops, seminars, colloquia, demonstration, simulations as well as micro-teaching. They also stated that, all of those kinds of training provided to teachers must be financed by the level of the state government to improve literacy skill of citizens (Kriek & Grayson, 2019). Having competent students' completion as well as developing professional teachers needs such content knowledge, teaching approaches and professional attitudes, which promote the quality of in-service teachers in their teaching activities, play a significant role in the promotion of students' participation to schooling.

Raphael and Claudia (2018) also stated that, there are some challenges that affect the implementation of teacher professional development in their daily performed school activities in Sub-Saharan African countries including Rwanda. This also affect the participant motivations known as teachers' motivation caused by the limited funding to be distributed in education sectors, lack of materials as well as lack of professional expertise and time of trainers. They also presented that, in SSAC, there is insufficient of compensating the act of performing professional development activities (Raphael &

Claudia, 2018). However, such provided professional development enhances learning and practices of teachers.

Namit (2017) conducted the study in Ghana, which was related to the cost-effective ways, which can be used to train teachers, and stated that, African countries like Ghana, met a discouraged challenge related to the lack of trained teachers due to social-economic status of the country, which results to influence the economic and education development of the country. Therefore, this low cost invested by the government, brought a real gap in the quality of teaching which affect students learning outcomes and their life perspective. Namit (2017) concluded that, the cost provided by the government to train the Untrained Teachers Diploma in Basic Education (UTDBE) improve their process of less planning and preparation, getting relevance classroom methodology and delivery as well as having effective classroom management techniques.

In Rwanda, teachers need a regular system of Continuing Professional Development (CPD), to improve literacy instructions related to teaching career (Amol & Krishna, 2017). Rwandan teachers suggested that, they need enough time of getting trainings for better learning and having enough skills related to teaching approaches and lesson planning. They also added that, continuing professional training should be flexible, in order to help teachers to participate in various trainings given by Rwanda Education Board (REB) and Non-Governmental Organizations (NGOs). This should also be linked to the increase of teachers' salaries and incentives in order to reward professional development effort because the salary of secondary school teacher in Rwanda is associated with formal qualification got from university (Hilda, 2016).

NGO of Save the Children (2016) conducted the study related to continuing professional development in Rwanda, and stated that there is a big number of students in secondary schools in Rwanda whose performance is below the expected level of having ability related to both reading skills and writing skills. The NGO also found that, such low performance was caused by the insufficient professional trainings prepared by government to be given to secondary school teachers to help all Rwandan children to get fluent reading, writing skills and having proper counting. Therefore, Save the Children (2016) announced that MINEDUC should increase the cost of teacher professional. Joseph et al. (2020) also added that MINEDUC should work collaboratively with NGOs to enhance teacher training content in order to improve teacher literacy of instructions, which may result to high completion rate of competent students. However, the officers in charge of educational sector should become more collaboration that is formal and accountable to Education Quality Standards (EQS) given by Rwanda Education Board (REB) in order to increase the number of teachers participating in in continuing professional development and to set the budget that could be used to accomplish the regular training and school inspection.

2.4.4 School infrastructure cost as the cost of education

School infrastructures, as per Roger et al. (2016) include all amenities necessary for efficient classroom instruction, includes school administration building and playgrounds, classrooms water and sanitation as well as other facilities associated with boarding. According to Barrett et al. (2019), the government and societies in the world try to develop their system of education by making effective in puts to education system.

Barrett et al. (2019) stated that having relevance curriculum, well-compensated teachers, and having enough school infrastructures help the state government to ensure that, all children and youths have the opportunity of getting access to schooling in order to get knowledge and skills used to improve the quality of education. The quality of school infrastructures is very important and appropriate in educational planning and design, which should be done basing on the number of students who are at the rage ages (Daniel & Cox, 2017). However, this could be based on number of students being enrolled in the related area of school environment and the amount of money needed to be invested by both government and society in general on the development of school infrastructures in order to improve the literacy of children in the country (Daniel & Cox, 2017).

Asim and Schmillen (2015) conducted the study in United State of America (USA), about students' access to education and school infrastructures, and they came with the findings stating that, high investment of government to school infrastructures increases both school size and the cost of education per students, which may result to high completion rate with minimum dropout rate. However, there were some evidences showing that, small school got better academic results and high completion rate due to effective operation of educational cost done according to the broad variety of measures (Bringler et al., 2018).

Bloom and Unterman (2020) conducted the same study and realized that, small schools are note effective solely by virtue of being small but rather than working better in case of students' access is low. Small schools, according to Bloom and Unterman (2020), provide an environment in which teachers, students, and parents feel like they are part of a community and can address concerns such as learning situations, diversity, governance,

and physical structures such as classroom spaces. The study also found that, the large schools with completed infrastructures present various issues, which can affect students' participation rates such as high transportation costs, high administration overheads, low completion rates caused by high dropout rates, high vandalism rates as well as low teachers' satisfaction.

The school infrastructures can also meet geographical problems which can result to having small class sized school and also affect students' participation specifically in case of getting full students' accommodation (Petrosino et al., 2020). Therefore, the schools must be more locally allocated within the area due to the density demand of the location.

Roger et al. (2016) stated that having inadequate school infrastructures in secondary school, is a challenge in Sub-Saharan countries to achieve all targets of education, specifically educational access to secondary education worldwide. The effective and safe learning environment in Sub-Saharan African countries need the estimate of USA dollars of 30 billion of making learning environment which is conducive to teaching and learning activities done for the purpose of reducing overcrowded classroom and making various adequate school buildings (World Bank, 2016). However, good provision of school infrastructures, which was noted by World Bank (2014) that the country itself, is sufficient or not to improve students' access to education. Therefore, the effective educational delivery should be done across the board specifically with those who are in charge providing qualified teachers as well as teaching and learning materials and adequate school infrastructures can support an educational programme to improve various educational inputs such as curriculum development, textbooks development and distribution of teacher trainings (Theunynck, 2019).

According to Max Lock Centre (2018), school and community, should be involved in the development of having education school infrastructures within school settings where such participation of both school and community can improve the planning process of the related school infrastructures that can also enhance school maintenance. Therefore, educational planners responsible for school infrastructures should emphasize on establishing effective school management (World Bank, 2016). This implies that setting strategies that could be used in planning and construction process, finding the source that may support the development of school infrastructures, finding how infrastructure priorities at school, should be identified and prioritized and how it might be fixed into the overall school planning process (World Bank, 2016).

The cost provided by the government or any school development partner, should be taken as the investment to be used in repairing and maintenance of the school infrastructures (Rheingans & Freeman, 2020). Therefore, the current deficit of school infrastructures presented in the school setting, can be caused by the lack of maintenance cost of the existing school building and insufficient capital cost over the life -long of the school infrastructures.

Wright (2011) conducted the study related to capital and maintenance costs of the school infrastructures in Kenya, and stated that, the program of strengthening the school infrastructure in Kenya provided the incentives in schools located in 125 poorest districts in 2010. Wright (2011) also added the money spent to improve the existing infrastructures and building some new facilities. However, the initial building of the school facilities had invaluable cost baseline for various types of the school buildings.

They also added that, the price needed to construct the school infrastructures varied villages and technologies which were used.

In Rwanda, the program of school infrastructures strengthened mainly secondary school and managed at district level (MINEDUC, 2018). This reduced over population presented in classroom setting to increase students' participation rates, where the number of secondary school classrooms in 2016 to 2017 has increased from 2.5 percent to 3.1 percent respectively within the schools of government aided and public schools (MINEDUC, 2018). The MINEDUC also indicated that schools having the sections providing primary and secondary education were increased from 31.17 percent to 31.30 percent in 2016 to 2017 respectively.

2.5 Household costs and students' participation

According to Kumar (2004), expenditures released to education is not only provided by the state government households or guardians who bear the cost used to supply activities and services given by their children should also spend it. According to Kumar (2004), households' cost is defined as the part of expenditures or investments, which are incurred, by parents or students. Therefore, it is taken as financial expenses incurred by students or parents, relatives or guardians for having access to education.

Private expenditures or household expenditures of education given are categorized in two groups such as academic costs and maintenance costs in which academic cost is referred to as the educational expenses, which are associated getting the formal education (Rheingans & Freeman, 2020). School fees, library fees, laboratory fees and cost of books compose the important elements or components of academic costs while

maintenance cost is defined as cost, which is added to academic cost in order to help a student in the process of acquiring formal education (Kumar, 2004). Maintenance cost comprises the expenses incurred on various incidental expenses, lodging as well as boarding service, transport and clothes (Kumar, 2004).

According to Mutegi (2015), households should meet the number of educational costs in order to enhance activities associated on schooling services done day to day as well as meeting the cost of school fees, textbooks and note books, student' uniform pocket money and other school equipment as well as other incidental expenses. Therefore, the standard of payments is determined by the school with the support of Parent-Teachers' Association (PTA) as well as government for the purpose of helping students to get equitable access to education, increasing completion rate and also reducing dropout rate. Mutegi (2015) further indicated that the cost of boarding secondary school is high compared to the cost of day schooling. This was also supported by Kumar (2004) who asserted that the students from boarding school spend above than the students from day school on education due to hostel fees paid by boarders.

According to Njoroge (2019), the influence associated the cost of education incurred by parents to full boarding school required is used to be linked by the government of Rwanda that provided free education from primary up to 12YBE and lowering the amount of education to be paid in public boarding schools. This makes parents to enroll their children with faith that the programme would be free indeed with the minimum parental financial obligation. In case there is raising cost of living in boarding schools and charges, levies as parents' fees exceed (Ndiku, 2019). Therefore, indeed households should not feel the financial relief especially in relation to free education since the

programme was introduced in 2009. So, the parents whose low- income capacity can be an obstacle of helping their children to participate in such boarding schools due to the additional charges such as school fees, transport fees, students' materials and accommodation fees (Ndiku & Muhavu, 2019). Therefore, the students' participation in public boarding secondary school should be emphasized to improve equitable access to education.

2.5.1 School fees as the cost of education

The cost of education spent as the school fees of the student, refer to the fees incurred by parents or households, guardian or relatives to help a child to attain the school instruction as well as the school instructional materials provided.

Muthuri and Kirera (2018) conducted the study in Kenya, in which they examined both internal and external school factors that can affect the student' participation rate in primary school. They were having three research objectives such as to determine the influence of academic performance in Kenyan certificate of primary education on student' completion rate, to determine the influence of parental educational level and students' completion rate and also to examine the impact of students tuition fees on completion rate of students in primary (Muthuri & Kirera, 2018).

The study findings presented that most of students in primary school do not complete primary school accordingly so as to start Secondary School due to poor learning conditions caused by the lack of school fees or low financial capacity of households. It was also presented that, students who come from families that could not support their academic endeavors, failed to access secondary schools (Muthuri &Kirera, 2018).

Therefore, the study revealed that the low financial capacity of households affects their children to have full academic participation in secondary school due to the lack of school requirement. The study also announced that there should be a need to provide some support to children from poor families to complete their acquisition of basic education to be aware of attending secondary education. The study also recommended that the government should provide some financial supports to the families that are not able to pay school fees of their children as well as other additional educational expenses (Muthuri & Kirera, 2018). This shows that the study forgot to indicate the level by which the school cost and requirement may influence the participation of students as it was also taken as the knowledge gap.

Wamalwa and Odebero (2016) carried out a comparative study in Kenya, but this time on the impact of educational costs on the performance of students. The study collected the findings from teachers as the respondents of the study, in which they stated that, school fees needed to finance education in secondary school is one of the factors that can influence the student performance (Wamalwa & Odebero, 2016). Through the presentation of the correlation between school fees and students' performance, but the study failed to present the extent of such correlation. Therefore, this study complemented these findings through presenting the extent to which the students' school fees correlate with the students' participation rate in public boarding secondary schools.

2.5.2 The cost of school uniform as the cost of education

The cost spent to buying the school uniform, can pull, or push the student from schooling. Anang (2018) conducted the study in Ghana, which was related to the cost spent to

education in terms of buying school uniform. Three research aims guided the study, including determining both internal and external variables that draw and push adolescents out of schooling. Secondly, to examine the reason why some students do not get effective access to schooling as well as to present the ways through which schools resolved the problems related to high level of dropout rate within public secondary schools.

Therefore, the finding of the study conducted by Anang (2018) presented that the households as the primary stakeholder of education sector were not aware of providing the costs spent to school uniform and it was taken as the household factors, which have an impact on students' access, students drop out rate, students' performance as well as students' completion rate. Through the recommendations which were presented in the study that was conducted by Anang (2018), it was stated that, the cost which was needed to have full access to education, might be listed and planned in accordance with household financial capacity and should be implemented equally in all school setting. The households should also be involved in decision taken to their children's education and also monitoring as well as evaluation, which might be strengthened to have access to schooling, which can also result to high students' performance and students' completion as well as the reduction of students' dropout rate (Davies, 2015).

The study, which was conducted by Ananga (2018) did not present the conclusion related to the point, which were supposed to be evaluated, as making the establishment of the costs related required to having the school uniform that could weaken the students' participation rates. The study had also requested that, the households have to be included in schooling system by quantifying the tool amount to be paid at a given level of education.

Davies (2015) conducted the similar study in England. The results which were presented as associated with students in school setting, were obliged to wear the school uniform. However, the households agreed that, the costs requested to school uniform, increase as students educational background from primary level up to lower and upper secondary level due to the fact that in the latter level, students required some specialized in terms of school uniform (Reed, 2017). Despite the fact that Anang (2018) undertook the similar study, it was unable to match the cost of school uniforms and the participation rate of pupils. Furthermore, the findings of the study must be confirmed by school officials who may assess their influence on the requirements of the teaching and learning process for the sake of accountability and authenticity. Nonetheless, the current study tried to fill the gap by determining the cost of school uniforms and the participation rate of pupils. The prospective impact of such uniform prices on participation of students and their rates in public boarding secondary schools was shaped out using triangulated suggestions from homes and school officials.

Gentile and Imberman (2015) conducted the study which was related to the effect of school uniform on students' achievement as well as behavior of students studying in middle and high schools in United States of America (USA). The research focused on the fixed influences of students and schools, as well as school. The school uniforms could produce varied improvements in enrollment and high schools in the United States, according to specific linear regression trends and conclusions. This implies that, the study did not present the effect of school uniform on student access, drop out, students' performance as well as students' completion. Gentile and Imberman (2015) similarly concluded that the school uniform might be used as a technique to keep kids in the

classroom. This also suggests that increasing the expense of school uniforms may lower the number of kids who drop out (Reed, 2017). Since the effectiveness of students' achievement is taken as the mixture of various variables, the study came up to indicate influence of the costs spent to school uniform as incurred by the households on students' access and performance as well as students' completion rate (Gentile & Imberman, 2015).

Reed (2011) conducted another study opposed to what was developed by Gentile and Imberman (2015) evaluated the extent through which the school located mostly in urban areas may affect the establishment of school uniform policy. This implies that, the study ignored to evaluate how the school uniform policy can influence the students' participation rates among the schools located in rural areas.

Reed (2017) also stated that, the school uniform should not be related with the students' behavior at high level. This presents that the school uniform should not be one of the indicators that can reduce the indicators that can reduce the student behavior in the school setting that can also lead to the reduction of students' participation rate in classroom setting. Therefore, this study combined the data provided by both school leaders and households to present the relationship associated to students' uniform and the participation of students in secondary school.

2.5.3 The cost of transport as the cost of education

Transport cost in education is taken as the costs incurred by the households, guardians or relatives of the student to help him or her to move from home to school to have full access to education. According to Mason and Roselle (2020), the costs provided to

transport of students from home to school, may lead to the reduction of the students' participation rates. Specifically, the students that are living far from the school location, where transport is necessary and it may become an obstacle specifically to the students coming far from the families whose low economic backgrounds that may not help them to be able to afford such required expenses (Mason & Roselle, 2020).

Sigei and Tikoko (2016) reflected that the costs incurred by the households to transport as an issue that can affect the students' participation rate especially in secondary schools. The study conducted by Segei and Tikoko (2016) employed descriptive research design to examine the effects related to the costs provided to transport on students' participation in which the study presented that such cost of transport, reduce the students access, performance as well as completion rate in Kenya. The respondents confirmed that, students' participation rate was specifically caused by long distance located from the students' homes to their attended schools (Segei & Tikoko, 2016). The respondents of the study also added that, the lack of students' transport by households from home to school, may lead to students to have lower level of participation in secondary schools. The study also recommended that, households, guardians and relatives of the children, should fulfill their roles effectively towards to helping the students to reach their respective schools on time and regularly (Segei & Tikoko, 2016).

Similarly, Njoroge (2019) recommend that, the government of Kenya should develop the best policies that might help the students to have full access to education. Nevertheless, the study had two important knowledge gaps such as the lack of help to investigate the possible causes of students' dropout in secondary schools and being not aware of identifying the financial causes behind the registered students that can lead to lower level

of students' participation rates (Njoroge, 2019). This could lead to examining various financial causes as well as describing the level through which the costs spent to students' transport affect the students' participation rates.

Mugoro (2021) examined the issues meet by students in terms of transport and their respect effects on students' attendance in secondary schools in Tanzania. To collect data from the study's participants, such as students, school deputies in charge of academics and discipline, and school head teachers, as well as parents whose children attend respective schools, the researcher used a descriptive research design, questionnaire, and guided interview. The findings, which were collected from the students, presented that 46 percent of the students were going to school without any transport support from their parents, guardians or from their relatives (Mugoro, 2021). Despite, the small number of parents who were one of the respondents presented that they were provided the actual costs needed to transport their children to reach their respective schools. The questionnaire, which was used as the research instrument, was having the most concern in the study while getting the views of the research participant on the questions needed to be examined instead of assessing the amount of transport spent which might also had various influences on students' attendance.

Nevertheless, the study, which was conducted by Mugoro (2021) did not focus on the indicators related to the students' participation like students' access, students' dropout, students' performance as well as students' completion. Therefore, this study presented the perceptions from parents or households whose children in public boarding secondary school to explain the correlation between the costs insured by parents on transport as the cost of education and students' participation rates.

Njoroge (2019) conducted a study entitled “influence of educational costs on students’ academic performance in public primary school”. Basing on the findings of the study, which were collected, the school head teachers presented that, the students who come far from the school location, can be affected in terms of having effective punctuality. However, the study presented that, the poverty found in some families, do not adopt their children to pay the cost of transport needed to have academic field trip where the study presented that, around 3.3 percent of students in boarding school were able to manage the costs incurred by parents or household to transport (Njoroge, 2019). However, this study combined the data from the District Education Officer (DEOs), the school head teacher as well as students and their parents or households where the recent study ignored to involve parents, who have the high quality of perception related to the students expenses spent in terms of transport. However, the study was also not aware of meeting the transport cost with the students’ participation rate.

Asahi (2014) attempted to make some identifications and quantifications related to the influence of better transport of accessibility on students’ academic performance in United Kingdom (UK), by employing mathematical models. The study stated that, there was a big issue between the student performance and the distance between the student home and school. The findings of the study also perceived that perceived that the distance between students’ home and school, could affect the students to having low scores in school exams. This indicates that the higher the students use long distance going to school from home and vice- versa, the lower the student gets the standard academic performance or low student participation rate. Nevertheless, the mathematical modal which was employed, did not involve the perceptions from the school head teachers and

parents whose significant information related to the issues of transport from home to school and vice versa. Despite, Mutegi (2015) established that parents of girls spend more money on transport than parents of boys spend, while, travelling from home to school or in related schooling activities.

2.5.4 The cost of school materials as the cost of education

The school materials refer to such tools necessary use for students to attend the school activities. Such student' materials include pens, note books and students' textbooks as well as boarding materials like mattress, soap and shoes and also other materials like spoon and plate.

The study, which was conducted by farthering (2021) it was related to the cost of the school materials. The study which was developed, employed online survey research design so as to get the findings of the study in which the researcher asked various series of questions which were related to the cost of materials incurred by the households for the purpose of providing educational support to their children to attend school. The respondents of the study confirmed that 21 percent of the students could not get the required textbooks as well as note books to fulfill their academic activities as well as other appropriate materials needed to perform various school activities.

Carlos (2019) conducted the study, which was related to the cost of schooling materials provided by the households or parents in Tanzania. The study examined the factors that can discourage the participation of parents in in the development of the school activities. To solve the research questions as well as achieving the research objectives, the researcher employed the research instrument such as Focus Group Discussions (FGDs)

and guided interview. The findings presented that, a big number of parents or households do not perform their duties, which can support their children to participate in schools' activities as well as school instructions (Carlos, 2019). However, there was some parents who tries to perform their academic responsibility, though, they get insufficient school materials needed by their children and this, can become one of the obstacles that can affect the students' participation rates especially in secondary school.

Asma and Pauline (2018) stated that the level of the students' school materials availability, could affect the students' participation to schooling activities because, it was very hard to some families or households to get financial means that can be used to finance their children's education and to provide the required materials needed at school. Muthuri and Kirera (2018) conducted another study, which was related to non-academic factors that can affect the effective students' participation rate, which is also determined, by the student access, student dropout and performance as well as students' completion. The study had focused on students' progressiveness cycle in school and revealed that the amount required getting the schooling materials could have an influence associated with student's participation. Despite, the study ignored to consider the capacity of the households as the one, which can determine the costs that could be spent to school materials to enhance the students' participation.

2.5.5 The cost of lunch as the cost of education

Williams (2019) conducted the study in Pakistan, which was related to how a student can get lunch qualitatively and quantitatively. The study employed both quantitative and qualitative approaches and also used Focus Group Discussions (FGDs), questionnaire and

interview guide, that were also taken as the instruments of the study to examine educational costs spent by parents or households in the provision of lunch at boarding school to be given to their children. Therefore, the study revealed by questioning the four main questions such as, what are the school level costs incurred by households? Secondly, what ways do the educational cost influence the participation of students to schooling? Thirdly, what is the effect of education cost on the related households and the community in general? Fourthly and the last question, how do the households meet financial requirement related to the students' lunch at school especially in boarding? (Williams, 2019)

The researcher indicated that, however, the households keep financing education of their children in terms of school lunch, but it was still a burden to many households whose low socio-economic status. Despite, such cost of school lunch as the cost of education, had consequently affected the participation of their children requested to afford boarding school with in different ways of educational development.

Williams (2019) also recommended that the educational planers should reshape the educational policy that could guide the better feeding of children in all levels of education to improve educational productivity and support the households that cannot afford the required costs of education. They also added that education planners can also reconstruct a new school feeding program policy strategy and also developed high initiatives related to making strong monitoring and evaluation system for boarding school lunch policy so that the participation of students cannot be affected (Joma et al., 2017).

Joma et al. (2017) carried out another study in Nigeria that was related to programs of school feeding in developing countries to find out the effect that can come on children's health and educational achievement. Joma et al. (2017) also revealed that, there is a positive effect of school feeding on children's health and educational outcomes. However, the study did not provide clear conclusion and recommendation of what can be done to keep improving the children health and education outcomes.

According to Mhurch et al. (2018), the provision of well-completed lunch having all nutrients, improves the students' class attendance, getting high academic achievement and reduce short and long-term hunger that can also lead to the effective physical, emotional, social, mental and psychological development of a child. According to Mhurchu et al. (2018), there was no statistical difference identified between the school food service and kids' proficiency or any other educational result.

2.5.6 Teachers bonus as the cost of education

According to Choi (2018), the cost of education spent as bonus given to teachers and taken as the cost used to motivate teachers in their teaching load. Bray (2019), indicated that teachers' bonus was established so as to improve the academic levels expressed by students and taken as teachers' incentives that motivate teachers to promote students and teachers' performance in teaching and learning activities. According to Kingdom and Teal (2015), households are the one to be pretended to have financial capacity that could be used to support the students learning condition through teacher's motivation do through providing teachers bonus as the cost of education. However, some households present economic inequalities that may also lead to educational inequalities.

Choi (2018), tried to quantify the effect of teacher bonus on both students' participation and academic outcomes. Choi (2019) also indicated that teachers' bonus should bridge the students' performance gap however, the teachers' bonus may come as a challenge to households who have low financial capacity to enroll their children where they pay teacher bonus. Kingdom and Teal (2015) also indicated that the cost paid as teacher bonus has a significance relationship between students' performance, students' completion as well as school performance. However, the study did not state the clear conclusion and provision of recommendation that indicate what should be done to improve students' performance and completion rate without making teachers bonus as a burden taken by households who need the participation of their children in boarding schools.

Zhan (2019) conducted the study that entitled the effectiveness of teachers' incentives in school development in Hong Kong by using guided interview. Their study revealed that, the provision of teachers' incentives like teachers' bonus was more significant to support students and teachers' performance. However, the teachers' bonus incurred as the cost of education that varies due to the historical background of school that also comes as a challenge to households that present low socioeconomic status (Zhan, 2019). However, the study did not indicate how teachers' bonus could affect children who come from families with low financial capacity.

2.6 Relationship between education costs and students' participation rate in education

Students' participation is one of the measures of students' access to education. The major determinants of students' participation that leads to students' equitable access, high completion rate and low dropout rate are the families' financial capacity, availability of schools, the cost of school, the quality, and relevant of delivered education (Raja & Burnet, 2018). Secondary school participation rate in SSA including Rwanda continue to be low in the world as UNESCO (2017) that only 25 percent of school age population was accessed in secondary school in 2006 in SSA noted it. Various studies, which were done indicated that both direct and indirect schooling costs are important factor that can affect the students' access or the students' dropout (Hunt, 2019). The lack of ability to pay direct costs was found to be the significant causes of low students' participation in Ethiopia and Guinea (Hunt, 2019). This implies that the capacity building of both households and government is the major common problem in Africa to finance the provision of education.

According to the World Bank (2017), educational expenditures done in the help of students' participation by poor families is affected by the cost of education policies. However, the cost of education existing to poverty levels in Sub-Saharan African Countries varies due to the cost of education policy, which is taken as a single constraining factor to the serious decline in students' enrollments in public boarding secondary schools. Orodho and Njeru (2019) revealed that the educational costs required in secondary boarding schools have negative effect on poor and vulnerable households where students are not able to be enrolled in boarding secondary schools or to sustain a

continuous participation to those who enrolled due to the lack of ability needed to meet educational cost requirements. Therefore, this can result in inadequate provision of learning facilities in secondary boarding secondary schools like school materials, school fees, transport fees and school uniform to the enrolled, low completion rate and high dropout rate. Orodho and Njeru (2019) added that high expectation of students' participation in public boarding secondary schools leads to the high-income capacity to both government and households.

2.7 Mechanisms put in place to improve students' participation

Herman and Ejackait (2018) stated that the strategies, which can be used to increase students' participation rates, should be done in case educational institutions enhance economies of scales in schools. Herman and Ejackait (2018) established that learning institutions could operate the cost of education effectively by adopting various strategies such as consolidating small schools, training teachers who can teach many subjects, establishing optimal class sizes, increasing the numbers of streams and introduction of boarding schools. In the consolidation of small schools, they stated that it should be done to reduce the unit costs of education by increasing the number of teachers: students' ratio thus the emerging large schools are in position to utilize the available resources (Glassman & Pat, 2018).

On the other hand, Briseid and Caillods (2020) stated that training teachers who can teach many subjects could be one of the strategies, which are helpful to employ teachers who are able to teach more than one subject. This can result to the reduction of costs of hiring teachers by negating the need, to employ many teachers to handle the same workload.

Briseid and Caillods (2020) also added that establishment of the optimal class size can be done by enrolling students in class to an optimum level so as to enhance the utilization of existing facilities and to reduce the unit cost of education and also to increase students: teacher ratio. Finally, the introduction of boarding schools' students from distance places to use common educational facilities thus reduces the unit costs of education, which lead to the greater participation of students in boarding secondary schools. In these cases, the educational planners should determine the amount of unused capacity in the existing institutions before deciding whether and how much new construction is needed (Herman & Ejakait, 2018).

Therefore, it is critical to address the issue of boarding secondary schools illegally turning away pupils because their parents are unable to contribute financially. The government of Rwanda should develop more targeted state funding system, which could be done by financial funding to be allocated in schools with the highest levels of needs and the least ability to attract the highest parental contribution (Lilian, 2021). This may help various levels households regardless their ubudehe categories to enroll their children in boarding secondary school.

2.8 Summary of literature review

The literature review presents the views of other scholars related to educational costs invested in boarding secondary school to prepare students to higher education (Kumar, 2004). Mutegi (2015), revealed that educational cost is categorized in two groups in which the first group is represented by household expenditures like school fees, lunch fees, transport fess, student's material costs, teacher' bonus and school uniform while the

second group is represented by government expenditures like on school staff salaries, school material costs and professional training cost on student's participation. However, these studies did not disaggregate such education costs by gender, age and class level in boarding secondary schools where high students' participation in education requires high human capacity and this can reduce students' completion rate and increase student dropout rate (Becker, 1964).

2.9 Theoretical framework

The theory of human capital was used to guide this study. According to Becker (1964), Human capital theory, stated that physical capital could grow as the result related to the growth of income and vice versa. This theory, declared that the productivity of workers in education is increased due to the effective delivery of knowledge and skills, by raising workers income. Education Production Function (EPF) theory is the education variant of human capital theory in which the researcher felt cannot suffice because in production function, the amounts of output depend on the amounts of input (Hanushek, 1997). Therefore, this model of human capital theory was used in this study because it deals with making decision on current or future consumption which might be compensated by government and households whose responsibility of enhancing equitable access to education. Households also take into consideration the cost of schooling as they are expected to develop the future benefits of their children to schooling where educational benefits increase over the time while government can also take into consideration to improve socio-economic status of the country. Therefore, the students' participation rate in secondary boarding school varies because of human capital investments done by both households and government in schooling. Gender disparities in the benefits and costs of

schooling, can be translated into gender discrepancies in human capital investments by families. The human capital theory indicated that gender inequalities come in the distribution of educational costs, which can lead to gender differences in term of investments like children schooling.

In the developing countries, some households present some gender gaps related to the investments, which help girls to have access on education, it comes from the multiple sources of income. This implies that the expectation of parents to their children' education turns to boys more that girls where the access of girls to education is lower than the one of boys as well as job opportunities for the educated girls are also at the lower level compared to boys (Boserup, 1995). In households' responses to the cost of education while sending boys and girls to school, any combination of these gender inequities can contribute to a gender gap in human capital. The model of human capital investment shows that the utility regarded to the income of households is to have more educated and wealthier children (Glick, 2008).

Human capital theory also presents clear justification of government expenditures on education to both in developing and developed countries. It reveals that democratic investment in human capital is also considered as the result of rapid economic growth for society due to households' investments, which was seen as to provide returns in the form of their academic success and achievements, which lead to their children's equitable access to education (Fagerlind & Saha, 1997). This theory conclude that high income allows people to invest more financial resources in the quantity and quality of education which may increase the completion rate and reduce dropout rate and also affect future

demand while the parents whose low income may push the children to work instead of studying and this affect negatively the effective student's participation.

The application of educational costs that can affect the participation of students in public boarding school should be based on various educational expenditures incurred by both government and households (Ronald, 2003). Therefore, the purpose of government educational expenditures is to improve the welfare in youths and citizens of the country in general. On the other hand, the purpose of households' educational expenditures is to develop the future benefits of their children to enhance their school system that always increase over the time. According to Lee and Ronald (2003), the cost of education can be calculated by indicating the costs of education incurred by the households and the government on all forms of education.

Where,

$EC = SC + PC$

$SC = X_i + X_{ii} + X_{iii} + X_{iv} \ldots\ldots\ldots\ldots\ldots\ldots X_n$

$PC = X_1 + X_2 + X_3 + X_4 + X_5 + X_6 + \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots X_n$

Thus EC: Educational Cost

SC: Social Cost, the cost of education incurred by the government

PC: Private Cost, the cost of education incurred by the households or guardians

X_i up to **X_n:** indicate the variables that measure the government education expenditures. Examples: Teachers' salaries, school materials, school infrastructures, and teachers' professional development costs

X_1 up to **X_n:** Indicate the variables that measure the household's expenditures. Examples: school fees, lunch fees, teacher bonus fees, transport fees, student' school material costs and student school uniform.

Therefore, the application of educational costs incurred by both government and households in public boarding schools located in both Kicukiro and Ruhango districts are indicated in the following equation.

EC = SC + PC

SC = $X_i + X_{ii} + X_{iii} + X_{iv} +$……. X_n

PC = $X_1 + X_2 + X_3 + X_4 + X_5 + X_6+$ ……...X_n

Therefore,

EC = $X_i+X_{ii}+X_{iii}+X_{iv}+X_1+X_2+X_3+X_4+X_5+X_6+$ ……. Xn

X_i: Teachers' salaries

X_{ii}: School materials

X_{iii}: Teacher' professional development

X_{iv}: School infrastructures

X_1: School fees

X_2: Lunch fees

X_3: Teacher' bonus fees

X_4: Transport fees

X_5: Student' school material cost

X_6: Student' school uniform

X_n: Other educational expenditures

2.10 Conceptual framework

According to Mile and Huberman (1994), stated that conceptual framework is presented as to explain the main variables, which are demonstrated graphically to show the cause as independent variables and effects as dependent variables.

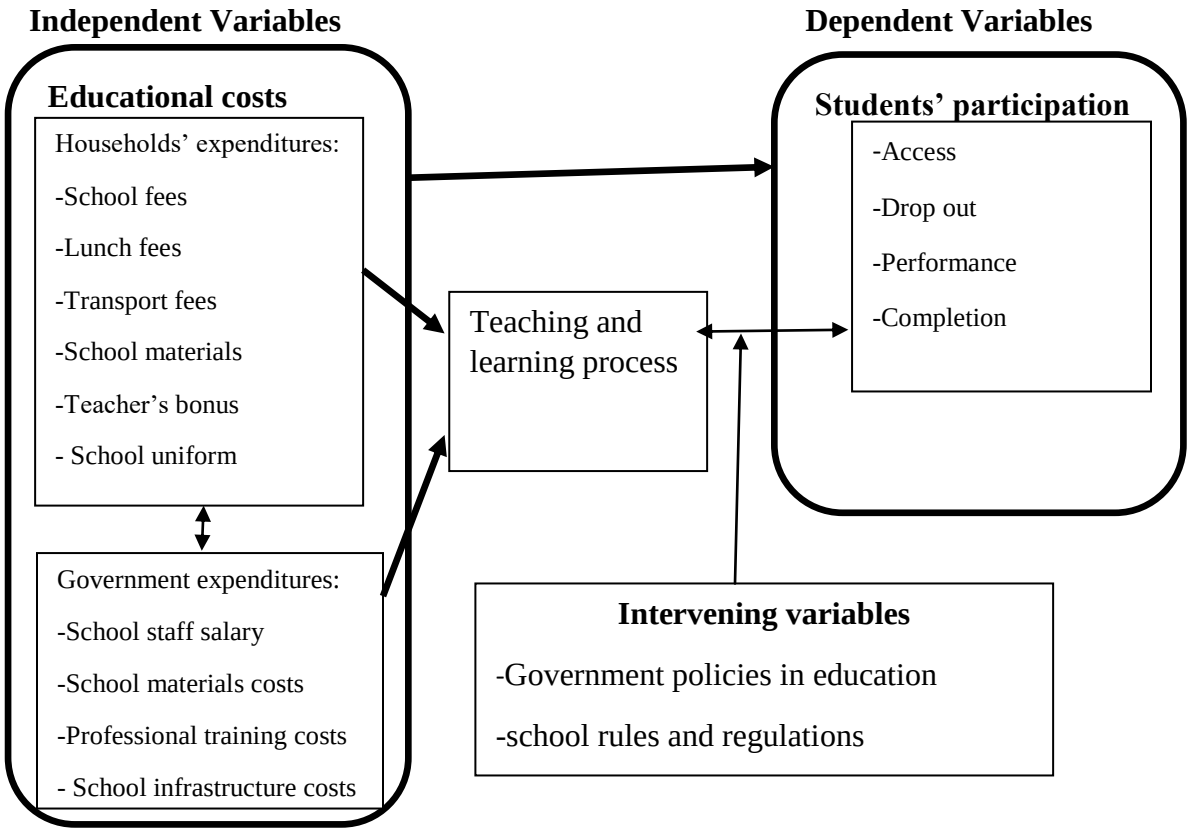


Figure 2. 2: **Conceptual framework**

The Figure 2.2 presents the relationship between education cost and students participation in public boarding secondary schools in both Kicukiro and Ruhango districts-Rwanda. The figure presents that the households' expenditures that can influence students' participation, as can lead to future benefits of their children, as well as government expenditures are also related with the students' participation as it is also expected to increase the socio-economic status of the country. Therefore, if the households' educational expenditures are high, there is a chance of getting low students' participation rates and was a need to determine an influence of households' educational expenditures on student's participation rate and to examine the mechanism that can be put in place to improve students' participation rate. On the other hand, if the households' education

expenditures are low, there is a chance of getting high participation rates of students in boarding secondary schools.

According to Orodho (2019), conceptual framework can be a hypothesized model that shows variables to be measured in relation of each other. Therefore, it presents what a study tends to conceptualize or show the correlation between variables (independent and dependent variables). Therefore, there was a need to examine the influence of government educational costs as well as other educational stakeholders on the level of students' participation, which made the researcher also to examine the relationship between educational costs and students' participation rate especially in public boarding secondary schools in Rwanda with a case study of Kicukiro and Ruhango districts.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter is composed of research design, target population, sample size and sampling procedures, research instruments which combine validity and reliability of the research instruments, data collection procedures and techniques, data analysis techniques and ethical considerations.

3.2 Research Design

A research design, according to Creswell (2014), is a set of strategies and processes for conducting a study that includes anything from broad assumptions to specific data gathering methodologies. Correlation research was employed in this study. According to Simon (2017), correlation research deals with making one or more characteristics of a group to discover the extent to which variables vary together while correlation studies, investigate the variables in their natural environment. The mixed methodology that combined both qualitative quantitative approaches was tied, can reduce some confusions related to educational costs as well as they can bring the final product which can present the significant contribution of both approaches in the study. According to Creswell (2014), a hybrid approach allows for the development of a broader variety of series in views. A research design, according to Oso and Onen (2016), is the pattern that the researcher plans to follow, plan, and set the methods to be applied during the investigation. The design of a correlation study also influences whether and to what degree two or more variables are related such as costs of education and students'

participation rates as cross-tabulation to determine whether and to what extent an association exists between educational costs and students' participation rates in public boarding secondary schools. Thus, the main purpose of a correlation study is to determine the relationship between variables (Simon, 2017). Therefore, this study aimed to establish the relationship between educational costs and students' participation rates.

3.3Target Population

A target population is a set of components from which the study hopes to draw conclusions (Fricker, 2006). All individuals of the study who meet the specific requirements for a study probe are referred to as the target population (Alvi, 2016). As per Creswell (2012), a target population is a set of persons or entities with similar shared traits that the researcher intends to study in order to generalize results about the targeted population. According to Borg and Gall (2007), the target population includes all members of a real or hypothetical set of people or occurrences to which an investigator seeks to apply the findings of the study. Therefore, the target population of this study was found in both Kicukiro and Ruhango districts in Rwanda. Kicukiro district is located in urban areas, it borders with Gasabo district, Nyarugenge district, Bugesera district, Rwamagana district, Kamonyi district. On the other hand, Ruhango district is located in rural areas, and it borders with Kamonyi district, Muhanga district, Nyanza district, Nyamagabe district and Karongi district. The target population of this study was all 10 head teachers of public boarding secondary schools located in Kicukiro and Ruhango districts and two DEOs (MINEDUC, 2018). The target population was also 4382 students corresponding to 2186 parents whose access to public boarding secondary schools located in Kicukiro and Ruhango districts (MINEDUC, 2019).

Table3. 1: Target population

No	Districts	DEOs	Head teachers			Students			Parents		
		Male	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Kicukiro	1	1	1	2	446	430	876	210	228	438
2	Ruhango	1	6	2	8	1756	1750	3506	878	870	1748
3	Total	2	7	3	10	2202	2018	4382	1088	1098	2186

3.4 Sample size and Sampling Technique

Sampling refers to the process of selecting the participants of the study (Bless *et al.*, 2013). For DEOs and school head teachers, purposive sampling technique was used to include all DEOs and school head teachers of Kicukiro, Ruhango Districts in the study while students, parents were stratified according to their categories, and each category was represented. To give the subject of each stratum, there was an equal chance to be selected. Therefore, simple random sampling was employed to reach the respondents of the study.

The Yamane formula for sample size determination was used to determine the sample size that was selected from target population representing students and parents as the 6568 people. The formula is that: $n = N/ [1+N (e^2)]$ (Yamane, 1967). Therefore, $n = N/ [1+N (e^2)] = 6568/ [1+6568 (0.05^2)] = 378$ respondents. Where **N:** Target population, **n**: Sample size, **e:** Marginal error. Then, proportionate method was applied to distribute the number of respondents representing students and parents by taking population * **n / N.** All DEOs and school head teachers of Kicukiro and Ruhango districts were involved in

the study (2 DEOs of the two districts and 2 school head teachers from Kicukiro district and 8 schools head teachers from Ruhango district).

Table 3. 2: Sample size

No	Districts	DEOs	Head teachers			Students			Parents		
		Male	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Kicukiro	1	1	1	2	26	24	50	12	13	25
2	Ruhango	1	6	2	8	102	100	202	51	50	101
3	Total	2	7	3	10	128	124	252	63	63	126
4	Cum.tot	2			12			264			390

3.5 Research Instruments

Research instrument refers to the tool used during data collection and it can be developed (Oso &Onen, 2016). According to Tan (2013), research instrument is what a researcher uses to collect the data to answer the research questions. The effective research instruments should be practicable and used appropriately. The researcher should choose the research instruments suitable and able to be managed (Tan, 2013). Therefore, this study used questionnaire, guided interview and education document analysis to collect the data. Questionnaire was given to students and parents were given interview guide while both school head teachers and DEOs were also given both guided interview and documentary analysis review during data collection.

3.5.1 Questionnaire

Questionnaire was used to collect the data from students studying in both Kicukiro and Ruhango districts to collect the data related to various costs of education spent, for enhancing students' participation rates. As per Oso and Onen (2016), a questionnaire employed as a research instrument throughout data gathering determines the likelihood of giving a direct or honest answer. This can also be a superior to an interview guide as it presents the social communion that operates strongly in the face of any situation that may come out to prevent a person who can tend to express him or herself what he or she feels to be socially or professionally not acceptable. The questionnaires of this study were distributed to students studying in public boarding secondary schools located in Ruhango district and Kicukiro district. All questions helped the researcher to get the data related to various costs of education spent households and government as well as other various educational stakeholders due to the students' participation in public boarding secondary schools.

3.5.2 Interview Guide

A list of questions prepared by an interviewer and asked by study participants during data gathering is termed as an interview schedule (Orodho, 2019). Interviews are justified in study since they can be tailored to an interviewee's individual expertise and understanding as the study's responses. Interviews, it was stated, provide for a more in-depth understanding of how persons or research participants perceive and connect to the various parts of the study (Turner, 2010). The guided interview of this study given to parents, head teachers and DEOs located in both Kicukiro and Ruhango districts to get the responses related to educational cost and students' participation rate in public

boarding secondary school. The purpose of carrying out an interview guide as the research instrument of the study is to get qualitative data related to education costs and participation of students in boarding secondary schools. Therefore, the interview guide was also used to give the chance to the researcher, to probe and get the detailed information from the research participants of the study. The guided interview of this study helped the researcher to get demographic data of parents or households, head teachers and DEOs like gender, age group as well as education levels in their respective district of the school location. Section B captured the data related to the amount of money provided by households to every item needed in education provided by public boarding secondary school. This includes school fees, lunch fees, transport fees, school material costs, teachers' bonus, school uniform as well as other incidental expenses related to schooling. This section helped the researcher to get data related to the amount of money provided by the government in term of education like school staff salary, school material costs, professional training costs as well as infrastructures costs for enhancing students' participation.

3.5.3 Documentary Analysis Review

Document analysis, according to Bowen (2009), is a type of research tool in which the researcher analyses documents and meaning surrounding an assessment issue by classifying content into themes, similar to how focus groups or interview transcripts are studied. According to O'Leary (2014), the documents analysis used in the research, are divided into three categories of documents such as public records like official or ongoing records of an organization activities, personal document like personal document and belief as well as physical evidence known as physical objects found within the study

setting like agendas, handbooks and training materials. Therefore, this study, used document analysis review, so as to involve the analysis of financial documents found at school head teacher office like students records which includes student access, drop out as well students completion rates in public boarding secondary schools located in Kicukiro and Ruhango districts.

The document analysis review also involved perusing the district educational documents so as to get payment of teachers' salaries, teachers professional training expenses as well as any other government expense related to education sector due to the fact that educational budget in Rwanda, was decentralized at the district level. This study used document analysis due to the fact that, it is an effective and efficient way of getting data because the documents reviewed were manageable and with practical resources (Triad, 2016).

3.6 Validity and Reliability of Data Collection Instruments

3.6.1 Validity

Validity of research instruments, according to Johnson and Christensen (2012), means the level through which what is examined or evaluated matches what was suggested to be examined or evaluated. The validity of a research instrument, according to Blumberg et al. (2005), is the degree to which an instrument used in a study measures what it is designed to measure. Robson (2011) also described research instrument validity as an evaluation of the instrument's ability to measure what it was supposed to measure. This means that, the collected data could be expressed within trustfulness. The qualitative data collected in the study should be checked for the validity of the research instrument in

terms of credibility, usefulness, and durability (Zohrabi, 2013). The validity of the measuring instruments is the amount to which they measure what they are supposed to measure, based on the relationship of the gathered numerical methods (Thatcher, 2010). According to Cresweel (2104), content validity is the amount to which the questions included in the instrument to be used in the study, as well as the scores from such formulated questions, describe all conceivable queries that might be addressed as a result of the study's content. As a result, the stronger the content validity, the more the scale items match the scope of the idea getting measured (Sheharan & Bougie, 2010).

On the other hand, The extent to which a test seems to assess what it claims to assess is referred to as face validity (Leedy & Ormrod, 2014). Content and face validity of the research instruments, were validated. The content validity was improved through both face and sampling was respected. The researcher made peer discussion and experts in research, as the researcher sought the assistance from the supervisors, who are experts in research in order to improve the content validity of the research instrument and to ascertain whether the proposed data collection instruments were appropriate to the study (Burnes et al., 2017). Therefore, the recommendation was given to enhance validity of the study. The supervisors also examined the questionnaires, interview guide, and provided the feedback to the researcher.

On the other hand, to check whether the data collection instruments were validated, the researcher consulted the supervisors and other experts in research to examine whether instrument is given to the right person and developed to achieve the specific research objectives. This helped the researcher to measure the objectives of the study as face

validity. The instruments were examined to establish the language, which could be used to construct the questionnaire.

3.6.2 Reliability

As per Mugenda and Mugenda (2008), dependability refers to the stability or uniformity of scores over time, as well as the extent to which measurements are error-free and produce consistent findings. According to Blumberg et al. (2005), dependability refers to a measurement that produces reliable result of equal value. As a result, dependability assesses the study's uniformity, precision, and reproducibility, as well as its trustworthiness (Chakrabartty, 2013). Reliability of the research instrument also defined as the consistency, stability and repeatability of the responses where the responses obtained in the study conducted by the researcher him or herself, might be considered as to be reliable if consistent findings have been obtained in identical situation but in different circumstances (Twycross & Shied, 2004).

This study also included a pilot trial. Pilot studies, as per Edwin (2012), refer to worthy option of comprehensive studies along with specific pre-testing of a specific research tools such as a questionnaire and interview guide. The act of piloting is carried out to make sure that, there is the clarity and efficient use of instruments before the real study, which is supposed to be carried out (Orodho, 2019). In ordered to get high quality of outcomes, a good research study with relevant design and accurate performance is required in the study. Therefore, the analysis of its feasibility should be the priority to perform the main study, which could also be beneficially once. There have been the effective conduct of pilot study, which is taken as the first step of the entire research

protocol, and it is often a small sized study as assisting in planning and modifying the main study.

Similarly, the researcher might become aware of procedures that could be involved in the main study (Junyon, 2017). This helped the researcher in the selection of the most suitable research instrument to answer the research questions and achieving the stated research objectives. For this study, piloting was conducted to make sure that research instruments used are clear and can be understandable to the respondents of the study. The pilot study of the research instrument was carried out in one of public boarding secondary school, which was not sampled in the study. The pilot study was also conducted to 24 students that were given questionnaires and document analysis review that was given to 2 school head teachers and one district education officer in order to find out the ambiguous items in the research instrument like grammatical error and any other unclear item. The coefficient of Cronbach's Alpha was computed to indicate the reliability statistics of the data collection instrument that were questionnaire and document analysis review as the obtained results were computed in the software that was used and the results are presented in Table 3.3.

Table 3.3: Reliability of data collection instruments

Reliability Statistics	
Cronbach's Alpha	N of Items
.780	43

Source: Primary data, 2020

The Table 3.3 shows that the questionnaire and document analysis review distributed during pilot study were comprised of 43 items. The computed cronbach' Alpha

coefficient of internal consistency was 0.780. Orodho (2019) recommends that the results got from reliability test of 70 percent and above, should be expressed to be enough to examine the reliability of the study tools. This implies that the questionnaire and document analysis review were reliable at 78.0 percent. On the other hand, the internal consistency of interview guide used as data collection instrument was measured by consulting other experts in research.

3.7 Data Collection Procedures

According to Kerlinger (2013), the procedure of data collection, refers to an overall scheme or a program of the research, which includes an outline of what an investigator, as the researcher needs to establish from writing the hypothesis as well as the operational implications related to final analysis of the obtained data. It is also a plan of action in advance, which is followed by a systematic execution that brings out the fruitful results (Kerling, 2013). This helps the researcher, to proceed directly without any confusion with the concomitant events. Therefore, during data collection, personal administration was established, to distribute the research instruments to the respondents. Therefore, no research assistance was needed except deputies in charge of disciple to keep students' discipline. Parents were given an interview at school after school general assembly done in each term while Head teachers and DEOs were given both interview and document review due to their perspective places and appointment and recording of responses was done at the same time.

3.8 Data Analysis Techniques

As per Spring (2006), data analysis refers to a variety of specific procedures and methods used to come out with the conclusion of the study. It includes the possible ways of working with the data collected to support the work and the goal of the study and the plans of program under the study. It also includes decision-making concepts resulting from effective working with actual statistics acquired by the investigator or any research aid provided by the study (Spring, 2006).Therefore, the collected data in this study, was analyzed through descriptive statistics using the software of Statistical Package for Social Sciences (SPSS) to analyze quantitative findings from questionnaires. The descriptive analysis was done and involved to get frequencies, percentages, mean and standard deviation to determine both households and government expenditures on students' participation in Kicukiro and Ruhango Districts. Furthermore, Pearson product moment coefficient was used to establish the direction of relationship between educational costs and students' participation rates. However, the chi square test was established to indicate the degree of relationship between educational cost and students' participation rate. Qualitative findings from the interview were analyzed by using thematic analysis approach where the collected responses were grouped into relevant themes. After data analysis, quantitative findings were presented by using tables and graphs while qualitative findings were presented by using textual mode.

3.9 Ethical Considerations

According to Fouka and Mantzorou (2011), ethics refers to the principles, which can critically change the previous considerations about the choices and actions. It is also dealing with the dynamic of decision making concerning with what is wrong and what is

right. All ethical issues were adhering to, first before data collection with an introduction letter, which was given from graduate school of University of Nairobi introducing the researcher to respondents and Ministry of Education (MINEDUC) while DEOs, head teachers and parents were informed about data collection by assuring the anonymity and confidentiality. No personnel identification numbers and names of respondents were presented on questionnaire. Acknowledgement of the source was actualized to avoid plagiarism.

CHAPTER FOUR

RESEARCH FINDIGS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter presents the research findings and their interpretation as well as the related discussions. This chapter also introduces the rate return of the research instruments that were distributed to the respondents of the study, demographic characteristics of the respondents such as students, school head teachers, parents whose children studying in public boarding secondary schools found in both Kicukiro and Ruhango districts and the districts education officers. These demographic characteristics of respondents includes the respondents' gender, age group, students class levels, district of the school location, respondents' educational level as well as working experience and also parents' employment status, their socioeconomic status of the families and the range in number of children by families in boarding schools.

The presentation of findings during interpretation and discussions was basing on specific research objectives and research questions. Therefore, the study sought to achieve the study objectives such as to determine the influence of households' educational expenditures on students' participation rates in public boarding secondary schools in Kicukiro and Ruhango district. Second objective was to examine the influence of government educational expenditures on students' participation rates in public boarding secondary schools located in Kicukiro and Ruhango districts. Third objective was to establish the extent to which educational expenditures correlate with students' participation rates in public secondary schools in Kicukiro and Ruhango districts. The

fourth objective was to analyze the mechanisms that should be put in place to improve students' participation rates in public boarding secondary schools located in Kicukiro and Ruhango districts.

The research findings were presented using the above-mentioned specific research objectives and questions, which included graphs, textual, and tabular data presentation. The chapter is also subdivided into eight main parts. Part one, covers the introduction of the chapter. This section provides a summary of the chapter as well as a reminder of the study aims and questions. Part two, covers the instrument return rates of the research. Part three, covers demographic characteristic of the respondents. Part four, covers the research findings related to the influence of households' educational expenditures on students' participation rates in public boarding secondary schools. Part five, covers, the research findings related to the influence of government educational expenditures on students' participation in public boarding secondary schools. Part six covers the summary based on students' participation rate in selected boarding schools. Part seven, covers the research findings related to the correlation between educational costs and students' participation rates in public boarding secondary schools. Part eight, covers the research findings related to the mechanism that should be put in place to improve students' participation rates in public boarding secondary schools.

4.2 Research Instruments Return Rate

I used and administered questionnaire as the research instrument on 252 students studying in public boarding secondary schools, but only 247 students returned the questionnaires that were distributed also corresponding to 98 percent. Guided interviews

and education document analysis review were also conducted to 10 school head teachers of public boarding secondary schools located in Kicukiro and Ruhango districts. Such school head teachers participated in the study 100 percent to find out the influence of both household and students' participation rates in those 10 public boarding secondary schools located in both Kicukiro and Ruhango districts.

The guided interview was also conducted by the researcher personally, with the district education officers (DEOs) and were also done100 percent where all DEOs participated in the districts indicated their perception of study that were needed. The interview schedule tool that was also administered to collect the data from households (parents). Out of 126 guided interviews, 111 of them were completely provided their perceptions. Therefore, the return rate to this guided interview is 88 percent. Regarding to the 390 respondents of the study, 247 questionnaires and 123interview schedules corresponding to 370 respondents were returned to be 95%. The return of instruments used during data collection above 80% is considered to enough in the study (Mugenda & Mugenda, 2008).

Table 4. 1: Research instruments return rate

Type of instrument	Number administered	Number returned	Percentage returned rate
Students' questionnaires	252	247	98 percent
School head teachers' interviews	10	10	100 percent
DEOs interviews	2	2	100 percent
Households (Parents) interview	126	111	88percent
Total	**390**	**370**	**95 percent**

The Table 4.1, indicate the proportion of the research instruments return rate. It is clear that the instrument were returned at 95%, which is the considered rate of 80%.

4.3 Demographic Characteristics of the Respondents

The demographic information of this study, sought to establish the characteristics of the respondents including students studying in public boarding secondary schools located in both Kicukiro and Ruhango districts. School head teachers, parents (households or guardians) and the districts education officers (DEOs) participated in this study to get various findings related to educational cost and students' participation in public boarding secondary schools in Rwanda.

4.3.1 Demographic Characteristics of Students

This section discusses demographic information such as students' gender, age group, students' class level and the district of the school location participated by students and socio-economic status (ubudehe category).

i. Demographic Characteristics of Students by their Gender

The gender of the students studying in public boarding secondary school was interested to indicate the extent of students' participation by gender.

Table 4. 2: Distribution of students by gender

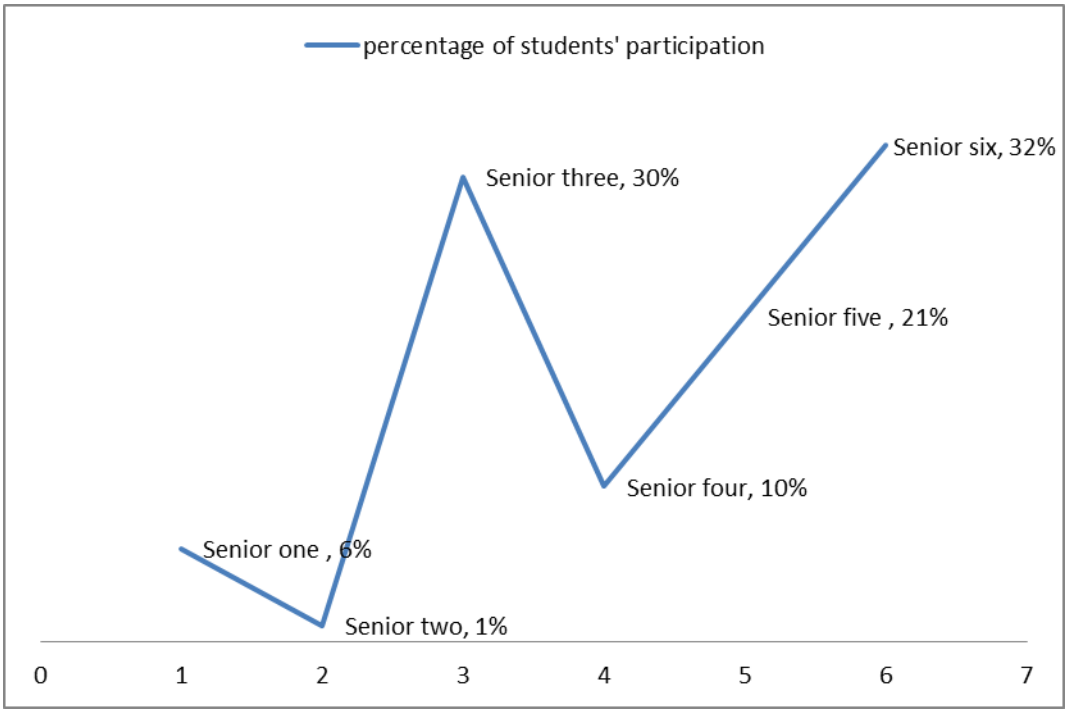
Gender	Frequency	Percent
Male	120	48.6
Female	127	51.4
Total	247	100.0

The findings presented in the Table 4.2, indicates the demographic information of students studying in public boarding in secondary schools of Kicukiro and Ruhango districts. The results show that 48.6 % of students were males while the rest constituted 51.4% of students were female. This implies that, the involvement of students in this study, males and females were somehow proportional, however, females were at greater participation. This also indicates that females are more favored than males because the pass mark allows females to have access to public boarding secondary schools, is lower than the one of females.

ii. Distribution of students by Class Level

The purpose of this study was to determine the distribution of students by class level, which was vital to guarantee that the viewpoints of students across class levels were represented. Therefore, it was imperative to collect the students' opinions by their class levels. This is presented in the figure 4.1.

Figure 4. 1: Distribution of students by class level



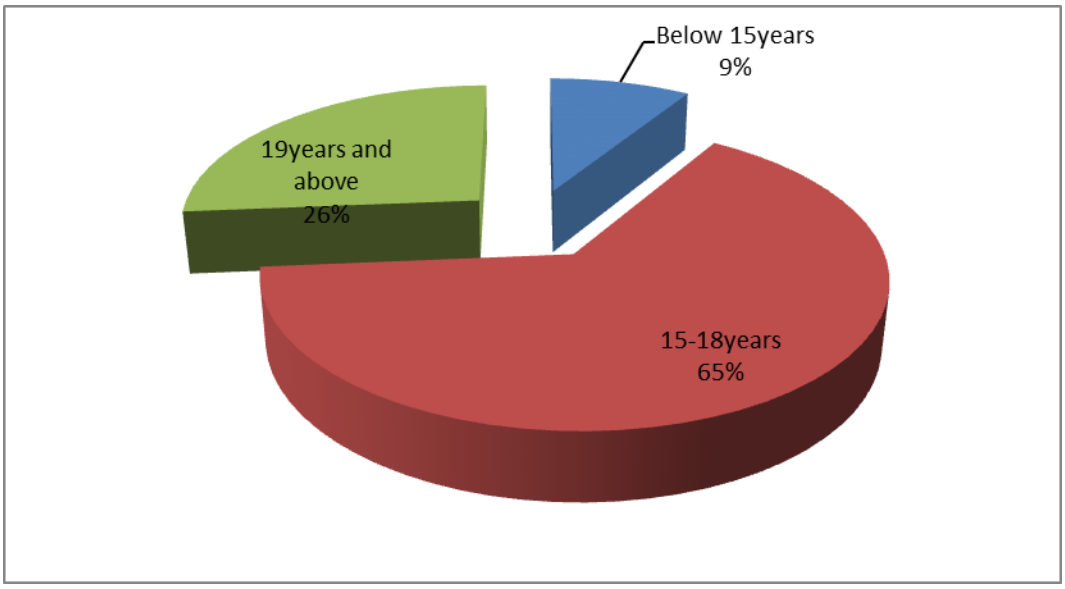
The results presented in the figure 4.1, indicates the public boarding secondary school students class levels in Kicukiro and Ruhango districts. It was indicated that 6 percent were enrolled in senior one and 1.0 % of students were studying in senior two or secondary two, 30.0 percent in secondary three while 10.0% in secondary four as well as 21% of students were in secondary (senior) five and the remaining 32.0 % of students were studying in secondary (senior) six. This also shows that, the majorities of students involved in this study, were studying in senior five and senior six and confirm that the findings collected from students were accurate.

iii. Distribution of students by age

The age group of students was also very interested to this study. It was very useful to get the students' perceptions by their age group to make a comparative analysis of students'

age group by their public boarding secondary school participation due to the cost of education.

Figure 4. 2: Distribution of students by age group



The Figure 4.2 indicates the demographic characteristics of students on their age group. Where collected findings indicated the majority of students participated in the study were at the age group of 15 years old to 18 years old corresponding to 64.8% of students participated in the study while 8.9% of students were below 15 years old. The study also collected the finding from 26.3% of students that were having 19 years old and still studying in secondary schools.

iv. Distribution of students by district of school location

The school location of the students was very interested in the study. It was aimed at getting the students opinions related to the school location. This was also important because it was needed to find out the level of students' participation from one district to

another and from urban area to rural area. Therefore, it was beneficial to get the students opinions from both urban and rural where this study was conducted in two districts such as Kicukiro district, which is located in urban areas of Rwanda and Ruhango district which is located in rural areas of Rwanda.

Table 4. 3: Distribution of students by districts of school location

District of student school location	Frequency	Percent
Kicukiro	76	30.8
Ruhango	171	69.2
Total	247	100.0

The results from this study presented in the Table 4.3, indicates the districts of the school location that were Kicukiro and Ruhango districts. The Table 4.3 shows that 30.8% of students involved in this study, were allocated in schools of Kicukiro district while the remaining 69.2% were studying in public boarding secondary schools located in Ruhango district. It is clear that most participants (students) involved in the current research, were studying in public boarding secondary schools found in Ruhango districts because most public boarding secondary schools were located in Ruhango district.

v. Demographic characteristics of students by socio-economic status

This study was interested to present the socio-economic status (ubudehe category) of students in order to find out the number of students who are able to keep enrolling the schools of boarding in Rwanda.

Table 4. 4: Students' ubudehe category

Ubudehe category	Frequency	Percent
Category one	10	4.0
Category two	49	19.8
Category three	144	58.3
category four	44	17.8
Total	**247**	**100.0**

Source: Primary data from the field (2020)

The Table 4.4 indicates the students' socio-economic status (ubudehe category). It was revealed that most of students participated in the study were in ubudehe category three as were 58.3% of students. This was followed by 19.8% of students that were categorized in ubudehe category two. However, 17.8% and 4.0% were in ubudehe category four and one respectively. This implies that, it is difficult to students from ubudehe category one to have full participation in public boarding secondary schools in Rwanda.

4.3.2 Demographic characteristics of parents, head teachers and DEOs

The demographic information of parents, school head teachers and District Education Officers (DEOs) was also established in this study. The information includes respondents' gender, age group, educational level and district school location for data collection. The data was collection from public boarding secondary schools located in Kicukiro and Ruhango district.

Table 4. 5: Demographic characteristics of parents, head teachers and DEOs

Demographic characteristics	Parents		School head teachers		DEOs	
Gender	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**
Male	66	59.5	7	70.0	1	50.0
Female	45	40.5	3	30.0	1	50.0
Total	**111**	**100.0**	**10**	**100.0**	**2**	**100.0**
Age group						
Below 35	22	19.8	1	10.0	0	0.0
35-45	53	47.8	6	60.0	1	50.0
Above 45	36	32.4	3	30.0	1	50.0
Total	**111**	**100.0**	**10**	**100.0**	**2**	**100.0**
School location						
Kicukiro district	28	25.2	2	20.0	1	50.0
Ruhango district	83	74.8	8	80.0	1	50.0
Total	**111**	**100.0**	**10**	**100.0**	2	100.0
Education level						
Primary	0	0.0	0	0.0	0	0.0
Secondary	5	4.2	0	0.0	0	0.0
Diploma	23	20.7	0	0.0	0	0.0
Bachelor	58	52.3	5	50.0	2	100.0
Masters	15	13.5	5	50.0	0	0.0
PhD	10	9.0	0	0.0	0	0.0
Total	**111**	**100.0**	**10**	**100.0**	**2**	**100.0**

Source: field data (2020)

Table 4.5 presents demographic information of respondents such as parents, district education officers and school head teachers of public boarding secondary schools. The Table4.4 presents gender, age group, district of school location and education of

respondents. In line with gender, Table 4.5 presents that the majority of parents or households were male as they participated at 59.5% while female participated at the level of the remaining 40.5%. This indicates that attempt is made to balance the number of men and women who participated in the study. The results also show that there was a good representation of both genders hence; the opinions of both genders were presented in the study. However, the sample size of parents by gender that participated in the study, men were greater than females.

The gender of school head teachers was also interested to present in the study. This was established to get opinions of school head teachers male and female. It was important because the study established that there are gender issues related to the cost of education and participation of students in public boarding secondary schools. Therefore, it was imperative to present opinions of related to education cost in boarding secondary schools from both school head teachers' genders.

The Table 4.5 shows that the majority of school head teachers were male as indicated to be more than half of female school head teachers. The results reveal that 70% of the school head teachers while other 30% of school head teachers were females. This implies that, there was no gender equality among the school head teachers of public boarding secondary schools located in Kicukiro and Ruhango districts. This can also discourage students' participation in boarding secondary schools by gender.

As presented in Table4.5, the results show that there was equal distribution of District Education Officers (DEOs) by gender. The results present that there was 50 percent of both male and female as DEOs involved in the study. The results show that there was a good representation of both genders involved to provide their opinions in the study. This

was importance to be addressed in order to reduce gender inequalities that affect the participation of students in public boarding secondary schools and that of education cost.

The Table4.5 also presents respondents' age group. On the aspect of parents' age group, Table4.5 shows that majority of the parents 47.8% were aged from 35-45years. They were followed by those aged 46years and above at 32.4% and 19.8% aged below 35years. This implies, that there was a few parent or household of age below 35years who have children enrolled in public boarding secondary school.

For the school head teachers' perspective on age group, 60% are of age 35-45years while 30% are of age 46years and above. However, the study also found that 10percent of school head teachers are of age below 35years. This implies that the advanced age of becoming a school head teacher is attributed on working experience of teachers in field of education. Nevertheless, the district education officers' age group perspective, the results show that there was equal distribution of DEOs by age group where DEOs aged between 30years and 40 years old participated at 50percent others were aged from 41years and above. The results show that the study did not collect the information from district education officers aged below 30years old to get their opinions related to the cost of education and the participation of students in public boarding secondary schools.

In line with district of school located, the results show that the households were not distributed equally basing on the district of school location. The study presents that 25.2% of households were having children studying in schools located in Kicukiro district while the remaining 74.8% were having children studying in Ruhango district. This inequality occurred in distribution of parents were caused by big number of public boarding secondary found in Ruhango district than in Kicukiro district. The study

collected finding based on household children' school located to indicate the variation of education cost by area boarding secondary school.

For school head teachers' perspective, the findings indicate that the majority of the school head teachers involved in this study was from Ruhango district corresponding to 80% and the remaining 20% of the school head teachers were from Kicukiro district. This implies that majority of public boarding secondary schools are found in Ruhango district as one the rural areas in Rwanda. The study also presented information of DEOs by boarding secondary schools' location. The study involved only one DEO in each district. This was important because the study addresses the issues related to the number of schools located in urban and rural areas of Rwanda where the public boarding secondary schools in rural areas are more than those of urban areas of Rwanda that can also affect the participation of students within the two areas of Rwanda.

In the line with respondents' education level, Table4.5 shows, that majority of parents (52.3%) have bachelor degree (A0), as the highest education level. This shows that there was no household involved in this study of primary level as the highest level of education. The table also shows that 4.5% of parents have certificates (A2) or secondary level of education as well as 20.7% of households have diploma (A1). The study also sought the biographic information of households as educational level, where 13.5% of households have master's degree while the remaining 9.0% of parents have PhD. This is an indication that households who get aware of enrolling their children in public boarding secondary school have a high level completed at least undergraduate. This also shows that students' participation in boarding secondary schools varies by households' educational level.

On school head teachers' perspective, the study shows that school head involved in this study equally have bachelor and masters' degree in education at 50%. This implies that school head teachers are mostly qualified in the area of the study as education cost and students' participation and its influence in public boarding secondary school in Rwanda. On district education officers' perspective, the study reveals that all district education officers have bachelor degree in education. This is an indication that the district education officers are aware of providing their opinions related to education costs and the participation of students as they were representing the government in educational costs provided by government and how they influence the participation of students in public boarding secondary schools.

4.3.3 Working experience of school head teachers and DEOs

Working experience of school head teachers and Districts Education Officer (DEOs) was also investigated in this study. This was done to get length of time that DEOs and school head teachers served in education sector. This was important because it helps the study to collect the data that are relevant due to the specific research objectives and research questions that were targeted to be achieved. The results are as presented in Table4.6.

Table 4. 6: Working experience of school head teachers and DEOs

	School head teachers		DEOs	
Working experience	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Below 3years	1	10.0	0	0.0
3-5years	1	10.0	0	0.0
6years and above	8	80.0	2	100.0

Total	**10**	**100.0**	**2**	**100.0**

Source: Primary data from the field (2020)

Table 4.6 shows that majority 80% of school head teachers have 6years and above of working experience. This implies that being a school head teacher in public boarding secondary school, is attributed to having a high level of working experience. The study found that there was equal distribution of school head teachers who have below 3yeaars of working experience and those of 3-5years at 10% to each category. On district education officer perspective, table presents that DEOs have 6years and above of working experience. This is an indication that the data collected from DEOs was highly accurate.

4.3.4 Households' employment status

The employment status of the households (parents) is one of the features of the income. The study therefore, sought to indicate the employment status of the households or parents as it was aimed to determine whether the employment status of households could affect the participation of their children to schooling especially in public boarding secondary schools. Therefore, the households were asked to indicate their employment status and the results are presented in the Table 4.7.

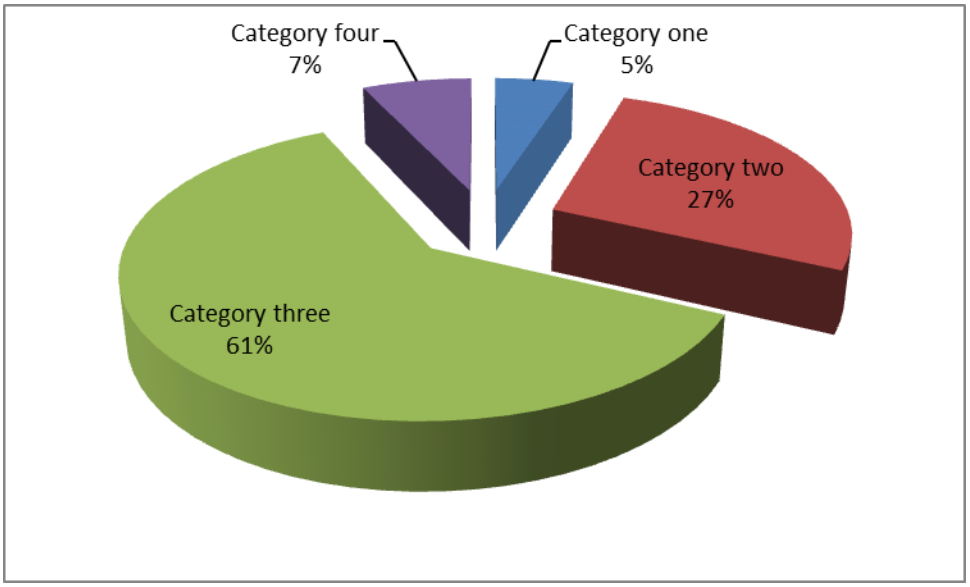
Table 4. 7: Distribution of parents by employment status

Employment status	Frequency	Percent
Employed	86	77.5
Not employed	25	22.5
Total	**111**	**100.0**

The results indicated in the table 4.7, indicate that 77.5% of the households or parents were formally employed. This implies that most households who were able to enroll their children in public boarding secondary schools were formally employed. The study also involved 22.5% of households or parents who were not formally employed by self-employed. This also indicates that the households or parents who were self-employed or not formally employed, were enrolling their children in public boarding secondary schools at lower level due to their lower level of financial capacity.

The socio-economic status or ubudehe categories of households (parents), express the level of financial capacity of households. This study therefore was motivated to present the ubudehe categories of households with the aim of specifying what ubudehe category of households able to help their children to be enrolled in public boarding secondary schools. Therefore, households were requested to establish their ubudehe categories and the findings are presented in the Figure 4.3.

Figure 4. 3: Households' socio-economic status (ubudehe categories)



The results presented in the Figure 4.3, sought the allocation of parents by socio-economic status. Most of parents involved in this study were in category three as they participated at 61 percent followed by the category two participated at the level of 27%. The households who were in the category one, were involved at 5% as well as 7% of households were in category four. This implies that the households who are in category one and category four due to their financial capacity of families. Therefore, the households of category one, was limited by their low-income capacity though most of these families, the educational costs of their children is incurred by some Non-Governmental Organizations (NGOs) while the households of category four were caused by the highest financial capacity and decide to enroll their children in private schools for seeking the best education.

Furthermore, it was found that the number of children enrolled or ready to be enrolled in public boarding secondary schools per household, may bring a burden to household to provide education costs as required in public boarding secondary schools.

Table 4. 8: Distribution of parents by number of children enrolled in boarding schools

No of children in boarding per household	Frequency	Percent
Less than 3 children	76	68.5
3-5children	35	31.5
6 children and above	0	0.0
Total	111	100.0

The Table 4.8, indicate the demographic characteristics of parents due to the number of children that they enrolled in public boarding secondary schools. The Table presents that majority of parents involved in this study were having less than three children enrolled in public boarding schools as they were at the level of 68.5%. The results also show that the

remaining 31.5% of parents enrolled 3 to 5 children in public boarding secondary schools. The study did not involve the households whose six children and above enrolled in public boarding secondary schools.

4.4 Influence of households' education expenditures on students' participation rate

The presentation of the findings collected from the study' respondents was done basing on the specific research objective which was to *determine the influence of households' education expenditures on the students' participation in public boarding secondary schools in Kicukiro and Ruhango districts in Rwanda*. It was also established to find out whether there is any influence of households' education expenditures on the students' participation in public boarding secondary schools in Rwanda. To indicate this, various costs of education incurred by households were calculated in order to find out the amount of money charged by households to a single child in every term. such household's education costs calculated were like school fees, transport cost, students' school material cost, lunch fees, school uniform and teacher' bonus cost. The study also evaluated how the households' education costs vary student' gender, age, boarding school location, soci0-ecoanmic status and school fees financing source. Chi square test was also established to indicate, whether the educational expenditures incurred by households are associated with students' access, student' dropout, student' performance and student' completion.

4.4.1 School fees as a cost of education

School fees is one the compulsory costs incurred by households of children in public boarding secondary schools in Rwanda. In this case, every student is required to pay the

school fees as indicated by boarding schools and incurred by the parents. The study was also interested in establishing the amount of money that a single household spend on school fees of their children to full access to boarding secondary schools by class level of students, school location and socio-economic status (ubudehe category) of children' families. The students were requested to establish the amount of money that they spend on school fees. On the mode of paying the school fees to boarding school, some parents revealed that it is burden to them to pay the full-required school fees due to their socio-economic status, which is low. However, other parents indicated that they could not see any problem in school as their children get better education in boarding school. On the other hand, Chi-square test was established to find out whether there is an association between school fees, and student' access to boarding school education. The cost of school fees is discussed in the subsequent sections.

The analysis of the cost incurred by a single household to school fees by students' class section was very important in this study. This was guided by the methodology of public boarding secondary schools in Rwanda. Therefore, the students were requested to indicate the amount of money spent on school fees per term as presented in Table4.9.

Table 4. 9: School fees by students' class level

Students' class level	Observations	Mean	Std. Dev.	Min	Max
Lower secondary	92	87666	2254	83500	90000
Upper secondary	155	112923	21472	93000	137000

The findings in the Table4.9 present the amount of school fees incurred by households in every term of school calendar in selected public boarding secondary schools in Rwanda. The findings show that on the average of students in lower secondary pay 87,666Rwandan francs and students studying in upper secondary pay 112923 Rwandan francs. This implies that students studying in upper secondary schools are more likely to pay a lot of money in term of school fees and can influence negatively the level of students' access and completion. Thus, the students studying in upper secondary school spend 12.6% on school fees than students studying in lower secondary schools. Muthuri and Kirera (2018) revealed that children coming from families that do not afford boarding school get risk of missing education provided and life confidence. However, Glick (2021) indicated that the advantage of households' income is to have well educated and wealthier children.

The study was also interested to establish whether there are amount of school fees differential in relation with students' school location. The researcher was interested to establish an analysis amount of school fees incurred by household as a way of establishing the financial management of households and school administration in urban and rural areas. This methodology was motivated to analyze the amount of school fees by students' school location. The results are presented in Table4.10

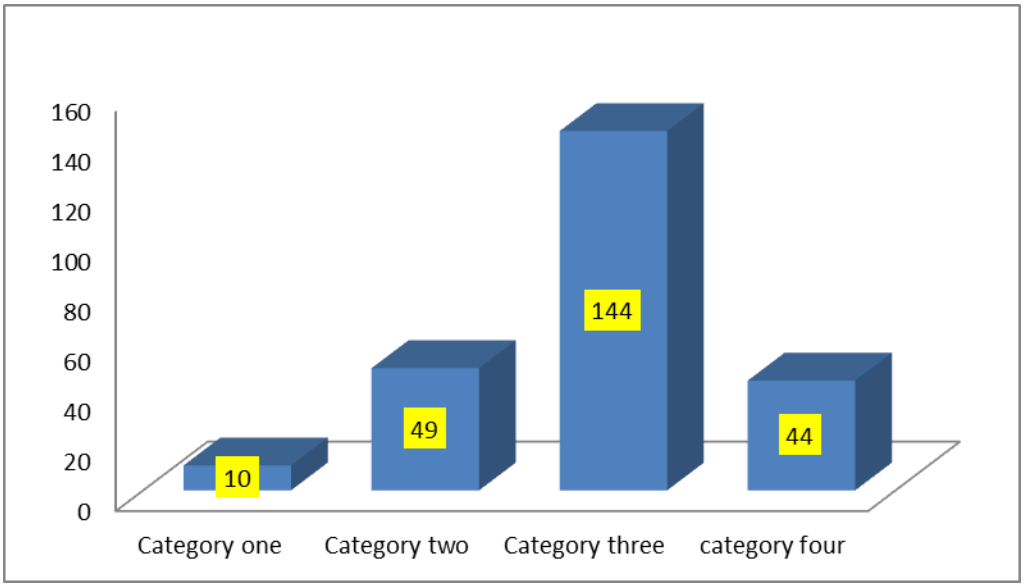
Table 4. 10: School fees by school location

school location	Observations	Mean	Std. Dev.	Min	Max
Urban areas	76	110986	16332	83000	135000
Rural areas	171	104795	22680	91000	137000

The Finding in Table 4.10 present the average amount of money of school fees per term among students studying in selected public secondary schools located in urban and rural areas of Rwanda. The findings reveal that students studying in Kigali city as urban area of Rwanda spend an average of 110,986 Rwandan francs on school fees while students studying in schools located out of Kigali city as rural areas of Rwanda spend 104,795 Rwandan francs. This implies that students transferred to study in schools located in urban areas (Kigali city) are more likely to spend a lot of money on school fees as they pay 2.86% than students studying in rural areas of Rwanda. This was supported by Orodho (2019) revealed that the cost of education may vary due to school environment and the quality of education delivered. This means that the cost of education may vary by school environment. According to Nielsen (2019), the abolition of school fees play a significant impact in the promotion, the school population, thus reduce the illiteracy among citizens.

The study also sought to establish the frequency number of students able to enroll in boarding secondary schools due to their families' socio-economic status. This is also described, to indicate the extent to which school fees is a burden to households due to financial capacity.

Figure 4. 4: School fees by socio-economic status



The findings presented in Figure 4.4 shows how the number of students able to afford the cost of school fees varies due to socio-economic status of households. In this regard, the findings reveal that the number of paying cost of school fees change due to the change in socio-economic status of households. Therefore, the results show that 144 students in ubudehe category three were able to pay boarding school fees and 44 students of families in ubudehe category four. The school head teachers stated that parents of ubudehe category four like to enroll their children in private secondary school instead of boarding secondary school. The findings also states that 49 students were coming from families of ubudehe category two and 10 students of ubudehe category one. Wyne and Doug (2020) indicated that since there is any increase of school fees and slow wage growth, modest and middle income families directly struggle to finance the education of their children thus leads to the reduction of quality education. In contrast, Corak and Zhao (2017) indicated that there is no immediate association between participation rate and school

enrolment level. In addition, whether the increase of participation rate is disproportionately among households of high financial capacity and become a burden to lower socio-economic categories.

The school head teachers added that, students categorized in first and second ubudehe category get aware of paying school fees, due to the support provided by Non-Governmental Organizations (NGOs), family, relatives or government, as represented by a sector in the area. They added that, those who do not get external support do not get capacity to pay the schooling fees as required in boarding school. According to Wamalwa and Odebero (2016), households that experience a lower level of financial capacity affect their children to lose various opportunities in their future lives. This implies that the households of low socio-economic status affect their children to get opportunity of boarding school education served.

The further analysis sought to examine whether there is an association between school fees provided in public boarding secondary schools and students' access to education.

Table 4. 11: Chi square test of school fees and student' access to boarding school education

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	41.963[a]	16	.000
Likelihood Ratio	45.411	16	.000
Linear-by-Linear Association	2.150	1	.143
N of Valid Cases	247		

a. 13 cells (52.0%) have expected count less than 5. The minimum expected count is .71.

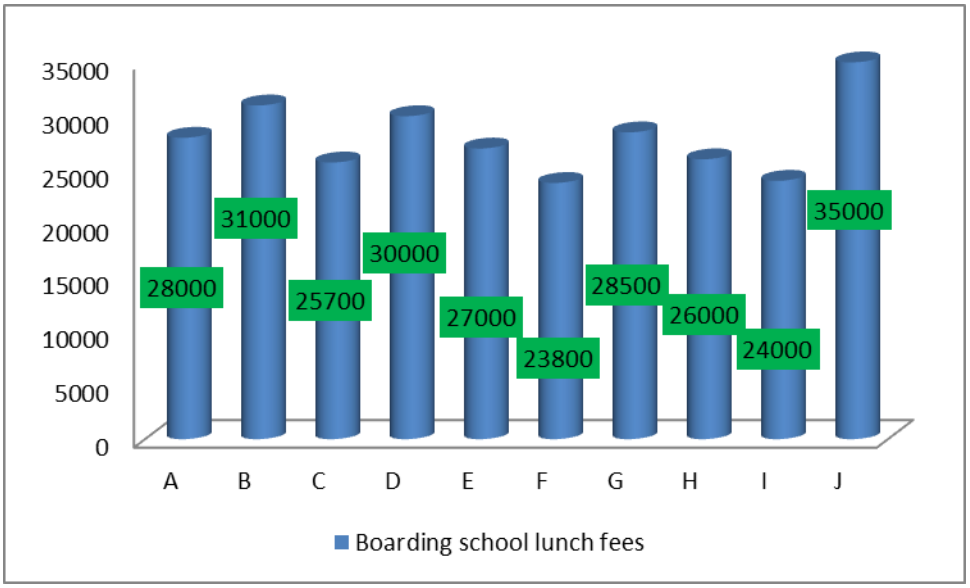
The findings in Table 4.11. Presents the Chi-square tests performed to indicate whether there is an association between school fees incurred by households in public boarding secondary schools. The results show that there should a violation of school fees to students' access to education at 52%. However, the results also indicate that there is a degree of association between school fees and students' access to public boarding secondary schools as Asymp. Sig. (2-sided) = .000 less than .05 level of significance with the likelihood ration of 45.411. This also implies that the lack of effective management of school fees incurred by households may have an influence on students' access to education. Mulkeen (2017) conducted the study in Sub-Saharan African Countries (SSAC) and revealed that the household financial capacity determines whether, their child might full access to education and improved school productivity. This implies that student' access to education is proportionally associated with financial capacity of their parents. Nielsen (2019) supported that the extent of students' access to schooling and completion vary due to financial capacity of households, which is also significantly associated with educational background of parents or caregivers.

4.4.2 School lunch fees as the cost of education

The further analysis sought to establish the average amount of money incurred by households as one of educational expenditures of their children. The provision of school lunch fees can influence students' participation in public boarding secondary schools. Therefore, the analyses in this study indicate the average amount of money spent on boarding school lunch by school name and school location. The school head teachers indicated that the cost of boarding school lunch may vary from one school to another and area of school location (Urban and rural areas). Despite, the government spends 56

Rwandan francs per day to each child as the cost of boarding school lunch and the part of payment households is included in school fees though, it needed to presents its cost particularity. However, this study needs also to establish whether there is an association between lunch fees and student' performance and student' performance by socio-economic status of students' households. In this case, Chi square tests were performed.

Figure 4. 5: Boarding school lunch fees by school name



The findings presented in Figure 4.5 show the amount paid by households whose children in selected public boarding secondary schools and the findings are presented school per school as the school head teachers revealed that each boarding school has identical lunch fees. It is clear that the minimum boarding school fees is 23,800 Rwandan francs and the maximum boarding school fees is 35,000 Rwandan francs. The school head teachers indicated that the "presented school lunch fee is charged per term as the government also add 56 Rwandan francs per child every day to cover the cost of lunch incurred by households in boarding school". This was done to reduce the burden of households

incurred on their children' school lunch." According to Memo (2019), the school that provide food to all students regularly with a variety of nutrients, get an improved related to schooling. However, Williams (2019) specified that the lack of quality food to students at schools significantly reduce the performance level of school activities.

Table 4. 12: Chi-Square Tests of lunch fees and student' performance

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	166.349[a]	16	.000
Likelihood Ratio	135.043	16	.000
Linear-by-Linear Association	81.388	1	.000
N of Valid Cases	247		

a. 16 cells (64.0%) have expected count less than 5. The minimum expected count is .13.

The findings in Table 4.12. Presents the Chi-square tests that were perform to indicate whether there is an association between boarding school lunch fees and student' performance. The results show that there should a violation of lunch fees to students' performance at 64%. However, the results also show that there is a degree of association between boarding school lunch fees and student' performance as Asymp. Sig. (2-sided) = .000 less than .05 level of significance with the likelihood ration of 45.411. This implies that the lack of effective management of boarding school lunch fees incurred by households have an influence on student' performance to boarding school activities. Willium (2019) Supported that there is a negative relationship between boarding lunch fees and student' school outcomes. This implies that every increase in school lunch affect negatively the performance of students in various school activities.

The amount of boarding school lunch incurred by households as the aspect of educational cost in boarding school varies by location of school. The results are presented in Table 4.13.

Table 4. 13: Lunch fees by student' school location

School location	Observations	Mean	Std. Dev.	Min	Max
Urban area	2	33000	2828	31000	35000
Rural area	8	26625	2173	23800	30000

The findings in Table 4.13 present the amount of money incurred by households on boarding school lunch due to school location. The results indicate that households of children transferred in school located in urban areas (Kigali city) spend an average of 33,000Rwandan francs to boarding school lunch given to their children. On the other, parents of children in rural areas of Rwanda spend an average of 26,625 Rwandan francs. This show that parents of children studying in boarding secondary school located in urban areas of Rwanda spend 10.7% of boarding lunch fees more than parents of children enrolled in schools located in rural areas of Rwanda. Watkins and Alemayu (2020) supported that the school lunch fees depend on the life style of the school located. This implies that schools located in place where life style is very expensive, leads to make the cost of education more expensive.

The households revealed that getting lunch from boarding schools enable their children to perform effectively various school activities and having well managed discipline. Therefore, this sought to establish Chi square tests in order to find out whether there is an

association between students' performance and households' socio-economic status that determine whether a family is able to afford the cost of boarding school lunch or not.

Table 4. 14: Chi-Square Tests of students' performance and household's socio-economic status

Chi-Square Test			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.805[a]	12	.001
Likelihood Ratio	36.242	12	.000
Linear-by-Linear Association	5.596	1	.018
N of Valid Cases	247		

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .32.

The findings in Table 4.14 presents the Chi-square tests that were perform to indicate whether there is an association between student' performance and households' socio-economic status. The results show that there should a violation of households' socio-economic status to students' performance at 55%. However, the results also show that there is a degree of association between households' socio-economic status and student' performance as Asymp. Sig. (2-sided) = .000 less than .05 level of significance with the likelihood ration of 36.242. This also implies that, the lower level of households' socio-economic status may have an influence on student's performance to boarding school activities. Gorard and See (2019) indicated that the socio-economic status of households supports family members to get the standard of living and able to perform various activities in their area of working.

4.4.3 Cost of transport as a cost of Education

The cost of transport incurred by households is taken as one of direct cost associated to the cost of education in public boarding secondary schools. Students that participated in this study stated that the amount of transport got from their parents is combined with pocket money that they use to busy some items while going to boarding school or at home. In case, students are going from home to boarding school, that cost of transport is attributed to schooling in boarding school and therefore considered as direct cost of education. On the other hand, students also need other extra-money taken as pocket money given in a combination of transport. Therefore, parents responsible to finance education of their children incur the cost transport and pocket money of their children in their respective boarding schools. Students were requested to indicate the total amount of money spent on transport while going to school every term of the academic calendar and pocket money got from their parents. The cost of transport and pocket money given as a sum was disaggregated by gender, class level of students, age, socio-economic status (ubudehe category) of households, school location, and the cost of transport to these variables was presented to indicate whether they make any differentiation to cost of transport as the cost of education boarding schools.

Table 4. 15: Transport cost by gender

Gender	Observations	Mean	Std. Dev.	Min	Max
Male	120	9950	8050	.00	30000
Female	127	10699	8497	.00	40000

The findings in the Table 4.15, present the amount of money spent by households to as a transport cost of education by gender. It reveals that the cost of education spent to student' transport varies by gender where households of females enrolled in boarding schools spent a high cost of transport rather than males. The Table shows that the average cost transport to females is 10,699 Rwandan francs while male students spent the average cost of transport of 9,950 Rwandan francs. This implies that households of female students spend the cost of transport of 3.6% to boarding school than households of male students. This is also supported by the findings indicating that households of female students spend the maximum cost of transport. Mutegi (2015) supported that parents of girls in school spend more money to their children travelling to school than parents of boarding. This implies that student' gender influences the cost of education in boarding secondary schools. Benyon (2017) also added that the school distance from home to boarding schools significantly affect negative the level of school access and completion due to high transportation fee and time.

This study was encouraged to investigate transport cost as the cost of education can vary student' class level. This is to indicate whether the transport cost incurred by households changes by their children' class level.

Table 4. 16: Transport cost by student' class level

Student class level	Observations	Mean	Std. Dev.	Min	Max
Senior one	3	7866	3585	.00	12000
Senior two	10	8256	4528	.00	15000
Senior three	9	8577	6741	.00	20000
Senior four	32	10590	8856	.00	30000
Senior five	96	10791	8034	.00	35000
Senior six	97	11856	8544	.00	40000

The findings show that the cost of transport as the cost of education incurred by household changes by the change in student class level. The table shows that the households of students in senior one, two and three spend less than 10,000 Rwandan francs on transport where they spend the average amount of Rwf7,866, Rwf8,256 and 8,577Rwandan francs respectively. However, the findings in this table also reveal that average cost of transport in upper secondary varies per student class level where the average coast of transport to boarding school in senior 4, 5 and 6 is Rwf 10,590, Rwf 10,791 and Rwf 11,856 respectively. This also implies that the cost of transport to boarding school which changes by class level; may affect student's completion to boarding school. Carlos (2019) who revealed that the more students get improving their education, the more the pocket money given to them combined with transport fee increases which also increase the burden associated with the cost of education, supported this. The Table 4.17 presents an association between transport cost of education and student completion.

Table 4. 17: Chi-square test of student' transport cost and completion

	Chi-square test		
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29.123[a]	16	.023
Likelihood Ratio	33.637	16	.006
Linear-by-Linear Association	6.992	1	.008
N of Valid Cases	247		

a. 5 cells (20.0%) have expected count less than 5. The minimum expected count is 2.21.

The findings in Table 4.17 Presents the Chi-square test that was performed to indicate whether there is an association between students' transport cost and completion. The results show that there should a violation of households' socio-economic status to students' performance at 20%. However, the results also show that there is a degree of association between transport cost as a cost of education and student' completion as Asymp. Sig. (2-sided) = .006 less than .05 level of significance with the likelihood ration of 33.637. This also implies that the increase in transport cost of education can have an influence on student's completion to boarding school. Carlos (2019) explained that the students who take a long distance from home to school get affected negatively complete school at a schedule time.

Transport cost as the cost of education to boarding secondary schools was also calculated to indicate the differentiation of transport cost by age group and the findings are presented in Table4.18.

Table 4. 18: Transport cost by age

Age group	Observations	Mean	Std. Dev.	Min	Max
Below 15years	22	9000	7396	.00	30000
16-18years	160	10383	8474	.00	40000
19years and above	65	10436	8127	.00	35000

The findings in the Table also illustrate that cost transport to boarding school varies by age group of students. It is clear that the students aged below 15years pay an average cost of transport of 9,000 Rwandan francs while the students in age group of 16 to 18years spend an average cost transport of 10,383Rwandan francs and students aged from 19years and above spend an average cost of transport of 10,436 Rwandan francs. However, the findings also show that the students in age group of 16 and 18years are the one to spend 40,000 Rwandan francs as the maximum cost of education. Mutegi (2015) conducted the study on school transport cost by students' age and confirmed that the school transport cost varies by student age and stated that the increase in student' age, increases student' transport to school.

This study also sought to calculation the average cost of transport by socio-economic status of students' households as presented in Table 4.19.

Table 4. 19: Transport cost of education by socio-economic status

Socio-economic category	Observations	Mean	Std. Dev.	Min	Max
Category one	10	7090	8564	.00	10000
Category two	49	9038	8307	.00	15000
Category three	144	10332	7636	.00	30000
category four	44	10852	8441	.00	40000

The Table 4.19 illustrates the findings related to the average cost of transport as the cost of education to boarding school by socio-economic status (ubudehe category). It is revealed that the cost of transport varies by students' socio-economic status in their families where students in category one spends ten average cost of transport of 7,090 Rwandan francs while students in category two spend the average cost of transport of 9,038 Rwandan francs. The table also illustrates that the average cost of transport in category three spend the average cost of transport is 10,332 Rwandan francs while the students in ubudehe category four spend an average cost of transport is 10,852 Rwandan francs with 40,000 Rwandan francs as maximum cost of transport. According to Segei and Tikoko (2016), the financial capacity of households which leads to the lack of student' transport from home to school reduces school enrolment and other school opportunities. Nevertheless, Carlos (2019) also stated that children coming from rich families get a higher amount of pocket money, which also increases the burden of households ready to finance education of their children.

The cost of transport to education in boarding school was also calculated by financing source.

Table 4. 20: student' transport cost by financing source

Caregiver of school fees	Observations	Mean	Std. Dev.	Min	Max
Parents	202	10188	8129	.00	30000
Guardians	14	8428	5723	.00	28000
NGO	19	14310	10663	.00	40000
Sector	12	7466	7536	.00	20000

The findings in Table4.20 present the cost of transport as the cost of education by type of caregivers of student' school fees as financing source. It reveals that students financed by Non-Governmental Organizations (NGOs) spend a high average of transport of cost of 14,310 Rwandan francs followed by students financed by their parents with an average cost of transport of 10,188 Rwandan francs. The findings reveal that students financed by guardians and government decentralized to sector level, the average cost of transport is 8,428 and 7,466 Rwandan francs respectively. Farthering (2021) indicated that students who get financial education support from various NGOs are likely to get easy access to education that also reaches to having improved school completion.

The cost of transport as the cost of education to boarding secondary school was also calculated by location of school.

Table 4. 21: Transport cost by school location

School location	Observations	Mean	Std. Dev.	Min	Max
Urban	76	12008	9441	.00	30000
Rural	171	9502	7599	.00	40000

The Table 4.21 presents how the cost of transport varies due to school location. The table illustrates that students of public boarding secondary schools located in urban areas of Rwanda spend a high average cost of transport where they spend an average of 12,008 Rwandan francs as transport cost while students studying in rural areas of Rwanda spend an average cost of transport of 9502 Rwandan francs. This shows that there is a big differentiation of transport cost due to school transport as the students in school in urban areas spend 11.6% more than students in schools of rural areas of Rwanda do. However,

it is clear that students in schools of rural areas are the one to spend the highest maximum cost of transport. Mugoro (2021) supported that socio-economic status of parents make them to enroll their children in local schools with free charge of school transport. This implies that school location plays a significant role in students' participation, which changes due to cost of education incurred by parents.

4.4.4 Cost of school uniform as a cost of education

Student uniform is one of the requirements in school in Rwanda. Therefore, every student in boarding school is supposed to have school uniform. In this case, parents are supposed to incur the cost uniform as the cost of education. It is in this regard to calculate the amount of money spent and it vary from gender and school location. Therefore, students in boarding school were requested to indicate the amount of money they spend on school uniform. The findings of school uniform cost are presented in Table 4.22.

Table 4. 22: School uniform cost by socio-economic status

Socio-economic category	Mean	Std. Dev.	Min	Max
Category one	12220.00	2402.22	10000	18000
Category two	14061.22	4203.41	12000	20000
Category three	18764.58	3762.08	14000	23300
category four	19372.73	2934.43	14000	28000

Table 4.22 illustrates the cost of school uniform as a cost of education by children's households' socio-economic status. The result shows that the cost school uniform varies by children's ubudehe category. The table shows that parents of *ubudehe* category one incurs the cost average of school uniform of 12,220 Rwandan francs and 14,061Rwandan

francs of parents in *ubudehe* category two. Table 4.22 also shows that a high cost of school uniform is paid by parents of ubudehe category four that pay an average cost of 19,372 Rwandan francs and parents of ubudehe category one that pay an average cost of 18,764 Rwandan francs. This means that parents buy the school uniform according to their financial capacity. Mutegi (2015) revealed that, in terms of school uniform by gender, parents with girls in secondary schools pay more money of school uniform for their children hence up scaling their cost of education.

The study sought to calculate the amount of money spent on school uniform as a cost of education to boarding school. In this case, the average cost of school uniform in schools located in urban and rural areas of Rwanda.

Table 4. 23: School uniform cost by student' school location

School location	Observations	Mean	Std. Dev.	Min	Max
Urban areas	76	19565	3066	14000	28300
Rural areas	171	18331	3874	16700	24000

The Table 4.23 illustrates that students studying in schools located in urban areas of Rwanda spend more money than students studying in schools located in rural areas do. The findings show that students enrolled in urban areas spend 19,565 Rwandan francs to school uniform while students studying in rural areas spend 18,331 Rwandan francs. This also shows that enrolled in schools of urban areas spend 3.2% to school uniform than students enrolled in schools of rural areas do. According to Simitwa and Ayodo (2020), the cost of student' uniform in secondary schools varies from one school to another and due to the mark place of school location. This implies that market place of urban area is

associated with high cost of commodities, which leads to making school uniform more expensive than in rural area.

This study also sought to investigate whether there is an association between the cost of school uniform as the cost of education and student' access to education in boarding secondary schools by using Chi-square test and the findings are presented in Table4.24.

Table 4. 24: Chi-square test of school uniform cost and student' access to education

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	78.463[a]	64	.105
Likelihood Ratio	89.407	64	.020
Linear-by-Linear Association	.013	1	.909
N of Valid Cases	247		

a. 73 cells (85.9%) have expected count less than 5. The minimum expected count is .06.

The table 4.24 presents the Chi-square test that was performed to indicate whether there is an association between school uniform cost and students' access to education. The results show that there should a violation of school uniform cost to students' access to education in boarding school at 85.9%. However, the results also show that there is a degree of association between school uniform cost as a cost of education and student's access as Asymp. Sig. (2-sided) = .020 less than .05 level of significance with the likelihood ration of 89.407. This also implies that, the increase in school uniform cost has an influence on students' access to education in boarding school. Mutegi (2015) established that there is a significant positive effect of school uniform on attendance, with little significant effect on school completion rate and incoherent effect on schooling performance. Kremer et al. (2016) conducted the impact of uniforms among a bundle of

goods provided to schools while Duflo et al. (2018) conducted another study related to the impact of giving uniforms among students of primary school on school dropout rate, teen marriage and childbearing. The two studies showed that reducing schooling cost in order to provide uniforms to students enhance the schooling participation.

4.4.5 Cost of student' school materials as a cost of education

The cost of students' school materials makes up the cost of education paid by households to full participation in boarding schools. The students in such school are obliged to buy various materials helping them to live the life of school schools. In that case, students were requested to indicate the cost spent to each material used in the life of boarding school. This study presents the results related to how the cost of student' school materials vary by gender, school location, financing source, class level, socio-economic status and by students' group age.

Table 4. 25: Student' school material cost by gender

Gender	Observations	Mean	Std. Dev.	Min	Max
Male	120	13306.67	4203.22	10000.00	25000.00
Female	127	16265.08	6267.42	10000.00	40000.00

The result in Table 4.25 shows that there is a difference between the costs of student school uniform paid by households by gender. It shows that the cost of school materials given to girls takes the average of 16,265 Rwandan francs while the cost of student' school material given to boys in boarding secondary schools take the average cost of 13,306 Rwandan francs. This implies that the households of girls' student pay 10% than households of boys' students to school materials in boarding secondary schools. Lindsay

(2018) indicated that spending less amount of money on school material cost does not show to be an indicators of cost of course materials is down but it depends on the financial capacity of children' households. Choi (2018) added that the effective completion of school materials every academic level of education or course leading depends on adequate student' school materials.

However, the study also sought to determine the level through which the cost of student' school materials vary due to the location of student' school enrolment.

Table 4. 26: Cost of students' school materials by school location

School location	Observations	Mean	Std. Dev.	Min	Max
Urban area	76	18764.47	5261.58	10000.00	30000.00
Rural area	171	16064.91	6592.72	10000.00	50000.00

This Table 4.26 illustrates that students studying in schools located in urban areas of Rwanda spend more money on school materials, than students studying in schools located in rural areas do. The findings show that students enrolled in urban areas spend 18,764 Rwandan francs to school materials while students studying in rural areas spend 16,064 Rwandan francs. This also shows that enrolled in schools of urban areas spend 7.8% to school materials than students enrolled in schools of rural areas do.

This study also sought to examine whether there is an association between students' school materials and school completion. This was tested to indicate whether the absence or availability of school materials to student can make an influence on student' school completion. The Results are as presented in Table4.27

Table 4. 27: Chi-Square test of school materials and student' school completion

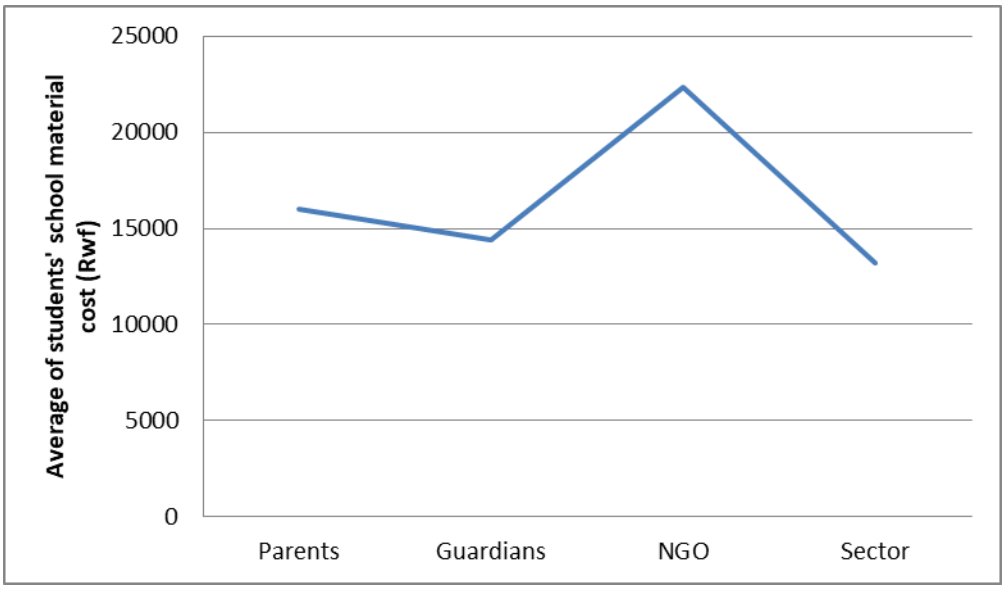
Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.248[a]	16	.209
Likelihood Ratio	24.700	16	.075
Linear-by-Linear Association	1.498	1	.221
N of Valid Cases	247		

a. 13 cells (52.0%) have expected count less than 5. The minimum expected count is 1.26.

The Table 4.27 Presents the Chi-square test that was performed to indicate whether there is an association between school material cost and students' school completion. The results show that there is a violation of school material cost to students' completion in boarding school of 52%. However, the results also show that there is a degree of association between students' school material cost as a cost of education and student' completion as Asymp. Sig. (2-sided) = .020 less than .05 level of significance with the likelihood ration of 24.7. It is clear that the insufficient school materials affect the students' completion in boarding school. Kingdom and Teal (2015) indicated that the provision of adequate school mater to students affect positively mainly on the school completion. Manson and Roselle (2020) added that if a student learns adequate materials; get easy of performing school activities

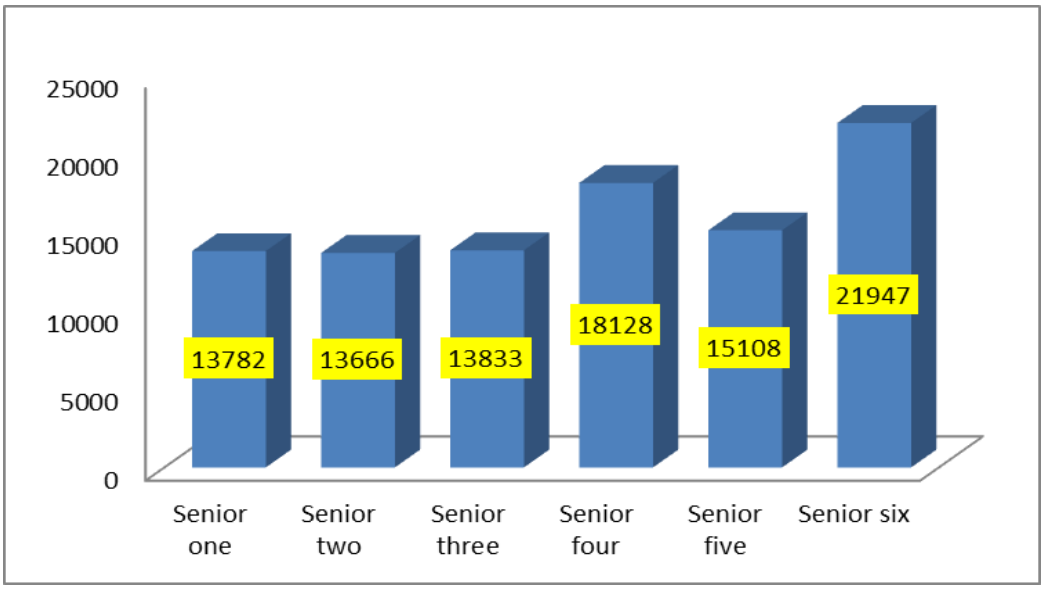
The study sought to calculate whether there is a difference in cost of school materials due to financing source of school fees. The results are as presented in the Figure 4.6.

Figure 4. 6: Cost of student' school material by financing source



The cost of school materials given to children per term in boarding school varies due to the source or caregiver of that child was also presented in the figure 4.6. It reveals that students that get the school materials of the high cost are those financed by Non-Governmental Organizations (NGOs) as they spend an average cost of school materials of 22,368 Rwandan Francs and followed by children financed by their parents that get the school materials whose average cost of 16,020 Rwandan francs. On the other hand, it is revealed that students financed by guardians and government centralized at sector level get the school materials whose average cost of 14,392 Rwandan francs and 13,216 Rwandan francs respectively. This implies that students get school materials in boarding school due to financing source where the highest school materials are given by NGOs that spend 26.6% more than those children financed by sectors that spend the lowest amount of school materials.

Figure 4. 7: Cost of students' school materials by class level



The findings presented in the Figure 4.7 show how the cost of school materials given to students varies by class level per term. It was found that students starting upper secondary and those completing secondary level of education, their parents spend a high cost of school fees. Children studying in senior six get the school materials of an average cost of 21,947Rwandan francs while senior four students get the school materials of an average cost of 18,128 Rwandan francs. On the other hand, children studying in senior two pay the minimum cost of school materials of 13,666 Rwandan francs.

Table 4. 28: cost of students' school materials by socio-economic status

Socio-economic category	Observations	Mean	Std. Dev.	Min	Max
category one	10	12961.36	4831.88	10000.00	20000.00
Category two	49	16481.63	5772.99	10000.00	35000.00
Category three	144	15918.75	6088.39	10000.00	40000.00
Category four	44	21900.00	11763.41	11500.00	50000.00

A Table 4.28 presents the average cost of student' school material per term and it varies by the socio-economic status of student's households. It reveals that the cost of students' school materials in boarding school increases with the increase of socio-economic status of households where children categorized in the fourth *ubudehe* category pay an average cost of 21,900 Rwandan francs while categorized in *ubudehe* category one pays an average cost of 12,961 Rwandan francs. This should children in *ubudehe* category four uses the school materials that cost 25.6% more than children in *ubudehe* category one, which is very high. This also implies that socio-economic status of household can be a burden to afford the cost of education in boarding secondary school. Alkens and Barbarin (2018) conducted the study related to the education and socio-economic status and revealed that low socio-economic status of households led lower level of school achievement due to harder ways of getting school means which also lead to poor health. Children coming from families of low socio-economic status enter school with a literacy skills below to children higher income capacity (Alkens & Barbarin, 2018).

Table4. 29: Cost of students' school materials by age

Age group	Observations	Mean	Std. Dev.	Min	Max
Below 15years	22	15727.2727	6450.77934	10000.00	30000.00
16-18years	160	16138.7500	6639.95896	10000.00	50000.00
19years and above	65	16815.3846	4966.07965	10000.00	35000.00

The Table 4.29 shows that the cost of school materials paid by parents varies by the change of the children's age group. It is clear that children categorized in age group of 19 years and above pay a high-cost school materials compared to other age groups where they pay an average cost of 16,815 Rwandan francs and those categorized in age group of 15years and below pays an average cost of 15,727 Rwandan francs per term.

Table 4. 30: Association between students' school material and students' dropout

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29.654[a]	16	.020
Likelihood Ratio	30.963	16	.014
Linear-by-Linear Association	3.950	1	.047
N of Valid Cases	247		

a. 13 cells (52.0%) have expected count less than 5. The minimum expected count is 1.41.

The Table 4.30 Presents the Chi-square test that was performed to indicate whether there is an association between school material cost and students' dropout. The results show that there is a violation of school material cost to students' dropout in boarding school of 52%. However, the results also show that there is a degree of association between students' school material cost as a cost of education and student' dropout as Asymp. Sig. (2-sided) = .014 less than .05 level of significance with the likelihood ration of 30.963.

This implies that the lack of school material affects students to school dropout. According to Bergeson and Henschel (2017), conducted the study related to helping students to finish schools and revealed students' dropout can be caused by various reasons such as student' family and community, an school related factors. Bergeson and Henschel (2017) explained that students' family might affect or present the school dropout due to available financial capacity.

4.4.6 Teacher' bonus as a cost of Education

Teachers' bonus a cost of education refers to the amount of money spent by households to motivate teachers in teaching and learning process or to get some extra-class where it is necessary to the curriculum. This is done for better performance and improving the quality of education given to students in boarding school. Therefore, students were asked to the amount of money spent to motivate their teachers in school as motivation. Attempt was made to indicate teachers' bonus by student' class level (lower and upper secondary) and school location.

This study sought to examine whether there is a differentiation between teachers' bonus paid by households due to the children' class section as lower and upper secondary. The results are as presented in the Table4.31.

Table 4. 31: Teachers' bonus by student' class level

Student class section	Observations	Mean	Std. Dev.	Min	Max
Lower secondary	92	7166	763	6500	8000
Upper secondary	155	9345	2390	6500	15000

The results in the Table 4.31 show that there is a difference between the costs of bonus of teachers paid by households due to the class sections of their children. The result reveals that students in upper secondary school are the one to high cost of teachers' bonus with an average of 9,345 Rwandan francs while households of children in lower secondary pay average cost of teachers' bonus of 7,166 Rwandan francs. This implies that households of student in upper secondary school paid 13.2% than households in lower secondary of boarding school and this can be an obstacle to make effective school completion. Parents who were given a guided interview indicated that provision of bonus given to teachers in boarding schools, motivate them lead to getting improved results from national examination". This study also sought to calculate the cost of teachers' bonus paid by households by the location of the boarding school. The results are as presented in the Table 4.32.

Table 4. 32: Teachers' bonus by school location

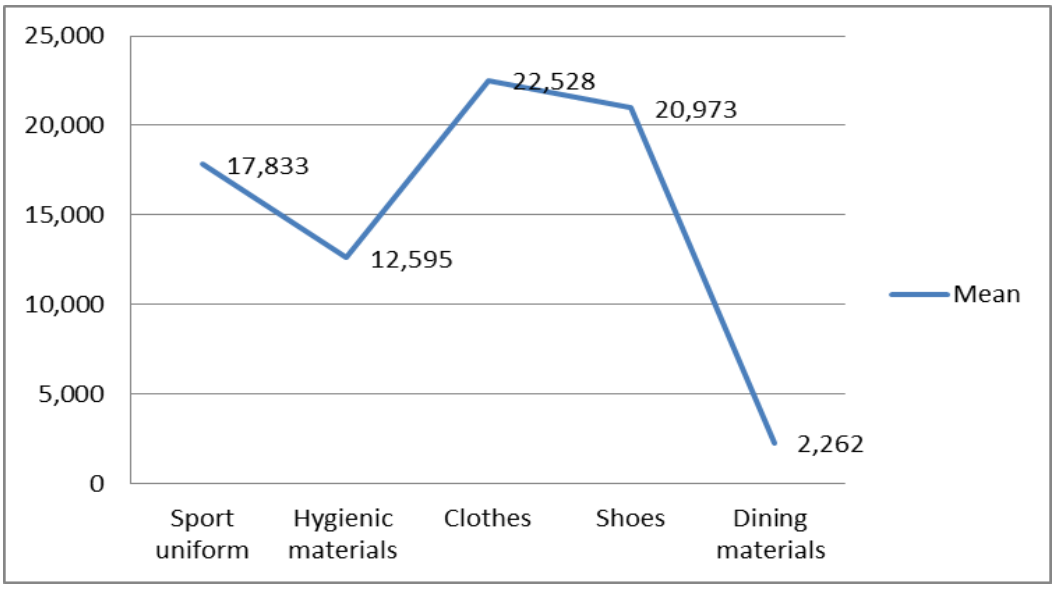
School location	Observations	Mean	Std. Dev.	Min	Max
Urban area	76	12710	1108	7000	18000
Rural area	171	9038	2858	5000	15000

The results indicated in the Table4.32 show that there is a difference in cost of education incurred by households in term teachers' bonus due to the location of their schools. It reveals that parents of children transferred in urban areas of Rwanda, which is represented by Kicukiro district in pay average cost of 12,710 Rwandan francs to teachers' bonus while parents of children transferred in schools of rural areas of Rwanda represented by Ruhango district pay average cost of 9,038 Rwandan francs. This also

shows that parents of children studying in urban areas of Rwanda pay 16.88% than parents of children enrolled in schools of rural areas to teachers' bonus

The households' incidental expenses to education in public boarding secondary schools were also calculated. Therefore, the analysis related to the cost of education incurred by the households, it apparent that there are other added incidental expenses to education, which may be also considered as a burden to households and can affect the students to participate in boarding schools. This helps the study, to know any other educational expenditure in order to know the additional amount of money spent by the households to education of their children. The results in the figure 4.8, gives the additional cost of education in boarding secondary school by the households.

Figure4. 8: Households' incidental expenses to education in boarding school



The results in the figure 4.8 indicate some incidental expenses incurred by households to education in boarding schools done per year where the student clothes claim to be at the highest household education expenditures that support the education of their children to

be successful that takes an average cost of 22,528 Rwandan francs. The second household expenditure is for student shoes, which takes an average cost of 20,973 Rwandan francs followed by the expenditure incurred by the households on the sport uniform used by their child, which takes an average cost of 17,833 Rwandan francs. The results in the figure 4.8, further show that an average of 12,595 Rwandan francs spent by the households on the hygienic materials used by student in boarding school. In the same vein, the results in the figure 4.8 also indicate that households spent an average cost of 2,262 Rwandan francs on dining materials also used by student in boarding secondary school per year.

Mwiza and Kimengi (2019) indicated households' education extra-expenses strengthen the burden of financing education of their children effectively. This implies shows that a parent may fail to get hygienic materials and clothes used in boarding school due high education cost charged. Osen (2018) also added that the households' education expenditures increase across school calendar. Ose (2018) added that the financial support given to households could reduce the burden associated with the cost of education of their children.

4.4.7 Households education cost in public boarding secondary schools

This study also establishes the cost of education incurred by households including all the money paid by parents, guardians or other supporters in order to meet the cost of education of every child in public boarding secondary schools. This cost is made up of the cost of school fees, which includes lunch fees, transport cost from home to boarding

school and vice versa, school material cost, school uniform cost and teachers' bonus. This amount is tabulated and the results are as presented in Table 4.33.

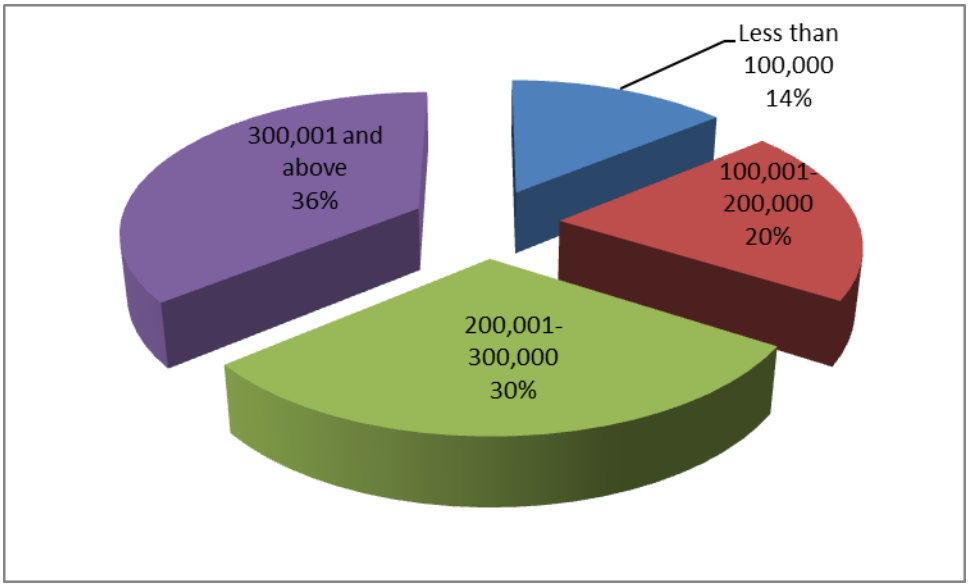
Table 4. 33: Household's education cost

Variable	Observations	Mean	Std. Dev.	Min	Max
Education cost	247	160903	23903	121700	223000

Table 4.33 shows that parents of children in public boarding secondary schools pay the total average of 160,903 Rwandan francs per term to every child. However, the total minimum cost of education per term in public boarding secondary schools is 121,700 Rwandan francs and the maximum cost is 223,000 Rwandan francs per term. In the views of District Education Officers (DEOs) who were given guided interview indicated that " education cost affect negatively the participation of students in boarding secondary schools mainly those coming from poor families as some parents get failed to enroll their children from such schools due to financial difficulties". Zhan (2019) revealed that low socio-economic status of households is an obstacle to parents to fulfill their responsibilities related to education of their children. This implies that participation of students in boarding secondary schools is associated with the socio-economic status of their parents. Tilak (2017) added that the cost of education is associated with the inequalities in income capacity where families of high-income capacity are likely to afford the cost of education.

The study also sought to indicate to total family income per month in order to find out the extent to which parents are able to afford the average cost of education required in public boarding schools in Rwanda and the results are in Figure 4.9.

Figure 4. 9: Family monthly income



The Figure 4.9 presents the categories of monthly family income. It shows that the majority as 36% of parents get monthly income categorized from 300,001 Rwandan francs and above while 14% of parents earns 100,000 Rwandan francs and below. This implies 14% parents of children in public boarding secondary school are not able to afford the cost of education of a single child without getting external support, as their monthly income is below the average cost of education in public boarding school. Mutegi (2015) revealed that the households' income levels have been show to affect the enrolment in schools mostly to children of parents of low-income level. Chaudhury et al. (2018) income level correlates with school participation. This implies that in developing countries households' financial capacity significantly influences their children's school participation. Therefore, both direct and indirect costs of education are taken as important factors associated with school access, dropout and completion.

This study also sought to indicate the cost of education incurred by households, which varies by gender, age group, student' class level and students' school location.

Table 4. 34: Households educational cost by gender

Gender	Observations	Mean	Std. Dev.	Min	Max
Male	120	156794	22373	121700	221500
Female	127	165427	24728	123000	223000

Table 4.34 shows that it is more costly to educate a girl in public boarding secondary school in Rwanda, as the average of household educational cost is 165,427 Rwandan francs while parents of boys in boarding schools pay an average cost of 156,794 Rwandan francs. This implies that parents of girls in boarding secondary schools, pay 2.6% more than parents of boys in boarding school per term. This may also be a burden to parents of girls in boarding schools than those of boys. Wanjala and Koriyow (2017) revealed that gender disparity is an issue to households financing education of their children due to high education cost by households and results to force out of boarding school. This study shows that households make themselves a decision of taking in or out of boarding secondary schools due to financial capacity.

This study also sought to indicate the change of households educational cost by students' age group and the results are as presented in Table 4.35.

Table 4. 35: Households educational cost by age group

Age group	Observations	Mean	Std. Dev.	Min	Max
Below 15years	22	157759	24080	123800	208000
16-18years	160	160808	24267	121700	223000
19years and above	65	162200	23189	123000	211000

Table 4.35 shows that the household education cost is mostly spent to children aged from 19years and above with an average cost of 162,200 Rwandan francs while parents of children aged 15years pay less in public boarding secondary schools with an average cost of 157,759 Rwandan francs. This implies that the cost of education in boarding school varies by the age of students. The study also presents the average cost of education paid by households in boarding school by students' class level and results are presented in Table 4.36.

Table 4. 36: Households educational cost by student' class level

Student' class level	Observations	Mean	Std. Dev.	Min	Max
Senior one	20	143976	3210	135000	162000
Senior two	3	132533	3100	129000	134800
Senior three	9	152311	19304	123800	175500
Senior four	42	157740	23304	123700	214800
Senior five	76	156406	23505	121700	218500
Senior six	97	168398	23254	123800	223000

Table 4.36 shows that parents of children studying in senior six pay a high cost of education valued at an average of 168,398 Rwandan francs per term. Parents of children studying in senior two pay less valued at an average of 132,533 Rwandan francs per term. The cost of education also goes up to students of senior four with an average cost of 157,740 Rwandan francs and goes down to students of senior five that pay an average cost of 156,406 Rwandan francs. It is also found that cost of education also reduces to students of senior three and senior one pay average cost of 152,311 and 143,976 Rwandan francs respectively per term. According to Alex (2020), household' educational

costs has been faced our two main challenges like late disbursement of education cost required and insufficient funds which affect adequate school participation. This study shows that a household may fail to enroll or continue enrolling their children in boarding secondary due to their insufficient funds and affect a student' school completion.

The study also presents the results related to households' educational cost by students' school location and illustrated in Table4.37.

Table 4. 37: Households educational cost by student' school location

School location	Observations	Mean	Std. Dev.	Min	Max
Urban area	76	168036	17858	130300	205800
Rural area	171	157733	25559	121700	223000

Table 4.37 shows the average cost of education incurred by parents of children in public boarding secondary schools located in urban and rural areas. Table 4…shows that parents of children in schools located in urban areas pay an average cost of 168,036 Rwandan francs and parents of children in schools located in schools of rural areas pay an average cost of 157,733 Rwandan francs. This implies that parents of children in schools of urban areas pay 3.2% more than, parents of children in rural areas every term. In the voice of parents that were given a guided interview said that "it cannot be easy to them to manage the cost of education needed in boarding secondary schools when keeps improving refer to the their economic status which gets affected to enrolling their children while rich parents said that they could continue enrolling their children in such schools because they get good disciple, high knowledge and skills ". Zhan (2019) supported that the cost of education incurred by households varies by school historical background, which become a challenge to families of low socio-economic status.

4.5 Influence of government educational expenditures on students' participation rate

This is the second objective of this study that was carried out to determine the influence of education expenditures incurred by government in order to improve the social welfare to citizens of the country. The amount of money gained by boarding schools through performing some income generating activities is also expressed as the support of government educational expenses. Therefore, this study sought to indicate the average amount of money spent by the government to education development and delivery in public boarding secondary schools located in Kicukiro and Ruhango districts. This study, also sought to establish the average number of students accessed as were able to enroll in boarding school, students' transfer and completion in public boarding secondary schools in Rwanda.

4.5.1 Students' participation in boarding schools in 2017 to 2020

For further analysis, this study sought to investigate the participation of students in public boarding secondary schools located in Kicukiro and Ruhango districts. The study establishes the average number of students' access per school of selected public boarding secondary schools across the year of 2017 to 2020. However, the study also presents the average of students' dropout and completion in selected public boarding secondary schools from 2017 to 2019. On the other hand, this study did not indicate the average number of students' dropout and completion in 2020 because school calendar was still running out. Table 4.38 presents the average number of students' access per school from 2017 to 2020.

Table 4. 38: Students' access rate in selected schools

Students accessed	2017	2018	2019	2020
Observations	10	10	10	10
Mean	707	698	689	737
Std. Dev.	185	203	202	216
Min	410	395	384	372
Max	976	1006	995	1055

Table 4.38 presents the average number of students' access per school from 2017 to 2020 in selected public boarding secondary schools in Rwanda. The Table4.38 shows that the number of students accessing in public boarding secondary school reduced since 2017 to 2019 as they moved from the average of 707 to 689 students per school. This shows that students' access decreased by 1.2%. However, in 2020 students' access increased by 3.4% as they moved from 698 to 737 students. The results in Table 4.39 present the average number of students' access by school location. Dearden et al. (2017) conducted a study in United Kingdom and revealed that an increase in education cost of £ 1000 found to decrease the student' access to education by 3.9% due to inequality in socio-economic status. This shows that students from lower social backgrounds get more affected.

Table 4. 39: Students' access by school location

School location		2017	2018	2019	2020
Urban area	Observations	2	2	2	2
	Mean	994.0000	992.5000	915.0000	1008.5000
	Std. Dev.	15.55635	16.97056	3.53553	23.33452
	Min	954.00	982.00	890.00	922.00
	Max	1010.00	1006.00	995.00	1015.00
Rural area	Observations	8	8	8	8
	Mean	643.1250	613.3750	605.2500	661.7500
	Std. Dev.	143.74028	141.05717	147.19642	166.80249
	Min	410.00	395.00	384.00	372.00
	Max	812.00	801.00	820.00	848.00

Table 4.39 shows the average number of students' access by school location and it is clear that school located in urban areas, students indicate a greater number of accesses that schools located in rural areas of Rwanda. However, students' access in all schools reduced from 2017 to 2019. This implies that students' access in schools of urban areas decreased by 4.2% while students' access in rural areas decreased by 3.0% from 2017 to 2019. This also shows that students' access to public boarding secondary schools reduced more that schools in rural areas, which also indicates that education in urban area is more costly than in rural area. Table 4.40 presents the data of 2017 to 2019 related to the average number of students' dropout per school.

Table 4. 40: Students' dropout rate in schools

Students' dropout	2017	2018	2019
Observations	10	10	10
Mean	12.3000	9.1000	13.0000
Std. Dev.	10.11105	5.78216	9.04311
Min	.00	1.00	.00
Max	32.00	16.00	28.00

Table 4.40 shows dropout rate of students in public boarding secondary schools in Kicukiro and Ruhango district. The findings show that the average of students' dropout was 12 students in 2017 and 9students in 2018 and 13 students in 2019. This implies that students' dropout increased highly by 17.6% from 2018 to 2019. However, the study did not present the of students' dropout in 2020 as schools were not making completion of school calendar. Rebecca (2020) stated that when the cost of education becomes unmanageable, it could have a direct impact of school dropout rate. This also implies parents whose difficulties of socio-economic status get risk of ending school without completion. Table 4.41 presents another indicator of students' participation, which is students' completion.

Table 4. 41: Students' completion in schools

Students' sections		2017	2018	2019
	Observations	10	10	10
	Mean	97.7000	92.1000	78.4000
Senior 3	**Std. Deviation**	34.05241	26.16380	20.36446
	Minimum	45.00	51.00	67.00
	Maximum	146.00	134.00	132.00
	Observations	10	10	10
	Mean	104.0000	108.9000	84.6667
Senior 6	**Std. Dev.**	35.44009	29.06487	28.99138
	Min	59.00	62.00	75.00
	Max	165.00	156.00	140.00

Table 4.41 shows that on average there are 97 students' completion in senior three in every school in 2017 in public boarding secondary schools. However, the minimum number of students' completion in schools was 45 students while others have 146 as the highest number. In 2018, there were an average of 92 students completed the lower secondary education. However, the minimum number of students' completion was 51 students and others were 134 students as the highest number. Table4.41 also shows that on average there is 78 students' completion in senior three in every school in 2019 in public boarding secondary schools. However, the minimum number of students' completion in schools was 45 students while others haves 132 as the highest number. This implies number of students completion reduced across the year 2017 to 2019 by

11% in lower section of public boarding secondary schools located in Kicukiro and Ruhango districts in Rwanda.

On the other hand, the study presents the situation of senior six students' completion from 2017 to 2019. Table 4.41 shows that on average there are 104 students' completion in senior six in every school in 2017 in public boarding secondary schools. However, the minimum number of students' completion in schools was 59 students while others have 165 students as the highest number. In 2018, there was an average of 108 students completed secondary education. However, the minimum number of students' completion was 62 students and others were 156 students as the highest number.

Table 4.41 also shows that on average there is 84 students' completion in senior six in every school in 20179 in public boarding secondary schools. However, the minimum number of students' completion in schools was 75 students while others haves 140 as the highest number. This implies number of students completion reduced across the year 2017 to 2019 by 10% in senior six of public boarding secondary schools located in Kicukiro and Ruhango districts in Rwanda. This also shows that senior three students' completion reduced by difference of 1% more that senior six students. Rebecca (2019) established that there is a gap between graduation rates between lower-income students and their higher income peers. This implies children from families of low income do not complete school accordingly due to financial burden related to education. Furthermore, appendix VII, VIII and IX present students' access dropout and completion per class in public barding boarding secondary schools located in Kicukiro and Ruhango district respectively.

To calculate the cost of education incurred by the government was done by indicating the amount of money spent to each education expenditure while the investigations related to the variation of education expenditures by the government on the participation of students. This was done, by adding the average amount of money spent by government to a single school in every year on each item. The items were teaching staff salaries, both administrative and supporting school staff salaries, cost of textbooks and laboratory expenses, computer repair expenses, cost of students' participation in extracurricular activities, maintaining physical school facilities and cost of students' boarding lunch, communication bill, water and electricity and fuel.

4.5.2 The government education expenditures on different school activities

The further analysis is established to get the average amount of money incurred by the government to finance the public boarding secondary schools of Kicukiro and Ruhango districts per year. This was done to find out the average cost of education paid by the state government in various educational activities in each boarding school per year, which may also have an influence on students' participation in public boarding secondary schools in one way or another. It is in this regard that educational expenditures incurred by government on different activities or items in each public boarding secondary school, were thought to be the greater interest and in need of being established in this study. Therefore, the results in the table 4.42 Show the amount of money spent on different activities in each school under investigation.

Table 4. 42: The government education costs to public boarding secondary schools

Items	Amount of money (Rwf/year)	Percentage
Teaching staff	60,721,836	52.33 percent
Administrative staff	12,505,980	10.78 percent
Supporting staff	11,016,000	9.49 percent
Textbooks	1,870,273	1.61 percent
Laboratory expenses	1,682,735	1.45 percent
Computer repair	1,121,532	0.97 percent
Extracurricular activities	1,613,745	1.39 percent
Maintenance of physical facilities	4,715,836	4.06 percent
Students boarding lunch	11,128,320	9.59 percent
Communication Bill	960,000	0.83 percent
Water and electricity	6,348,267	5.47 percent
Fuel	2,357,961	2.03 percent
Total	**116,042,485Rwf**	**100 Percent**

Source: Field data (2020)

The results indicated in the Table 4.42, present the boarding school expenditures in different school activities, which also are claimed to be big where the average government educational expenditures correspond to 116,042,485 Rwanda francs per year. In fact, 52.33% of the total expenditure in public boarding secondary schools in Kicukiro and Ruhango districts spent to teaching staff salaries. It is clear to note that there is a significant positive relationship between provision of higher salaries, and fringe benefits of teachers, which lead to the effective school performance (Pritchett, 2019). The second item spend the government in public boarding secondary schools goes to supporting staff

salaries that claim to take 9.49 percent of the total expenditure. This is also followed by the expenditure related to administrative staff salaries that also take 10.78 percent of the total expenditure. The rationale to this is to increase the school staff salaries also increase the government expenditure. It is important to note that, a positive management of school staff enhances the school productivity that also led to the effective students' performance (Pritchett, 2019). The students in boarding school lunch that take 9.59 percent of the total government expenditures follow the expenditure spent to the school supporting staff. The results in the Table 4.42 reveal that, 4.06 percent of the total expenditure is given to maintenance of the physical school facilities. This is followed by expenditures related to water and electricity used in boarding secondary schools that take 5.47 percent of the total expenditures.

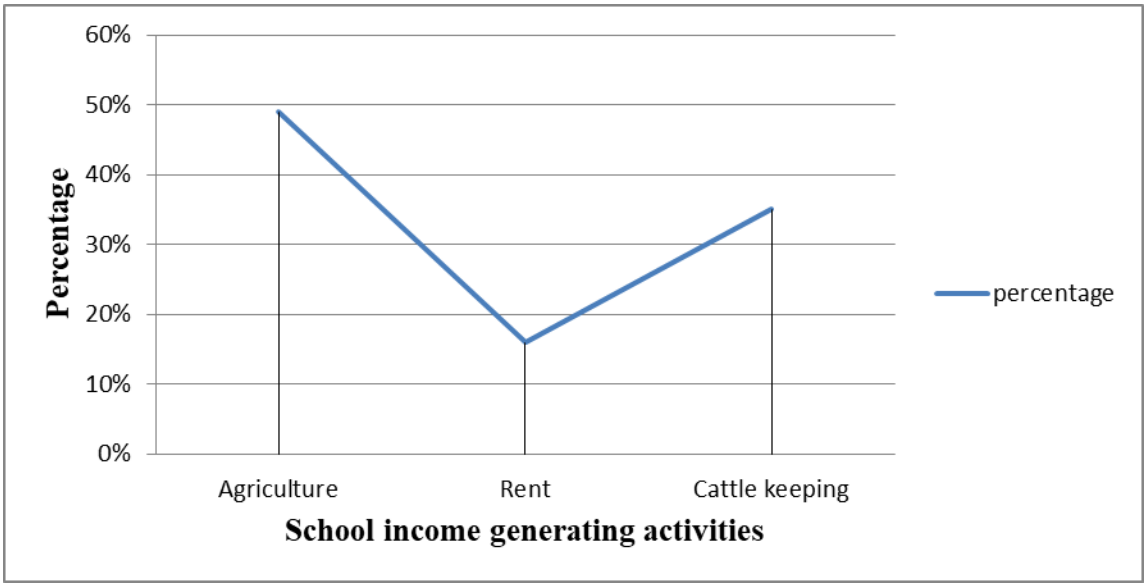
The Table 4.42 also gives that, fuel as the government expenditure in boarding schools, takes 2.03 percent of the total expenditures. This is followed by government education expenditures related to buying textbooks used in boarding schools, which take 1.61 percent of the total expenditures. In the same vein, the Table 4.42 also indicates that government education expenditures are also allocated to the school laboratories, which claim for 1.45 percent of the total expenditures. The findings in the Table 4.42 further provide that, 1.39 percent of the total expenditure be spent to establishing the school extracurricular activities in school setting. This is also followed by repairing the school computers, which take 0.97 percent of the total expenditure. Finally, the results in the Table 4.42 reveal that the remaining government education expenditure, is 0.83 percent of the total government expenditure which is spent as the communication bill. Therefore, it is clearer to indicate that the amount of money provided to education development can

correlate with the education performance. Hanushek (2017) revealed that the school performance may increase due to the increase of school expenditures. The insufficient financial capacity settled in education sector, may reduce the participation of students to education that may also harm the quality of education (UNESCO, 2018). However, it is also important to specify that the higher education expenditures do not mean the improved school productivity. Increased educational spending, according to Hanushek (2017), bears expected results only when the educational system demonstrates the ability to handle them effectively and efficiently.

4.5.3 School income-generating activities

This study sought to determine whether public boarding secondary school perform income generating activities that may support the school budget to fulfill the daily school requirements. This was also done to investigate whether the households and government education expenditures only achieve the performance of the school activities. Therefore, the school head teachers of public boarding secondary schools located in Kicukiro and Ruhango districts were further prompted to state the types of activities that they undertake to generate some income and they are presented in the Figure 4.10.

Figure 4. 10: The school income generating activities



The results indicated in the figure 4.10, present some types of income generation activities performed by boarding secondary schools where the school head teachers were asked to indicate what they do in school community that can support the school budget. The school head teachers indicated that they perform various school activities that can generate some income such agriculture, renting the school infrastructures and making cattle keeping. The school head teachers of boarding schools in the two districts indicated that the activities performed that generate income make Rwf 3,450,000 per year for a single school. The results in the results in the figure 4.10, give that, the majority of schools generate income from agriculture that support a portion of the students' school lunch in quality and in quantity at the level of 49 percent of the total income generated.

The results in the figure 4.10 also provide that, boarding schools generate income from renting school infrastructures like school main hall, school playgrounds and school dormitories when students are in holidays. Renting school infrastructures earns 16 percent of the total income generated from activities performed by boarding schools as

such income is used to maintain and repair some school infrastructures or buying some school materials that are needed urgently and also enhancing the students' welfare in school setting. Finally, the results in the figure 4.10 also reveal that the remaining 35 percent of the total income generated by boarding schools is got from establishing activities related to cattle keeping that help the students in boarding schools to get milk from school as well tea breakfast. This is an indication that boarding schools have resulted to developing alternative ways of making money to support the life of boarding school needs. According to Hanson (2014), the income generating activities performed by boarding schools supports parents and government to satisfy the education expenditures of boarding schools. Aloraini (2021) also added that boarding school feeding and other school activities use the income generated from the school activities.

4.5.4 Source of boarding school financing

To determine the amount contributed by education stakeholders, is taken as an interest to this study developed to investigate the education costs needed to make effective participation of students in public boarding secondary schools. This is because it enhances getting information related to the amount provided by each educational stakeholder to education in public boarding secondary schools, which also indicates the level through which each education stakeholder is involved in education. Furthermore, it also helps to identify the level through which each education stakeholder manages a burden related to the cost of education. Therefore, it is in this regard, that this study went further to determine the amount of money spent by each sector. The Table 4.43 gives an overview related to the amount of money provided by each sector of education

stakeholders to support the participation of students in public boarding secondary schools located in Kicukiro and Ruhango districts per year.

Table 4. 43: The source of public boarding secondary school financing

Source	Amount
Government	116,042,485
Income generating activities	3,450,000
Parent contribution	558,900

From the results presented in the Table 4.43, show various source of financing of public boarding secondary schools. Basing on the results in the Table 4.43 it is clear that the source of boarding school financing comes from government, boarding school income generating activities and from households (parents) or guardians in order to support the school budget used by public boarding secondary schools located in Kicukiro and Ruhango districts. However, the implication for this is that communities, donors as well as local Non – Governmental Organizations (NGOs) are not mobilized to support school budget needed in the performance of the school activities.

The results in table 4.43 reveal that the a single household (parent) or guardian is the most contributor to the boarding school budget per year in the two districts where the Table 4.43, shows that a single household or parent/ guardian contributes 558,900 Rwandan francs to the total budget to be used by boarding schools per year. This was calculated by adding the average cost of education of a single parent to a single student

per year plus the average cost of household' incidental expenses in selected public boarding secondary of Kicukiro and Ruhango district. Therefore, this average amount of money provided by parents is too high to some extent that education can continue to be a burden for parents whose children studying in public boarding secondary schools. The results in the Table 4.43 show that apart from the contribution of parents or guardians, there is contribution given by government that values at average cost of 116,042,485 Rwandan francs as a single total school budget in order to support the boarding school daily activities per year.

This agrees with Bucheche (2020) that households cannot afford effectively the school payments rather than government accountability to education where the households' education expenditures could not keep their children in boarding secondary schools. Despite, Chepkoech (2018) revealed that households should give a contribution of 60% to boarding school running activities and government provides the remaining 40%. This indicates the contribution of parents and government in boarding secondary schools in Rwanda is different from what was established by the authors.

Finally, the results in the Table 4.43 also the public boarding secondary schools, also get financial support from making income-generating activities that value at an average amount of 3,400,00 Rwanda francs per year used by schools through involving various activities in schools that provide income in school setting corresponding to 4,681Rwandan francs to a single student. UNESCO (2018) indicated that the schools should invest more activities that can support the schools needs and reduce the accountability of both households and government ready to meet the cost of education in boarding schools.

4.6 Other determinants of student' participation in boarding schools

There are variables that can influence effective participation of students in public boarding secondary schools could be influenced by other key variables. In this regard, Chi Square test was established to determine whether there is an association between students' participation in boarding secondary school and students' age and socio-economic status. Apart from the costs of education incurred by both households and government to students in boarding secondary schools, this study did further analysis to indicate whether there is an association between students' participation in boarding schools by their ages.

Table 4. 44: Chi-Square test of students' participation and student' age group

Chi-Square Test			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.380[a]	8	.397
Likelihood Ratio	11.351	8	.183
Linear-by-Linear Association	.635	1	.425
N of Valid Cases	247		

a. 4 cells (26.7%) have expected count less than 5. The minimum expected count is 1.60.

Table 4.44 presents the results from Chi Square test that was established to indicate whether there is an association between students' participation and age of students. Table 4.44 shows that there is no association between students' participation and age of students as Asymp. Sig. (2-sided) =. 183 less than .05 level of significance with the likelihood ratio of 11.351. However, the results show that there should be a violation of students' age to participation in boarding school of 26.7%. This also implies that the extent of student' age could not affect the level of students' participation rate in public boarding secondary schools. According to Grant, Amanda and James (2020), the

participation of students in secondary school can be reduced at the earlier age of starting school because some parents fail to afford the school requirements.

The study also sought to determine whether there is an association between students' participation in public boarding secondary schools and ubudehe category (family socio-economic status).

Table 4. 45: Chi square test on student' participation and ubudehe category

	Chi square test		
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.465[a]	12	.078
Likelihood Ratio	23.370	12	.025
Linear-by-Linear Association	7.575	1	.006
N of Valid Cases	247		

a. 7 cells (35.0%) have expected count less than 5. The minimum expected count is .73.

The findings in Table 4.45 presents the Chi-square tests performed to indicate whether there is an association between students' participation and socio-economic status (ubudehe category) of students. The results show that there should a violation of students' ubudehe category to students' participation at 35%. However, the results also show that there is a degree of association between students' participation and socio-economic status (ubudehe category) of students as Asymp. Sig. (2-sided) = .000 less than .05 level of significance with the likelihood ration of 36.242. This also implies that the level of students' ubudehe category increases or decreases the level of students' participation. Gorard and See (2019) revealed that students from poor families are less likely to have full participation to secondary schools and those who do, are then less likely to have school completion due to a limited financial capacity.

This study sought to determine the average of households that get a challenge related to the cost of education in boarding secondary schools. This is because households need full participation of students in public boarding secondary school whose responsibility of educating their children. Therefore, it is to be noted that since the number of children enrolled in boarding school to each household, can be an obstacle to continue enrolling their children and provide effective education to children once the costs of education have been increased. It is in this regard to indicate the extent that households get challenge related to the cost of education. Results are as presented in Figure 4.11.

Figure 4. 11: Extent of households' challenge to cost of education in boarding school

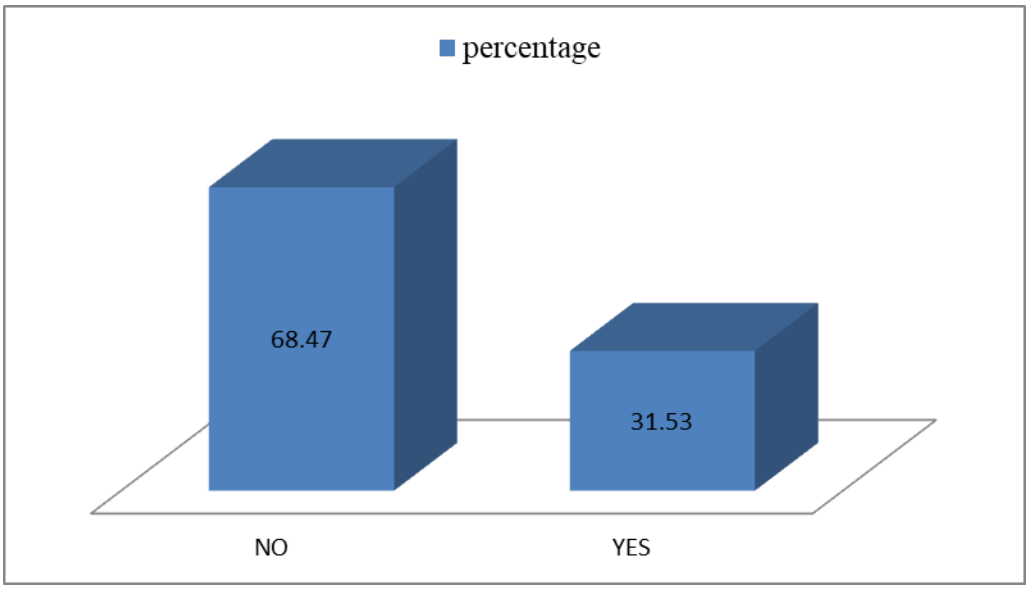
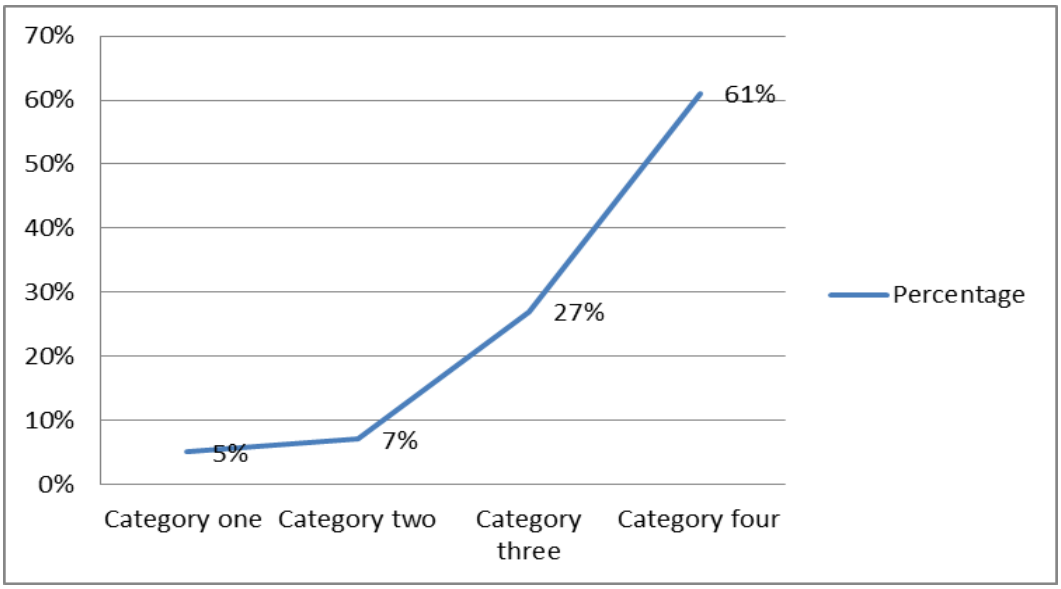


Figure 4.11 shows the extent of households' challenge to afford the cost of education in public boarding secondary schools. The findings show that the majority of parents of children in public boarding secondary schools do not get a challenge in such schools due to their best practices.

This was confirmed by 68.47% of parents responded that they get any challenge. On the other hand, the remaining 31.53% of parents answered that they get challenge to manage education of their children in boarding secondary schools. This implies that in case the cost of education is increased, the participation of students in public boarding secondary schools could be decreased by 31.53%, as those parents are not aware of managing the situation. Wanka (2018) revealed that the households' poverty brings an unequal access to education that also reduces the school completion. According to Mokgotho (2020), the unemployment, lack of access to school services like gaining quality education which helps to get better job are significantly associated with the households educational cost.

This study, sought to examine the involvement and influence of the households' socio-economic status (family ubudehe categories) able to continue enroll their children in public boarding secondary schools. This was very important for this study as it was helpful to indicate the level households able to enroll their children in boarding school due to their ubudehe categories. This was also important to state the family ubudehe category can help the households to keep enrolling their children however, the cost of education have been increased. The figure 4.12, presents the findings of households able to continue to enroll children in boarding school by ubudehe categories.

Figure 4. 12: Family continues to enroll children in boarding by ubudehe category



The results presented in the figure 4.12, show the further analysis done to investigate the level through which the households can continue to enroll their children in boarding secondary schools by their socio-economic status (ubudehe categories) by the time the costs of education for boarding schools have been increased. The results give that the students whose families in the ubudehe category four, are the most to get opportunity to continue participating in boarding schools though the cost of education have been increasing where they indicate 61.4 percent. This is followed by households in ubudehe category three, where 27.3 percent of the households they should continue to enroll the children in boarding schools however, the costs of education keep increasing. The results in the figure 4.12, also explain that the households indicated in ubudehe category two are able to continue enrolling their children in boarding schools at 6.8 percent of the total households ubudehe categories while the households whose ubudehe category one, take the remaining 4.5 percent of the total households ubudehe categories. Meanwhile, the stability of participating in public boarding secondary schools to students depends on the

hierarchy of the households' socio-economic status or their ubudehe categories. It is in this regard therefore, the determination of the education costs, might be based on the financial capacities of families enrolling their children in boarding schools which can be an obstacle to the development of the youths' literacy. This also suggests that household wealth determines a household' ability to invest in education of a child and the financial capacity of families determine the extent of students' school participation, which also leads to the reduction of the societal illiteracy (Rankin & Aytac, 2016).

4.7 Correlation between educational costs and students' participation rate

To achieve the third objective of the study, a Pearson product moment of correlation coefficient was maintained to indicate whether there is an association at either low or high degree or whether such association may come by chance or not. To establish the relationship between the cost of education and the student's participation, the independent variable that make the households education expenditures such provision of school fees, provision of boarding school lunch, student school uniform cost, student school materials cost and student transport cost from home to school and vice versa as well as provision of teachers' bonus fees. The correlation in this study, was also investigated basing on the independent variable that make the government education costs such as provision of school staff salaries and school material costs, the cost spent to school infrastructures as well as teacher professional training costs. Furthermore, correlation is examined basing on all the independent variables and the students' participation in general.

4.7.1 Correlation between household's education expenditures and student's participation

This study sought to examine whether there is a correlation between education expenditures incurred by the households in public boarding secondary schools and students' participation. Therefore, there was a need to investigate the correlation between variables of households' educational expenditures such as school fees, transport cost, students' school materials, school uniform and students' participation. This would help this study to found households' educational cost influences students' participation in boarding schools or be significant. Orodho and Njeru (2019) revealed that the cost of education spent in boarding secondary schools might bring a negative effect to children households that meet low socio-economic status or other vulnerable as they get challenge to full participation in boarding secondary schools. World Bank (2011), indicated that education expenditures like student' school materials, school fees, transport fees and student' school uniform cost are significantly correlated with students' participation determined by student completion, student' performance and dropout rate. Hunt (2018) added that high expectation of students' participation requires, the households to have high income capacity which also bring a burden to households to education their children in boarding secondary schools. Therefore, the Table 4.46 provides the results on correlation between cot of school fees and students' participation rate.

Table 4. 46: Correlation between cost of school fees and students' participation rate

		School fees
Students' participation	Pearson Correlation	-.046**
	Sig. (2-tailed)	.007
	N	247

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

Table 4.46 shows that there is a weak negative correlation between school fees and students' participation rate in public boarding secondary school (r= -.046, n= 247 and p= .007 < .01). This implies that the cost of education in boarding school incurred by households influence negatively the level of students' participation rate. School head teachers indicated that "parents who do not manage the boarding school fees decide t enroll their children in schools where there is a free charge of school fees which is known as day school". Michael (2019) conducted the study in Canada and revealed that school fees used to participate in Secondary School affect negatively the level of students' participation because the school fee changes and parental income decrease or remain constant. This means that there is a greater participation of a parent to meet the requirement of boarding schools.

This implies that parents to pay more fees experience a higher degree of parental participation.

The study also sought to investigate whether there is a relationship between the cost of school fees and socio-economic status to indicate whether socio-economic status can be a challenge to getting boarding school fees. Table 4.47 presents correlation between cost of school fees and socio-economic status.

Table 4. 47: Correlation between cost of school fees and socio-economic status

		School fees
Socio-economic status	Pearson Correlation	.267**
	Sig. (2-tailed)	.000
	N	247

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

Table 4. shows that there is a weak positive correlation between cost of school fees and socio-economic status (r = .267, N = 247 and p = .000 < .05). This also shows that the level of socio-economic status has an influence on getting boarding school fees.

The study also investigated whether there is a correlation between transport and students' participation rate. The results are as presented in Table 4.48.

Table 4. 48: Correlation between transport cost and students' participation rate

		Transport cost
Students' participation	Pearson Correlation	-.204**
	Sig. (2-tailed)	.000
	N	247

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

Table 4.48 shows that there is a weak negative correlation between transport cost and students' participation rate (r = -.204, N= 247 and P = .000 < .05). This also shows that students moving a long distance from home to school get challenge to full participation in boarding schools, which leads to be affected negatively. According to the study conducted by Mutegi (2015), the cost transport is associated with the distance used by a

student from home to school enrolled. This shows that distance from home to school is important determinant related of students' access to education.

In line with gender, the study sought to establish that there is any relationship between transport cost and gender of the students. The results are as presented in Table 4.49.

Table 4. 49: Correlation between transport cost and gender

		Transport cost
Gender	Pearson Correlation	-.079
	Sig. (2-tailed)	.214
	N	247

Table 4.49 shows that there is a weak negative correlation between transport cost and the gender of students (r=-.079, N= 247 and p = .214). The results show that transport cost has no relationship with the students' gender. As the study shows that there is no relationship between gender and transport cost, the study established that boys are like to participate in secondary schools compared to girls. Therefore, this can be attributed to high cost of educating a girl in boarding secondary schools compared to the cost of educating a boy. These results mimic a study by Nyaga, Reche, Buruia and Mwiti (2018) who revealed that there are culture practices such as FGM; unplanned pregnancies and labour, which indicate to be 59%, 70% and 60% respectively of respondents, which sometimes affect schooling of girls.

As was calculated to get the cost of transport as the cost of education by gender, the study established that, boys are more likely to participate in boarding secondary school

compared to girls. This can be attributed to high cost of educating a girl in boarding secondary school compared to the cost of educating a boy.

On the side of school location, the study sought to establish whether there is a relationship between transport cost of education and school location. The results are as presented in Table4.50.

Table 4. 50: Correlation between transport cost and school location

		Transport cost
School location	Pearson Correlation	-.140*
	Sig. (2-tailed)	.028
	N	247

*. Correlation is significant at the 0.05 level (2-tailed

Table 4.50 shows that there is a weak degree of negative correlation between transport cost and school location ($r = -.140$, $N = 247$ and $P = .028 < .05$). This implies that the school location influences the change in transport cost of education paid by parents to educate their children in boarding secondary schools.

As was calculated to get cost of transport to boarding school by students, it was found students studying in urban area pay a high cost of education compared to students' studying in schools located in rural areas. This also implies that educating a child in schools of urban areas attribute to high cost of education compared to schools located in rural areas.

The study also sought to determine whether there is a relationship between students' school material cost and students' participation rate. Results are as presented in Table4.51.

Table 4. 51: Correlation between student's school material cost and students' participation

		School material cost
Students' participation	Pearson Correlation	-.295*
	Sig. (2-tailed)	.007
	N	247

*. Correlation is significant at the 0.05 level (2-tailed

Table 451: shows that there is a weak degree of negative relationship between students' school material cost and students' participation rate (r = -.295, N= .007 and p =.007< .05). This shows that the extent of students' school material cost influence negatively the level of students' participation to boarding schools.

In line with gender, the study sought to investigate whether there is a relationship between students' school material cost and students' gender.

Table 4. 52: Correlation between student' school material cost and gender

		School material cost
Gender	Pearson Correlation	-.013
	Sig. (2-tailed)	.837
	N	247

Table 4.52 shows that there is a weak negative correlation between students' school material cost and the gender of students (r=-.079, N= 247 and p = .214). The results show that students' school material cost has no relationship with the students' gender.

As was calculated to get students' school material cost as the cost of education by gender, the study established that boys are more likely to participate in boarding secondary school compared to girls. This can be attributed to high cost of educating a girl in boarding secondary school compared to the cost of educating a boy.

In line with socio-economic status, the sought to investigate whether there is a relationship between students' school material cost and socio-economic status of students. Results are as presented in Table4.53.

Table 4. 53: Correlation between student' school material cost and socio-economic status

		School material cost
Socio-economic category	Pearson Correlation	-.722*
	Sig. (2-tailed)	.005
	N	247

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

Table 4.53 shows that there is a high degree of negative relationship between students' school materials cost and socio-economic status where r = -.722, N = 247 and p = .005 < .05. This shows that the level of students' socio-economic category influence negatively getting school materials to students in boarding secondary schools.

The study sought to investigate whether there is an association between students' school uniform cost and students' participation.

Table 4. 54: Correlation between cost of school uniform and students' participation rate

		School uniform cost
Students' participation	Pearson Correlation	.749*
	Sig. (2-tailed)	.000
	N	247

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

Table 4.54 shows that there is a relationship between students' school uniform cost and students' participation rate ($r = .749$, $N = 247$ and $p = .000 < .05$). This shows that there is a significance correlation between students' school uniform cost and students' participation rate in boarding secondary schools. Mutegi (2018) conducted the related to the effect of school uniform on students to education and revealed that there is a relationship between the cost of school uniform and student access to education where added that the cost of school uniform especially in secondly school indicates the students' opportunity to educational access.

The study further sought to investigate whether there is a correlation between households' cost and students' participation. Results are as presented in Table.4.55.

Table 4. 55: Correlation between household's education cost and students' participation

		Households' education cost
Students' participation	Pearson Correlation	-.824**
	Sig. (2-tailed)	.000
	N	247

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

Table 4.55 shows that there is a high degree of negative relationship between households' educational cost and students' participation rate where r = -.824, N = 247 and p = .000 < .01. This shows that the level of students' participation in in boarding secondary schools is influences the extent educational cost incurred by households. Parents revealed, "The increase in cost of education directly reduces the level of students participation and vice versa due to economic status of parents thus, schools which indicate high cost of education, provide a higher level of knowledge". According to Chaudhury et al. (2018), the family income capacity is associated with the school participation of their children. The studies also added that the household' wealth, significantly increases or decreases their children' opportunities to school participation. In this case, opportunity of children's school participation is based on their parents' financial capacity, which may determine whether their children get full participation to education.

The District Education Officers that were given a guided interview mentioned, "Boarding secondary schools are participated by students coming from families ready to afford the cost of education required in such schools."

4.7.2 Correlation between government education expenditures and student's participation

This study did further analysis to establish the extent to which the government education costs characterized by the provision of school staff salaries and school material costs, the costs spent to teacher professional training and school infrastructure costs correlate with the participation of students in public boarding secondary schools located in Kicukiro and Ruhango districts. The results in the table 4.56, give the correlation coefficient for the link between the independent variables that make education costs incurred by the government and student's participation.

Table4. 56: Correlation between government education expenditures and students' participation

		Students' participation
School staff salaries	Pearson Correlation	.827*
	Sig. (2-tailed)	.006
	N	247
School material costs	Pearson Correlation	.584*
	Sig. (2-tailed)	.004
	N	289
Teacher professional training costs	Pearson Correlation	.749*
	Sig. (2-tailed)	.003
	N	247
School infrastructure cost	Pearson Correlation	.716*
	Sig. (2-tailed)	.000
	N	247

a: Dependent variable: student' participation, * correlation is significant at 0.05 level (2-tailed)

As it is presented in the table 4.56, it is clear that there is a statistical significance strong positive correlation between school staff salary and students' participation in public boarding secondary school where r = .827 with the P-value of .006 < .05. This implies that the amount of money spent by government to pay school staffs plays a positive influence on participation of students in boarding secondary schools. This is partially in line with the findings of Behaghel, Chaisemartin, and Gurgand (2015), who conducted a study in France and discovered a positive association between school staff salaries and student participation by improving the quality of education by increasing school population and productivity.

In addition, the results showed in the Table 4.56 reveal that the amount of money spent on school materials has a statistical significance strong positive correlation with the student' participation in public boarding secondary schools where r = .584 with the P-value = .004 < .05. This shows that distribution of adequate materials to boarding secondary school plays a significant role in the promotion of students' participation in such schools. William and Maureen (2020) revealed that the provision of adequate school materials enhances the student' participation and also helps the student awareness and capacity to solve problems as well as having technological literacy. This was supported by parents that commented on the relationship between education cost and students' participation in boarding schools where they said that such relationship is associated with a limited number of students that get aware of having full participation in boarding secondary schools for the purpose of reducing the cost of education incurred by government."

The results also presented in the Table 4.56, reveal that teacher professional training cost has a statistical significance weak positive relationship with student' participation in boarding schools where r = .289 with P-value = .003 < .05. This indicates that training teachers regularly, leads to the improvement of students' participation especially in terms of students' performance in school activities. Based on the views of school head teachers, they said, "The professional trainings and monetary motivation given to teachers support them to make effective delivery of the lesson thus lead to improved academic performance". The school head teachers also added that students in boarding schools get managed discipline as they are always with their teachers and school administrators."

This study also shows that amount of money provided by government in terms of school infrastructures, has a statistical significance strong positive correlation with the participation of students in boarding secondary schools (r = .716 with the P-value = .000 < .05). This implies that school infrastructures, play a significance role in participation of students to public boarding secondary schools. According to Salem (2019), the availability of school infrastructures like classrooms, school playgrounds, laboratories and libraries promote the student's performance and completion. Aloraini (2018) also added that boarding school infrastructures like school dormitories also increase the number of students needed to be accommodated ted by boarding schools.

4.8 Mechanism put in place to improve students' participation rate

The objective of this study was also to analyze the mechanisms that should be put in place to improve the participation of students in public boarding secondary schools in Kicukiro and Ruhango districts. Students studying in boarding secondary schools in the

two districts were given questionnaires as the research instrument to indicate their perceptions related to the mechanisms that could be put in place to increase their participation in boarding schools in Rwanda. The study was conducted within the two districts and parents of the enrolled students as well as District Education Officers (DEOs) of Kicukiro and Ruhango districts. This was also conducted for knowing the mechanisms that should be developed to enhance the participation of students in public boarding secondary schools in Rwanda. Therefore, the table 4.57 indicates the perceptions of students on the mechanisms that can be put in place to improve the participation of students in public boarding secondary schools.

Table 4. 57: Mechanisms to put in place to improve the students' participation rate

Statements	SD		D		U		A		SA		Mean	Std
	Freq	%	freq	%	Freq	%	freq	%	freq	%		
Parents fulfill their responsibilities in education	10	4.0	30	12.1	23	9.3	95	38.5	89	36.0	3.90	1.14
School satisfies the needs of students	21	8.5	38	15.4	24	9.7	99	40.1	65	26.3	3.66	1.21
Parental participation in the performance of school activities	14	5.7	52	21.1	39	15.8	80	32.4	62	25.1	3.55	1.19
Availability of sufficient school resources	15	6.1	26	10.5	52	21.1	111	44.9	43	17.4	3.57	1.08
Community sensitized to education	7	2.8	49	19.8	26	10.5	116	47.0	49	19.8	3.70	0.99
Enhancing education policy	12	4.9	17	6.9	28	11.3	117	47.4	73	29.6	3.90	1.06
Commitment of parents and government in education	8	3.2	30	12.1	11	4.5	103	41.7	95	38.5	4.00	1.10

SD: Strongly Disagree, **D:** Disagree, **U:** Uncertain, **A:** Agree, **SA:** Strongly Agree and **Std:** standard deviation.

The results presented in the table 4.57, show the opinions indicated by students on the mechanisms that should be put in place to improve the participation of students in public

boarding secondary schools. It is clear that the commitment of parents and government to education is the highest mechanism developed in boarding school where this mechanism is implemented at the mean of 4.00 and 80.2% of students agreed on the commitment of parents and government in the development of their education. Parents said, “Boarding secondary schools in Rwanda should improve their teaching strategies that significantly lead to attracting the level of students’ participation in such schools.” Masa and Mila (2017), indicated that, government, parents, careers and families, are the most important to influence the children’ school participation that leads to strengthening students’ attitudes, behavior and achievement in boarding schools.

This is also followed by enhancing education policy where this mechanism is implemented at the mean of 3.90 and 77% of the students in boarding schools agreed that, education policy related to boarding school is enhanced and well implemented. The findings from guided interview indicated that, “for better improvement of students’ participation and reducing the households education cost in boarding schools, government should improve the provision of boarding school facilities like lunch fee and extension of school infrastructure that can enhance the accommodation of students in boarding schools.”

According to Suleiman and Iddrisu (2017), the government of a country needs to enhance and strengthen education policy and quality by establishing student’ resource materials and facilities, effective school environment, adequate instructional supervision and assessment so as to make sure that everyone has equal access to education.

The results in the Table 4.57, also provide that the third mechanism, is the that parents fulfill their responsibilities in education where students’ opinions show that parents fulfill

their responsibilities at the mean of 3.90 and also 74.5% of students agreed that their parents or guardians fulfill their responsibilities related to education. However, students indicated the cost of education required in boarding schools is still a burden to their parents, which may affect them to leave boarding secondary schools to day schools. The parents that were given guided interview suggested “Boarding schools that have a given number of children coming from poor families (low socio-economic status) should try to find out some external supports that can cover their school financial requirement in such boarding schools like Non-Governmental Organizations (NGOs).”

The Table 4.57, also gives that the fourth mechanism is to make education sensitization to the community and the students’ opinions indicated that the community is sensitized at the mean of 3.70 that also correspond to 66.8% of students agreed that education is sensitized in community. For the support of guided interview by school head teachers, they said that government should focus on students’ home location while making students transfer to boarding schools for easy sensitization of the best practices of such schools and reduction of the cost of education like transport.” World Health Organization (WHO, 2017) indicated that people should be engaged in the performance of school activities as well as to achieve a specific development of school goal through self-reliance efforts. People need to be well informed though preferably numerous and varied channels appropriate to the cultural context (WHO, 2017)

For further analysis, the study kept investigating the mechanism that should be put in place to improve the participation of students in public boarding secondary schools. The Table 4.57, presents that, fifth mechanism is to make boarding school that satisfies the needs of students in boarding schools. The students’ opinions indicated that boarding

school satisfies their needs at the mean of 3.66 with an average rate of 66.6% agreed that the school satisfies their needs related to education, which should also be enhanced more, to attract students that need to participate in boarding school. In the same vein, this mechanism is followed by the availability of sufficient school resources, which was indicated to be the sixth mechanism to put in place where the student's opinions show that, the school resources are presented at the mean of 3.57 and 62.3% of students agreed that there are sufficient resources in their boarding schools. Meyer (2018) revealed that, schools should be seen as the place where educational resources like teachers, books, buildings, equipment and students themselves interact to develop the students' outcomes.

Finally, the results presented in the Table 4.57 indicate the seventh as the last mechanism discussed by students in boarding school, the students' opinion show that such mechanism is the participation of parents in the performance of school activities. The Table 4.57 gives that parental participation in the performance of boarding school activities is at the mean of 3.55 while only 62.3% of students in boarding secondary schools agreed that their parents or guardians participate in the performance of the indicated school activities effectively. Despite, the respondents in interview guided suggested that it better to standardize the cost of education required in boarding schools due to the socio-economic status (ubudehe category) of parents for the purpose of reducing the financial obstacles associated with boarding school education thus leads to increasing participation of student in such schools."

According to Herman and Ejackait (2018), schools should establish various strategies that can help to improve participation of students. Herman and Ejackait (2018) indicated that

schools or education institutions should develop their economic scale that should be used operate the cost of education effectively.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter covers the summary of the findings, conclusions and recommendations. The summary of the findings, results and remarks for each research question in the study, are presented due to four objectives of this study. The conclusion established in the section of this study, is also guided by the research objectives and informed by the research findings analysis and interpretation as well as discussions in this study. However, the study also presents the contribution to the existing knowledge. Based on the conclusion made, the recommendations are also established to education planners, households and the ministry of education. This section, also proposed the area for future research.

5.2 Summary of the Findings

The study was guided by four specific objectives that were based on the households' education expenditures and students' participation, government education expenditures on students' participation, the correlation between education costs and students' participation as well as the mechanisms that should be put in place to the students' participation in public boarding secondary schools. These objectives, were further narrowed down into four research questions such as to what extent do the households education expenditures affect the students' participation?, to what extent do the government education expenditures affect the students' participation?, at what extent education expenditures correlate with students' participation in public boarding

secondary schools? and also, what are the mechanisms put in place to improve the students' participation in public boarding secondary schools?

The literature review focused on the concept of educational costs, government cost and students' participation that comprises school staff salary, school material cost, professional training cost and school infrastructure cost as educational costs. This literature also focused on households cost and students' participation that comprises of school fees, school uniform cost, transport cost, students' school materials, teachers' bonus and the cost of boarding lunch as educational costs. Relationship between educational costs and students' participation in education, mechanism to put in place to improve students' participation were also under the literature of this study.

Human capital theory, which was first introduced by Schultz and significantly developed by Becker was heavily used in this study. According to this hypothesis, education or training increases worker productivity by transmitting important information and skills, hence improving workers' future incomes by increasing their lifetime earnings (Becker, 1994). It goes on to say that before investing in education, one must first determine the cost or value of the investment.

This study used correlation design because it extensively focused on establishing the relationship between educational cost and its influence on students' participation in public boarding secondary schools. The target population included students in public boarding secondary schools of Kicukiro and Ruhango district and their parents, all school head teachers in the two districts as well as 2 district education officers. The sample size was got by use of Yamane (1967) formula where 4382 students and 2186 parents were

sampled while 10 school head teachers and 2 district education officers were selected purposively.

Questionnaire, interview guide and document analysis were used during data collection as the main tools. They used document analysis to get the number of students' dropout, completion and accessed from the offices of school head teachers and financial information managed at school level. It was also used to obtain financial information related to government educational expenditures from district educational officers. After data collection, the collected data was cleaned by identifying inaccurate responses, which were corrected to improve the quality of obtained responses. After data cleaning, they recoded and entered data in the computer for analysis using SPSS version 21. The quantitative data was analysis using various statistics including frequency, mean and standard deviation while qualitative data was analysis using thematic analysis.

Through data analysis, the study established that there are more girls than boys, who are in public boarding secondary schools in Kicukiro and Ruhango districts as girls took 51.5% in this study. This implies that public boarding secondary schools have been achieved gender parity. However, the study also found that the majority of students that participate in boarding secondary schools, are found in senior three and senior six as they take 30.3% and 32% respectively in this study. However, results show that data for students in all classes were captured hence making it possible to indicate the households' education cost by children' level of education. This implies also those students who are in class completing lower and upper secondary school get opportunity to have full participation to boarding secondary schools.

The study also established that most of students that get full participation to public boarding secondary schools come from families of ubudehe category three as the study reported that took 58.3% of students participated. On the other hand, the study reported that the majority of students in boarding secondary schools, their parents have education level of bachelor degree as they took 52.3% of parents participated. The study also showed that the majority of students, their parents are employed. This implies that parents, who are employed, are more likely to take their children in boarding secondary schools compared to those who are not employed. This can also be attributed to the regular flow of money through salary that creates assurance that they afford to may school fees and other school requirements. Parents who are no employed have no regular flows of money hence eroding their confidence that have continuous flow of money to enable then pay school fees for their children

In relation to parents' level of income, the study established that 14% of parents earn below 100,000 Rwandan francs while the majority of 36% of parents earn 300,001 Rwandan francs and above per month. This implies that it is a burden to 14% of parents to afford the cost of household's education required to a single child in boarding secondary schools. This also meager earning constrains the parents on payment of education cost hence discouraging them from taking children boarding secondary schools.

In line with schools' fees as household education cost, the study established that this cost varies by students' class section where the students of lower secondary pay average of 87,666 Rwandan francs and students of upper secondary pay average of 112,923 Rwandan francs. This implies that, it burden to parents of children in upper secondary

schools as they pay around 12% more that parents of children in lower secondary school to a single student. This also discourages parents to make full school completion of their children in boarding secondary school. The study also established there is a weak negative correlation between school fees and students' participation rate in public boarding secondary school ($r = -.046$ and $p = .007 < .01$). Through Chi Square test, the study also indicated that there is an association between school fees and students' access to boarding secondary schools.

On school location, which is based on the district where the school is found, the study showed that the students participating in school located in urban area (Kicukiro district) pay a high amount of school fees that students studying in rural areas. The analysis showed that public boarding secondary school students in kicukiro pay an average of 110,986 Rwandan francs and 10,795 Rwandan francs to school fees. This implies that education of public boarding secondary schools in urban areas of Rwanda is more costly than in rural areas as there is 2.86% difference in school fees.

On socio-economic status (ubudehe category) of parents, the study established that it is a burden to households to get full school fees of a single student. This was confirmed by the analysis, which showed that only 4% of students in ubudehe category one was able to pay the school fees while in ubudehe category two, it was only 19%. This implies that socio-economic status of households discourages students their participation in public boarding secondary schools regardless their school performance. However, the study established that there is a weak positive correlation between cost of school fees and socio-economic status in public boarding secondary school ($r = .267$ and $p = .000 < .05$).

In line with student' lunch fees, the study found that the cost of boarding lunch depends on school where the student' enrolled. Therefore, the study found that lunch fees to a single student vary from 23,800 Rwandan francs and 35,000 Rwandan francs per term. The study also found that students in boarding school get 56 Rwandan francs per day as a support of lunch fees of each registered student from government. This implies that lunch fee is burden to households as they spend more than government.

On student' lunch and performance, the study established that student' boarding lunch is associated with effective performance of school activities found through Chi Square test. However, the study also established that student' performance of school activities is also associated with socio-economic status of parents. This implies that student' lunch fee plays a significance role on performance of school activities though; it may be discouraged by the households' socio-economic status.

In line with lunch fees and student' school location, the study established that students in schools located in urban areas pay an average cost of 33,000 Rwanda francs and 26,625 Rwandan francs to students in schools located in rural areas of Rwanda. This implies that parents of children in urban areas pay a high cost of boarding school lunch equal to 10.7% more than parents of students in schools located in rural areas. This also indicates that parents of students in urban areas may take their children in other schools where the cost lunch is low and able to be managed.

In line with transport cost, the study established that cost of student' transport varies by gender where parents of girl students' pay an average cost of 10,699 Rwandan francs per term and parents of boys pay 9,950 Rwandan francs. This is a burden to parents

educating girls in boarding schools than boys as they make a difference of 3.6% on transport cost in term of gender. Through Pearson correlation, the study established that there is a weak negative correlation between transport cost and students' participation rate in boarding secondary school ($r = -.204$ and $P = .000 < .05$).

On students' class level in terms of transport cost, the study established that transport cost changes across student' class level where parents of students in senior six spend an average cost of 11,856 Rwandan francs on transport to school per term and 7,866 Rwandan francs for parents of students in senior one. This implies that a burden of parents to transport of their children when they are going to school increases across the year of students' class level. Through Chi Square test, the study established that here is an association between transport cost and students' completion in boarding secondary school.

On student' age and transport cost, the study established that the cost of transport increase as the student' age increases and varies from an average of 9,000 to 10,436 Rwandan francs. Despite, the study also established that socio-economic status of households affect transport cost to boarding secondary school, which increases due to the increase of socio-economic status of households. This implies that, the change in student' age and household' socio-economic status increase the cost of transport to boarding secondary school.

In line with student' cost of transport by financing source, the study established that students who are support by Non-Governmental Organizations (NGOs) get a high transport than other students. Students sponsored by NGOs take an average transport of

14,310 Rwandan francs per term, which is followed by students sponsored by their parents that get and an average of transport cost equal to 10,188 Rwandan francs per term. On the other hand, the study also established that the student' school location changes the cost of transport where students studying in urban areas take an average of 12,008 Rwandan francs per term and 9,502 Rwandan francs. This implies that parents of students in schools of urban areas pay 11.6% more than the parents of students in schools of rural areas do.

On student' uniform cost and school location, the study revealed that students in boarding schools located in Kicukiro district as urban area spend more money on uniform than those in Ruhango district as rural area. The results show that students in Ruhango district spend an average of 18,331 Rwandan francs on school uniform compared to 19,565 Rwandan francs for those enrolled in schools located in urban areas. This implies that students in rural areas have an advantage compare to those in rural areas in terms of school uniform. Through Chi square test, the study showed that school uniform is associated with students' access to boarding secondary schools. However, the results also indicates that there is a relationship between students' school uniform cost and students' participation rate ($r = .749$ and $p = .000 < .05$).

In line with student' school material cost and gender, the study established that parents of girls in boarding schools spend more money on school materials than the parents of boys do. The results show that parents of girls spend on school material an average of 16,265 Rwandan francs per term compared to 13,306 Rwandan francs for parents of boys. This implies that parents of girls spend 10% on school materials more than parents of boys do. Through, Chi square test, the results show that there is an association between school

material cost and student' completion in boarding secondary schools. On the other hand, the study also revealed that there is a weak negative correlation between students' school material cost and the gender of students (r=-.079 and p = .214).

On student' materials cost and student' financing in boarding school, the study revealed that students financed by NGOs get school materials of high cost compared to other students which takes and average of 22,368 Rwandan francs. The study also indicates that after students financed by NGOs, there is students financed by parents that get the school materials that cost an average of 16,020 Rwandan francs. This implies that students financed by NGOs get advantage of getting adequate school materials.

In line with school material cost and student' class level, the study established that school material cost varies with class level implies that parents who have children in senior six spend more money compared to those in other classes. On average, a student in senior six spends 21,947 Rwandan francs on school materials per term compared to students in senior four who spend 18,123 Rwandan francs and senior five is 15,310 Rwandan francs. This implies that parents of children in lower secondary school get advantage of school material as they spend less compared to students in upper secondary school.

On school material and socio-economic status, the study established that parents of children in ubudehe category four spend more money compared to other categories. The results show that parents in ubudehe category spend an average of 21,900 Rwandan francs on school materials. This implies socio-economic status influence the provision of school materials. The study also established that there is a high degree of negative

relationship between students' school materials cost and socio-economic status (r = -.722 and p = .005 < .05).

In line with school material cost and student' age, the study revealed that the cost school materials vary with students age. This shows that school materials are provided due to individual needs. Through, Chi square test, the study revealed that school material cost is associated with students' dropout in boarding secondary school. The study also revealed that there is a weak degree of negative relationship between students' school material cost and students' participation rate (r = -.295, N= .007 and p =.007< .05). This implies that the cost of school material influences students' participation in boarding secondary school towards to negative direction.

On the cost of teacher' bonus, the study found that the cost varies with students class section implying that parents who have children in upper secondary pay more compare to those of lower secondary. The study revealed that parents of children in upper secondary pay an average of 9,345 Rwandan francs as teacher bonus and 7,166 Rwandan francs to parents of children in lower secondary. This implies that students in upper secondary school pay 13.2% of teachers' bonus per term more than students in lower secondary school do. The study also established that teachers' bonus also varies with school location meaning that students in schools of urban areas pay more money than students in schools of rural areas do. The study shows that students in urban areas pay an average of 12,710 Rwandan francs and 9,038 Rwandan francs per term.

Education cost by household, the study found that it is more costly to educate a child in public boarding secondary schools in Rwanda. The study revealed that for a household to

education a child in boarding secondary school pays an average of 160,903 Rwandan francs per term. When disaggregated by gender, a household need to pay an average of 165,427 Rwandan francs to educate a girl and 156,794 Rwandan francs for boys. This implies that parents who have girls in boarding secondary schools pay more money than parents of boys do.

Based on students' class level, parents with children in senior six pay an average of 168,398 Rwandan francs senior five pay 156,406 Rwandan francs and 157,740 Rwandan francs for senior four. The study also revealed that households' education cost change with student' school location. It revealed that parents of children in schools located urban areas pay an average of 168,036 Rwandan francs and 157,733 Rwandan francs for students in boarding schools of rural areas. The study also revealed that there is a high degree of negative relationship between households' educational cost and students' participation rate ($r = -.824$ and $p = .000 < .01$). This implies that the household education cost can affect the participation of students in boarding secondary school when it not managed effectively.

On the cost of education incurred by government in public boarding secondary schools in Kicukiro and Ruhango districts, the study revealed that there are only 2boarding secondary schools in Kicukiro district and 8boarding secondary schools in Ruhango district. This implies that most secondary schools in Kicukiro and Ruhango districts are day schools. The results also show that students' access in schools of Kicukiro and Ruhango districts varies across the year. The study revealed that the mean of students accessed in 2020 were 737students, 689 students in 2019, 698 students in 2018 and 707 students in 2017.

The study shows that the students' dropout increases across the year. The study revealed that the mean number of students' dropout in per school in 2017 was 12, 9 students in 2018 and 13 students in 2019. Based on students' completion in boarding secondary schools in Kicukiro and Ruhango districts, the study revealed that the student's completion in senior three and six change across the year. The study shows that the mean number of students' completion in 2017 was 97 students for senior three and 104 students. The students' completion in 2018 was 92 students for senior three and 108 students for senior six. On the other hand, the students' completion in 2019 was 78 students for senior three and 84studnets for senior six. This implies that the students' completion in senior three is less than students of senior six do. The study did not get data of students' dropout and completion in 2020 because the school calendar was still in progress during data collection. Through, Chi square test, the study revealed that students' participation to boarding secondary school is associated with socio-economic status of households.

In line with government educational cost, the study revealed that on average every school gets 116,042,485 Rwandan francs translating to 157,452 Rwandan francs per student per year. This amount takes care of covering households' educational cost and calculated based on students accessed in selected boarding secondary schools in year of 2020. The study also revealed that boarding secondary schools receive an average of 3,450,000 Rwandan francs translating to 4,861 Rwandan francs per year from income generating activities students' educational cost. The study established that 49.3% comes from agriculture, 15.79% from renting school infrastructures and 36.84% from cattle keeping. This indicates that schools have resulted to developing alternative ways of making money

to support boarding secondary schools. The study also revealed that there is a statistical significance positive relationship between government education cost with some key variables (school staff salaries, school material cost, teacher professional training cost and school infrastructure cost) and students' participation rate in boarding secondary schools.

Mechanisms that should be put in place to improve the participation of students in public boarding secondary schools were established. The study revealed that commitment of parents and government to education, enhancing education policy, making community sensitization to education, availability of sufficient school resources and parental participation in the performance of the performance of the school activities play a significance role to improve the study participation in public boarding secondary schools.

5.3 Conclusions

The study established that an average of 157,452 Rwandan francs given by government to each student per year in public boarding secondary school is too little, compared to household educational cost to a single student that pays 558,900 Rwandan francs per year. The results revealed that there are changes in terms of items related to the cost of education. Based on calculating the cost of education study revealed that parents of girls in boarding secondary schools and parents of children in schools located in urban areas pay a high cost of education especially in terms of school materials and transport.

The study also reveals that, there is a negative relationship between the average amount of money spent by household to educate a child in boarding secondary school and student's participation rate in public boarding secondary schools. This indicates that the

increase in household educational expenditures decreases the participation rate of students in public boarding secondary schools. On the other hand, every increase of government educational expenditure might also increase the participation rate of students in public boarding secondary schools.

5.4 Recommendations

- The study found that, the household spends an average of 10,273 Rwandan francs and the maximum of 40,000 Rwandan francs on transport per term. Therefore, this study recommends that the government or the Ministry of Education (MINEDUC) should make student transfer to boarding secondary schools basing on local schools of a child to reduce the transport cost incurred by the household as the cost of education.
- It was found that, the students in boarding schools perform better. Through Chi square test, the study established that lunch fee is associated with student performance in boarding secondary school activities. This study therefore recommends that community sensitization related to the best of public boarding secondary school need to be emphasized. This would increase the students' participation rate in public boarding secondary schools.
- The study indicated that, the households incur higher cost of education compared to government in boarding school, where the study found that a household contributes and average of 558,900 Rwandan francs and 157,452 Rwandan francs to a single child per year for government. Therefore, this study recommends that the government should increase its contribution to boarding secondary schools to

increase the students' participation to schooling and reduce the burden of household education cost.

- The study also, established that the amount of money generated by schools through income generating activities is at an average of 4681 Rwandan francs to a single student per year to supplement the school expenditures. In order to reduce the burden of households and government supporting the performance of school activities, the schools should have more income generating activities.

5.6 Suggestions for Further Research

This study was established to determine the influence of education costs on students' participation rates in public boarding secondary schools and the following further researches were also recommended.

- The researcher suggests that, there is a need to conduct a study on the influence of hidden costs of education on students' participation in day secondary schools. This may also help the education planners to determine what can affect the participation of students in terms of education costs in day schools.
- Since this study focused on education costs and their influence to students' participation rates in public boarding secondary schools, the similar study should be carried out in private secondary schools to indicate whether same education costs have the same influence on students' participation in private secondary schools. The results of the two studies may complement each other by establishing the extent to which education costs influence the students' participation rates in secondary schools in Rwanda.

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Appendix i: Introduction Letter

University of Nairobi

School of Education

Department of Educational admin and planning

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Tel: +250788360998/+245711483286

Dear Respondents,

RE: Introductory letter

I am Emmanuel NTAKIRUTIMANA a PhD candidate from University of Nairobi Kenya, College of Education and External studies in department of Educational administration and Planning. I was carrying out a thesis entitled "Influence of educational costs on students' participation rates in public boarding secondary schools in Kicukiro and Ruhango districts, Rwanda". The purpose of this study, was to determine the influence of the given educational costs on students' participation in public boarding secondary schools in Kicukiro and Ruhango districts in Rwanda by assessing both households and government educational expenditures to student' education.

Answering the following research questions honestly and passionately were taken as the greater input to this study and I assured the confidentiality of given data and they will only be used for academic purpose only. For any concern, did not hesitate to contact the researcher on phone or email written in address.

The respondents' co-operation and time in this study were highly appreciated.

Yours faithfully

Emmanuel NTAKIRUTIMANA.

Appendix ii: Questionnaire for Students

SECTION A: BACKGROUND INFORMATION

1. Gender

2. Male [ ] Female [ ]

3. Students class level(tick with v)

   Senior one [ ]

   Senior two [ ]

   Senior three [ ]

   Senior four [ ]

   Senior five [ ]

   Senior six [ ]

4. Category of age

   11-15 years [ ]

   16-18 years [ ]

   18 years and above [ ]

5. The district of school location (tick with v)

   Kicukiro [ ]

   Ruhango [ ]

SECTION B: Examining the influence of educational cost on students' participation rates in public boarding secondary schools by ticking in the box provided to match the statement and level of occurrence where:1: Strongly disagree, 2: Disagree, 3: Uncertain, 4: Agree, 5: Strongly agree

No	**Statements**	**1**	**2**	**3**	**4**	**5**
6	**Household educational expenditures and student participation rates in public boarding Secondary schools**					
A	Parents support my school expenditures.					
B	I get late to report to school because of household chores.					
C	My parents give me the necessary materials needed at my school.					
D	My parents give me adequate funds for transport while going to school.					
E	My parents pay my school fess regularly					
F	Some students drop out in my school					
G	My parents give me adequate textbooks					
H	My parents buy for me the school uniform regularly					
I	My parents pay my extra coaching during holiday					
J	My parents pay electricity that I use during my holiday revision					
K	My parents buy for me revision books during holiday					
L	My parents support me to participate in games during holiday					

7	**Government educational expenditures and students' participation rates in public boarding secondary schools**					
A	The government provides adequate classrooms in my school.					
B	The government provides enough textbooks in my library.					
C	The government provides professional development in my school.					
D	The government supports in the repairing of the school materials.					
E	The government support co-curriculum activities in my school like games and music					
F	The government provides adequate dormitories in my school					
G	The government provides adequate laboratories in my school					
H	The government provides well equipped library in my school					
I	The government provides adequate toilets in my school					
J	The government provides adequate playground in my school					
K	The government provides adequate school vehicles in my school					
L	The government provides water and electricity adequately in my school					
8	**Relationship between educational expenditures and students' participation rates in public boarding secondary schools**					
A	The cost of education requested to our parents correlates with the students' access in my school.					
B	The school physical plants help us to get effective completion of our class level					
C	There is a relationship between students drop out and school fess provided.					
D	The educational cost spent by my parents, correlates with my performance of school activities.					
E	Students lunch fess provided by households and government, affect students' completion in boarding school.					
F	School maintenance costs financed by both households and government, affect the students to performance the school activities.					
G	School material costs incurred by households and government affect students drop out rate.					

9	**Mechanisms to put in place to improve students' participation rates in public boarding secondary schools**					
A	Parents fulfill their responsibility related to my education.					
B	My school satisfies the needs of students' participation.					
C	My parents participate in school activities to enhance the performance of my school activities.					
D	Our school has enough resources that improve students' access.					
E	Community sensitization to education, improves students' participation in my school					
F	Government policy related to compulsory education, enhances students' completion in my school.					
G	Educational commitment of parents and government reduce students' dropout in my school.					

10. Who pays your school fees? (Tick with V)

Parents: ☐ Guardians: ☐ NGO: ☐ Sector: ☐ Others: ☐

11. What is the socio-economic category (Ubudehe) of your family? (Tick with V)

Category one: ☐ Category two: ☐ Category three: ☐ category four: ☐

12. Indicate the amount of money that you on each of the following items to have access to education in boarding secondary school per term.

Items	Amount
School fess	
Transport cost	
Student school materials cost	
School uniform cost	
Teachers bonus cost	

13. Indicate each educational cost that you pay beyond the school requirement so as to have access to boarding school education per year.

Items	Amount
Sport uniform	
Hygienic materials	
Clothes	
Shoes	
Dining materials	

14. In your own opinion, do you think the government expenditure affect the national examination? Yes or no

    Is your answer **Yes or No**? Explain your reason.

……
……

15. In your own opinion, do you think the household educational expenditures influence national examination performance? Yes or no

Is your answer **YES or No**? Explain your reason.

……
……

Appendix iii: Interview Guide for Head Teachers

SECTION A: BACKGROUND INFORMATION

1. Gender: Male [ ], Female [ ]
2. Marital status

   Single [ ], Married [ ]
3. Age group

   Below 30 [ ], 30-40 [ ] 41-50 [ ], 51 and above [ ]
4. High academic qualification

   A1 [ ], A0 [ ], MED [ ], PHD [ ], Others [ ]
5. District of the school location

   Kicukiro [ ], Ruhango [ ]
6. How long have you been a head teacher? Below 3year [ ], 3-5years[ ], 6years above[ ]
7. As school head teacher, indicate the total number of students in your school in this year of 2020 due to their respective class levels.

Class levels	Gender	Number of students
Senior one	Boys	
	Girls	
Senior two	Boys	
	Girls	
Senior three	Boys	
	Girls	
Senior four	Boys	
	Girls	
Senior five	Boys	
	Girls	
Senior six	Boys	
	Girls	
Total	Boys	
	Girls	
General total		

8. As school head teacher who in charge of school management, indicate the amount of money that the government spend to this school in every year?

Items	Amount
Supporting stuff	
Electricity	
Fuel	
Water	
Co-curriculum activities	
Communication bill	
Maintaining school infrastructures	
Computer repair	
Student boarding lunch	
Total expenditures	
Average	

9. Apart from governmental and parental support given to this school, indicate any other source of support that you get to accomplish the school needs. Indicate the use of such supports.

   ……
   ……

10. In which ways do you make the school activities that can help you to earn income? Indicate such activities with respective amount earned in such activities every term.

    ……
    ……

11. Indicate the number of supporting staff that help you to perform your daily school activities. How much money do you pay to each staff every month?

    ……
    ……

12. Indicate the number of students who accessed in this school by both male and female due to their respective class levels in the last three years.

Class levels	Gender	2017		2018		2019	
Senior one	Boys						
	Girls						
Senior two	Boys						
	Girls						
Senior three	Boys						
	Girls						
Senior four	Boys						
	Girls						
Senior five	Boys						
	Girls						
Senior six	Boys						
	Girls						
Total	Boys						
	Girls						
General total							

13. Indicate the number of students' dropout in this school due to their respective class level in the last three years.

Class level	Gender	2017	2018	2019
Senior one	Boys			
	Girls			
Senior two	Boys			
	Girls			
Senior three	Boys			
	Girls			
Senior four	Boys			
	Girls			
Senior five	Boys			

	Girls			
Senior six	Boys			
	Girls			
Total	Boys			
	Girls			
General total				

14. Indicate the number of students' completion in the last three years

Class level	Gender	2017	2018	2019
Senior three	Boys			
	Girls			
Senior six	Boys			
	Girls			
Total	Boys			
	Girls			
General total				
Average				

15. As a school head teacher, to what extent does educational cost spent each student correlate with students' participation in this school?

    Low extent ☐ Moderate extent ☐ high extent ☐

16. As a school head teacher, indicate the relationship between educational costs and students' participation rates in this school.

    ……
    ……

17. As a profession in education, what are the mechanisms that should be put in place to improve students' participation in public boarding secondary schools?

    ……
    ……

Appendix iv: Interview Guide For Parents

SECTION A: BACKGROUND INFORMATION

1. Gender

   Male [ ], Female [ ]

2. Age group

   Below 35 [ ], 35-40 [ ]

   41-45 [ ], 46-50 [ ]

   51-55 [ ], 56 and above [ ]

3. District of the school location

   Kicukiro [ ], Ruhango [ ]

4. Highest educational level

   Primary level [ ], A2 [ ]

   A1 [ ], A0 [ ], Masters [ ]

   PHD [ ], other specify [ ]

5. What is your employment status?

   i, employed, ii, not employed

6. What is your socio-economic status (ubudehe) of your family?

   Category I [ ], Category II [ ], Category III [ ], Category IV [ ]

7. Indicate your family monthly income

   1. Less than 100,000 Rwf
   2. 100,000-200,000 Rwf
   3. 200,001-300,000Rwf
   4. 300,001 Rwf and above

8. How many children do you have in public boarding secondary school in your family?

   ……

   ……

9. If the cost of education in public boarding secondary schools is high, would enroll your child in such school? If yes or no, indicate your reasons.

   ……
   ……

10. Is there a relationship between educational cost and students' participation? If yes or no, explain the nature of such relationship.

    ……
    ……

11. In your own opinion, what are some mechanisms that should be put in place to improve students' participation in public boarding secondary schools?

    ……
    ……

Appendix v: Interview Guide for Deos

SECTION A: BACKGROUND INFORMATION

1. Gender

   Male [ ], Female [ ]

2. Marital Status

   Single [ ], Married [ ]

3. Age group

   Below 30 [ ], 30-35 [ ]

   36-40 [ ], 41-45 [ ]

   46-50 [ ], 51 and above [ ]

4. District of the school location

   Kicukiro [ ], Ruhango [ ]

5. Highest academic qualification

   Diploma [ ], B.Ed. [ ]

   M.Ed. [ ], PHD [ ]

6. How long have you been an educational leader?

   Below 3years [ ], 3-5years [ ], 6years and above [ ]

7. As DEO, indicate the number of teachers teaching in public boarding secondary school in your district with their qualification in education professionalism.

Teacher qualification	Number of teachers
A2	
A1	
A0	

8. What are the gross and net salaries paid to each teacher every month basing on their teaching experience?

Teacher qualification	Gross salary
A2	
A1	
A0	

9. In your own opinion, do you think that educational cost affects student participation rate? If yes or no, explain

   ……
   ……
   …….

10. As DEO, do you find any relationship between educational costs provided in public boarding secondary schools in your district and students participation? Describe such relationships.

    ……
    ……
    ……..

11. In your own opinion, what are the mechanisms can be put in place to improve students' participation in public boarding secondary schools located in your district?

    ……
    ……
    …….

Appendix vi: Public boarding secondary schools in Kicukiro and Ruhango districts

Kicukiro district

- Kagarama secondary school
- Kanombe secondary school

Ruhango district

- Ecole de science de Byimana
- Groupe scolaire Notre Dame de lourde
- Ruhango secondary school
- Kigoma Secondary school
- College Karambi
- Mukingi secondary school
- Murama secondary school
- Kinazi secondary school

Appendix vii: Students' access in public boarding secondary schools in Kicukiro and Ruhango districts

Appendix vii a: Students' access in 2020 by class level

Students' class level	Boys	Girls	Total	Percentage		General %
				Boys	Girls	
Senior one	469	629	1,098	42.71 %	57.29 %	17.22 %
Senior two	473	639	1,112	42.54 %	57.46 %	17.44 %
Senior three	420	538	958	43.84 %	56.16 %	15.03 %
Senior four	560	657	1,217	46.01 %	53.99 %	19.09 %
Senior five	466	540	1,006	46.32 %	53.68 %	15.78 %
Senior six	419	565	984	42.58 %	57.42 %	15.44 %
Total	**2,807**	**3,568**	**6,375**	**44.03 %**	**55.97 %**	**100 %**

Appendix vii b: Students' access in 2017, 2018 and 2019 by class level

Students' class level	2017	2018	2019
Senior one	1,068	1,016	984
Senior two	1,190	1060	1,023
Senior three	1038	1200	1069
Senior four	1025	1030	1,018
Senior five	1054	1021	1,016
Senior six	1006	1058	1,021
Total	**6,381**	**6,385**	**6131**

Appendix viii: Students' dropout in public boarding secondary schools in Kicukiro and Ruhango districts in 2017, 2018 and 2019 by class level

Students' class level	**2017**	**2018**	**2019**
Senior one	45	32	24
Senior two	32	26	16
Senior three	14	0	9
Senior four	27	21	22
Senior five	9	11	5
Senior six	1	0	0
Total	**128**	**90**	**76**

Appendix ix: Students' completion per secondary school section from 2017-2019

Class level	Gender	2017	2018	2019
Lower secondary	Boys	514	588	541
	Girls	524	612	528
	Total	1038	1200	1069
Upper secondary	Boys	561	532	519
	Girls	445	526	502
	Total	1006	1058	1021
Total	Boys	1075	1120	1060
	Girls	969	1138	1030
General total		2044	2258	2090
Average	Boys	52.6%	49.6%	50.7%
	Girls	47.4%	50.4%	49.3%

Appendix ix: Kicukiro district's permission to conduct research

REPUBLIC OF RWANDA

Kicukiro, January 27th, 2020
Ref. n° 222/ 07.0103.05/20

CITY OF KIGALI
KICUKIRO DISTRICT
P.o Box: 657 Kigali

NTAKIRUTIMANA Emmanuel
University of Nairobi
Tel: +250 788360998
E-mail: entakirutimana01@gmail.com

RE: Data Collection Approval

Dear Sir,

Reference is made to your letter dated January 27th, 2020 requesting the authorization to conduct a research on «*Influence of Educational costs on Students' participation rate in public boarding secondary schools in Rwanda*», Case study of Kicukiro District.

After examining your request and according to the Law N° 45/2013 of 16/06/2013, stating on statistical activities organization in Rwanda, we have the pleasure to inform you that you are authorized to conduct your research in the District.

In order to assure the accuracy of collected data you should submit your research draft to the District before submission of the final report to your University.

Thank you.

BAYINGANA Emmanuel

Ag.Mayor of Kicukiro District

Cc:

- Executive Secretary of the District
- Statistics Service

Website: www.kicukiro.gov.rw Email: info@kicukiro.gov.rw Hotline: 4575

Appendix x: Ruhango district's permission to conduct research

REPUBLIC OF RWANDA

Ruhango 6th February, 2020
N°...57/0206/DR/06

SOUTHERN PROVINCE
RUHANGO DISTRICT
P.O BOX 12

To: Emmanuel NTAKIRUTIMANA

Re: Response to your request

Dear,

Reference to your letter of 29th January 2020, requesting the authorization of conducting an Educational Research in Ruhango District;

I have a pleasure to inform you that your request in our Institution has been accepted.

Sincerely,

KAMPIRE Flora
Division Manager of Ruhango District

Cc:

- Director of Education Unit in Ruhango District

Appendix xi: Map of Rwanda