ASSESSMENT OF THE EFFECT OF EDUCATIONAL INFRASTRUCTURE TO STUDENTS' ACADEMIC PERFORMANCE IN SECONDARY SCHOOLS IN TANZANIA: A CASE OF BUKOBA MUNICIPALITY, KAGERA REGION

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2019

CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the Open University of Tanzania a dissertation titled; õ**Assessment of the Effect of Educational Infrastructure to Students' Academic Performance in Secondary Schools in Tanzania. A Case of Bukoba Municipality, Kagera Region"** in fulfilment of the requirements for the award of Degree of Master of Arts in Monitoring and Evaluation (MA.M&E) of the Open University of Tanzania**.**

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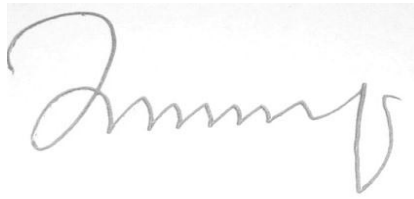Supervisor

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Date

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DECLARATION

I, **Matungwa Mwemezi Josephat**, do hereby declare to the Open University of Tanzania that this dissertation is a result of my original work and has never been submitted for degree award at any other University.

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Signature

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Date

DEDICATION

This work is dedicated to Bukoba Municipality, Educational Stakeholders, Community and School Education Quality Assurers (SEQA). I also dedicate this work to my beloved two daughters Mercy Alinda and Martha Asimwe as well as wife Pefania Akiza. I believe next time is my daughtersø turn in this academic journey.

ACKNOWLEDGEMENTS

ABSTRACT

The study focused on the assessment of the effect of educational infrastructure to Studentsø Academic Performance in secondary schools in Tanzania: A case of Bukoba Municipality, Kagera region. It was motivated by the fact that despite the necessity of infrastructure it effect has not paid much attention. The study relied on the theory of Maslowøs Hierarch of Needs, employed mixed research approach and descriptive research design, a sample population of ten schools, offices purposively and simple. The study sought to respond to three research objectives namely:-to assess the availability and condition of educational infrastructure in secondary schools; to assess the contributions of school educational infrastructure and to establish recommendations to the educational stakeholders. Data were collected using questionnaires, interview and observation. The data analysis was done qualitatively and quantitatively. Information obtained from the questionnaire was analysed through Microsoft Excel and SPSS version 24, and presented quantitatively in percentages, information obtained from observation was presented in pictures and interview was analysed using narrative method presented qualitatively. The findings revealed that infrastructure available in schools are insufficient and available are not in good condition. Public owned schools are leading. The study revealed the great relationship between infrastructure and academic performance, self-worthiness, confidence and sense of belongingness. No proper rehabilitation due to shortage of fund and monitoring and evaluation system. Recommendations to educational key actors to allocate reasonable and reliable fund, invest in monitoring and evaluation of infrastructure, make sure land is enough for expansion prior to enrolment, preview school demands, and culminate the culture of care and maintenance.

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LIST OF ABBREVIATIONS

A	Agree
ACSEE	Advanced Certificate of Secondary Education Examinations
BEST	Basic Educational Statistics
CSEE	Certificate of Secondary Education Examinations
D	Disagree
Div.	Division
DSEO	District Secondary Schools Educational Officer
EI	Educational Infrastructure
Gvt	Government
MA.M&E	Master of Arts in Monitoring and Evaluation
ME	Monitoring and Evaluation
NECTA	National Examination Council of Tanzania
NGO	Non-government Owned
PM	Policymakers
RAS	Region Administrative Secretary
REO	Region Educational Officer
SA	Strongly Agree
SD	Strongly Disagree
SPSS	Statistical Package for Social Science
SS	Secondary School
T	Total
WEO	Ward Educational Officer

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter highlights the background to the study, statement of the study problem, purpose of the study, objectives of the study, research questions, Significance of the study, justification of the study and scope of the study.

1.1 Background to the Study

Historically in Tanzania after the attainment of independence the government had fewer secondary schools, thus fewer students had opportunity of being selected to join secondary education level, and due to lack of educational infrastructure many Tanzanians after primary education were not joining secondary education. For example Bukoba municipality in the 1970s had only six secondary schools namely Ihungo, Kahororo, Rugambwa, Bukoba, Omumwani and Lake View, the first four being government and the last two were non-government owned schools. These government schools were receiving students selected by government from all over the country. By 2006s the government of Tanzania made some great changes in the education system this went hand in hand with the opening of secondary schools in every ward.

Many students started joining government schools despite the limited infrastructure to accommodate the increasingly number of students enrolled. In 2015 the government made a great drastically changes by abandoning the schools fees and the like contributions from Kindergarten to Form four, this has led to the tremendous

increase of the students enrolled in schools. By February 2019 about 1,0181 students and 2,667 students ,Ordinary and Advanced Level secondary respectively grand total 12848 students had been enrolled in Bukoba Municipality secondary schools (BEST, 2019). This number overweigh the carrying capacity of available educational infrastructure in the municipal and raise the need for the assessment of the effect of educational infrastructure on studentsø academic performance in secondary schools in Tanzania.

According to Adede (2012) school infrastructure is a key base for learning in schools. Thus, educational infrastructure includes classrooms, laboratories for science practicals, and open fields for games etc. It is through these infrastructure where formal and non-formal education takes place at school. Educational infrastructure are general physical things such buildings, which enable learning and teaching process frequently formal and non-formal curriculum oriented activities involved in teaching and learning to take place.

Moreover, many teachers and students admire the well-equipped infrastructure school as good light, air quality environment in general stimulate the sense of self and achieve physiological needs. The classrooms and educational staff houses and offices should be carefully planned to enable teachers and students obtain teaching and learning goals. Shortage of classrooms, laboratories, libraries, toilets, playgrounds, dining halls, Assembly halls, sewerage system, water systems, playgrounds, open spaces, electricity supply, fence, etc. impedes students in one way or another to realize their self-actualization in terms of life through education.

Additionally, infrastructure creates and motivates the students to feel appetited to stay at school because it is a better and welcoming place than dodging. This rise a necessity and comparable sense to consider educational infrastructure as the significant component to learning and achievement of the studentsø academic performance. School infrastructures have the important role to play in ensuring the quality of teaching and learning with respect to achieving quality education. The nature and condition of the educational infrastructure of school significantly effects in the studentsøacademic performance in entire school in a given country at large.

1.2 Definitions of Key Terms

1.2.1 Assessment

It refers to an opinion or judgment about something that has been thought about very carefully in a systematic way to arrive at sound and logical conclusion.

1.2.2 Effect

This implies the outcome as the result of the results or cause of something.

1.2.3 Educational Infrastructure

Are general physical things such buildings; classroom, libraries, Laboratories, dormitories toilets, water, furniture, staffsø houses sporting grounds. These enable learning and teaching process frequently formal and non-formal curriculum oriented activities are carried.

1.2.4 Students

Refers to persons studying at secondary school after primary school.

1.2.5 Academic Performance

This refers to the output of the acquisition of knowledge, skills, attitude and ability

to demonstrate or perform creativity after secondary school education.

1.2.6 Secondary School

This means the level of education gone through after primary school level it includes ordinary and advanced level (form one to form six education).

1.3 Statement of the Problem

School is an institution where a nation's educational goals and objectives are realized, that is supposed to be centre for students' academic performance and their infrastructure are supposed to be adequate and quality to enable students develop intellectually. This suggests that for education to take place there should be adequate and quality infrastructural facilities such as good and adequate classrooms, laboratories, libraries, equipped with important and reliable furniture, clean and safe water, electricity supply systems, modern books matching with the appropriate current syllabus and curriculum.

Students and teachers can utilize them to realize their academic performance optimally and comfortably in given institution. Shortage of the quality education infrastructure in a school leads to the stratification on socialization of the students among themselves. As those studying in poor infrastructure schools feel unfit in the society. It has been believed and considered that learning in good infrastructure are of high value. Despite, the obligation role of the government and individual school owners to improve and invest in infrastructure, many schools infrastructure have not been improved to match with the over alarming problem of bad and scarce infrastructure in secondary schools.

Furthermore, those challenges hamper students to acquire and succeed in academic. The action which lead students to complete schools and not being potential individuals in the struggle for building of the countryøs economy and fully participation in national development. Some schools are seriously missing very potential infrastructure facilities, the problem which undermine school environment to impress the students learning and excel academically.

Apart from literature review even some individual people do not believe in good adequate infrastructure to have any critical impact and relationship with studentsø academic performance. Some people do lack knowledge on the significant role of educational infrastructure to studentsø academic performance, this might be caused by myopic level of understanding and ability to analyze issues concerning education. Lack of knowledge, especially toward the ability to identify and analyse every component of education and its contribution to studentsø academic performance. The current situation of educational infrastructure in Tanzania particularly in Bukoba municipality is the setback to studentsø academic performance in term of acquisition of proper knowledge, skills, attitudes, exposure and creativity as well has self-independence.

1.4 OBJECTIVES

1.4.1 Main Objective of the Study

Objective of this study was to assess the effect of educational infrastructure to studentsø academic performance in secondary school in Tanzania.

1.4.2 Specific Objectives of the Study

    i.   To examine availability and condition of educational infrastructure in secondary school in Bukoba Municipality.

    ii.   To assess the contributions of school educational infrastructure to studentsø academic performance in Bukoba Municipality.

    iii.   To recommend measures for improved quality educational infrastructure for learning and teaching environment to enhance studentsø academic performance.

1.5   Research Questions

The study attempted to answer the hereinafter questions based on the main objective of the study:-

    i.   What is the availability and conditions of the educational infrastructure in secondary schools Bukoba municipality?

    ii.   To what extent is educational infrastructure have contributions to studentsø academic performance in secondary schools?

    iii.   What measures should be addressed to make improved and useful educational infrastructure in relation to studentsø academic performance in secondary schools?

1.6   Significance of the Study

The findings and results of this study will contribute and evoke in the following areas:-

i.   The study would arouse awareness and sensitization on the importance of

monitoring and evaluation of educational infrastructure to the managements of school institutions, policymakers, teachers, students and other relevant stakeholders with interest in quality education.

ii.   The study would provide information to the schools Quality Education Assurers unit who are education law regulators and enforcers with necessity to reshuffle the means of procedures engaged in offering permit and endorsement to opening and operating schools.

iii.   The study revealed to Tanzanians, Bukoba municipality in particular with the current situation of the availability and current conditions status of the educational infrastructure in both government and non-government owned secondary schools, hence determine important areas to drastically change situation.

iv.   The study revealed relationship between educational infrastructure and studentsø academic performance in secondary schools.

v.   The study established possible recommendations on the appropriate strategies to be taken by educational stakeholders to improve educational infrastructure in secondary schools through monitoring and evaluation system.

vi.   The study findings and results would act as the base reference for further researches on the relevant study.

1.7 Justification of the Study

The researcher was persuaded to conduct out this study as an educational stakeholder and experienced teacher, seeing the engagement in educational field considering it being the base for transformation of development of any society. Educational infrastructures have a great impact on studentsø academic performance in

government owned and non-government owned secondary schools. Other researchers have pointed out that good infrastructure has led to achieve the educational goals in schools in Tanzania. Secondary schools lacking with important infrastructures are seriously likely to let students fail achieve educational objectives and goals and realizing education actualization for the lifehood and society.

1.8   Scope of the Study

This study was conducted on the assessment of the effect of educational infrastructure on Studentsø academic performance in Tanzania a case of Bukoba Municipality in Kagera region. The core emphasis was light on search for the availability, condition of the educational infrastructure, the extent to which educational infrastructure like classrooms, sporting grounds, dormitories, toilets, fully fledged libraries and laboratories, internet facilities, teachersø houses, offices, office furniture, financial resources etc. The reason for conducting the research in this area of Bukoba Municipality can make a good representation of the Tanzaniaøs situation. Bukoba Municipality comprises both characteristics of urban and rural activities and life of the dwellers of which eight out of fourteen wards are rural in nature.

Therefore, this chapter one has presented the research background and the statement of the problem study. The next chapter two deals with the review of the relevant literature on the assessment of the educational infrastructure to studentsø academic performance in secondary schools, conceptual framework, theoretical framework, research gap and summary of the chapter.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The previous chapter provided the background for this study, also the chapter dealt with the statement of the problem and the research questions to which the answers will be provided in chapter four. This chapter presents the review of related literature. The review of related literature is very important in research. According to Tuckman (1994:46), õí ..when you know what others have done, you are better prepared to attack the problem you have chosen to investigate with deeper insight and more complete knowledgeøø

This chapter reviews the literature on how other studies have been done and revealed the essence of adequacy and quality of educational infrastructure in relation to studentøs academic performance. Establishment of firm and strong system of monitoring and evaluation of the educational infrastructure is inevitable.

2.1 Theoretical Framework

According to Richard (2010) theoretical framework is the combinations of the theories that have been tested and found true to be used academically and in theoretical corner stone; it gives an explicit relationship among the variables. Clearly qualitative research paradigms are couched in a realist perspective and qualitative research paradigms are couched in an idealist perspective (Bogdan &Biklen, 1982). This study is centred and guided on Abraham Maslowøs Needs Hierarchy Theory. The needs hierarchy theory as propounded by Abraham H. Maslow(1954).This

theory suggests that in order a student or an individual person to realize educational academic performance a couple of issues should be dealt in sequence. Every level of need is achieved as the successor of the former level and this cannot be done out of the quality conditioned infrastructure in schools and learning institution in general.

2.1.1 Physiological Needs

These include needs to satisfy hunger, thirst, sex, shelter, and other bodily needs. Physiological needs are the most basis and their fulfilment is essential for survival. The concept of dormitories and classrooms rise in this Maslowøs needs whereby they provide housings of the students. Schools need to be in quality infrastructure facilities to quench the studentsø education thirsty. Water facilities, dining hall, playgrounds, recreational halls and spaces are important components in education for students to take breakfast, lunch or supper because students go there to satisfy their hunger and thirsty. Later students get back in classrooms with fresh mind to resume their studies of which in the end they do examinations perform better and prosper in academic excellence.

2.1.2 Safety Needs

Safety needs includes security and protection from physical and emotional harm. They are needs for freedom from threats, danger, or deprivation, and involves self-preservation. Subsequently, in view safe and free from danger infrastructure cannot be ignored in schooløs environments. Students need calm and peaceful environment that can lead and enhance thinking, memory retention and recalling of the information in terms of knowledge they acquire in classroom and in school

environment in general, eventually to achieving the educational goals. Safety infrastructure offer necessity to both teachers and students. For instance special group students such as students with albinism, handicapped, blind and deaf need proper environment for inclusive education success. The concept of the school fence and procedure for in and out of strangers comes here, is to ensure security and safety of the school, students, and their properties and secured learning environment.

2.1.3   Belongingness and Love Needs

These include the desire for affection, belongingness acceptance and friendship. These needs are concerned with an individualøs ability to exist in harmony and love with other people. Infrastructure play an important role because it is where students get time to exhibit their talent and capacity potentiality of each other in academic, from their fellow students love and identity is realized. The concept of infrastructure rises due to the fact that love and the sense of belongingness cannot be achieved in threatening environment. Thus, the theory demand conducive environment translated into infrastructure for individual student to love school and learning in general.

2.1.4   Esteem Needs

These include needs for self- respect, achievement, competence, autonomy, self-confidence, status recognition, attention, dignity and appreciation when those needs are satisfied. Educational infrastructure facilities such dormitories, playgrounds and sporting toilet facilities with complete and effective water supply are very crucial in learning context and generally in daily life. Students need to excise their individual freedom like any other human being of other groups. Through quality infrastructure

students can develop a sense of adequacy results and satisfaction, but when they are not satisfied; it produces feelings of helplessness and inferiority complex in the environment education is taking place.

2.1.5   Self- Actualization

This means to become more and more what of one want to become everything that one is capable of becoming Maslowøs views an individualøs motivation in terms of a pre-determined order of needs each with its own rank. Self-actualization can only be realized if and only if the educational infrastructure are adequately supporting the learners to strive in conducive teaching and learning environment that help in arriving at academic performance. It is evidently agreed that quality education is provided through quality infrastructure which support for inclusive teaching and learning at schools. Self-actualization through academic can be obtained as the results of the good infrastructure which create a student readiness to gain what is expected to be imparted. The five levels of Maslowø hierarch of needs can be shown diagrammatically in the herein below figure as adapted from the Wikipedia source.

Figure 2.1: Maslow's Hierarchy of Needs Pyramid

Source: https://en.wikipedia.org/wiki/Maslow%27s_hierarchy_of_needs

The potentiality of the educational infrastructure is evidently believed to be the core factor for the studentsø academic performance in educational institutions, secondary schools included, seeing that many studies have been conducted and educational stakeholders have always been urging the government to allocate a proper and sufficient fund to make school infrastructure improved for the betterment of the driving goals achieved.

The school lacking essential infrastructure, it has been observed and witnessed, that parents taking their sons and daughters away from poor infrastructure school to well improve infrastructure school, believing that good infrastructure has great impact on studentsø academic performance and educational excellence. Good infrastructure lead students to study without pressure and fear of the security and congestion in dormitories, classrooms, libraries or laboratories and creating queues to the toilets during break hours.

Furthermore, it is undoubtedly, that schools with well advanced and modern infrastructure are in first class national examination results in Tanzania, most of them being non-government owned secondary schools. The government still have long journey and tough responsibility to make sure common citizens acquire education in well improved infrastructure to avoid superiority and inferiority complex among citizens in the country.

Therefore, sponsors, guardians and parents are struggling to take their children to

schools with good infrastructure which seem to sustain their learning. Those poor infrastructure facilities; where when it is rainy or sun season, learning and teaching process breaks they do not encourage students and their parents. A student seated on one-legged chair, three walled classrooms, and rough floor, half roofed classrooms, unfenced school for protection and security of students and properties makes them lack self-settled mind during implementation of school formal and extracurricular activities.

The missing of playgrounds and recreational spaces facilities lead students fail to exhibit their talents in school life, it discourage learning and performance. Likewise, students cannot have appropriate preparations for the learning and examinations; eventually fail to actualize the education potentiality as they do not get appropriate knowledge. The consequence of the shortage of infrastructure in school deprives the studentsø chance that would help in answering their examinations like those in fully fledged infrastructure facilities schools.

2.2   Conceptual Framework

Conceptual Framework is the layout that gives the explanation through which understanding of the research phenomenon is to be drawn, it shows the scope to which the research study is centred and provides direction (Imenda, 2014). The conceptual framework of this study is developed on the grounds that school infrastructure and its effects on studentsø academic performance. The study dealt with the assessment of the educational infrastructure on studentsø academic excellence. Infrastructure is one of the most essential components in attaining the

educational expected goals.

The nature and condition of educational infrastructure is likely to influence the level of quality education provided to students. Hence, whether that can allow students to excel in their further studies and become productive citizens in the country and world. A school with appropriate quality infrastructure is likely to create conducive and motivation learning and teaching environment that evidently realize the better positive results than those schools with shortage of important infrastructure, of which poor infrastructure deteriorate the studentsø success (Mangipudy & Venkata).

Independent Variables   **Dependent Variables**

Educational Infrastructure
- ❖ Classrooms
- ❖ Libraries
- ❖ Laboratories
- ❖ Dormitories
- ❖ Playgrounds
- ❖ Recreational spaces
- ❖ Dining Hall
- ❖ Assembly Hall
- ❖ Kitchen
- ❖ Toilets facilities
- ❖ Staff houses
- ❖ Bathrooms
- ❖ Furniture
- ❖ Open spaces
- ❖ School fence
- ❖ Internet services

Studentsø Academic Performance

Extra Dependent Variables

Teachers and Non-Teaching Staff

Figure 2.2: Shows the Conceptual Framework

Source: Authorø own construct, 2019

The above figure shows the conceptual framework of the study. The conceptual framework vividly indicates that educational infrastructure is the independent variables and the studentsø academic performance is dependent variable. Teachers and non-teaching staff is also extra dependent variable in this study. Thus, that educational infrastructure is necessary component to students, teachers and non-teaching staffs in the course of learning and teaching process. Educational infrastructure is likely to contribute to studentsø academic performance in secondary schools. Students using quality, equitable enough and well equipped infrastructure are likely to perform better in their academic and let the intended educational goals properly achieved.

2.3   Review of the Related Empirical Literature

A good educational infrastructure always supported the studentsø academic performance in schools. Research had shown cleanly that quality educational infrastructure effect much on studentsø academic performance (Seker, 2013). The condition and quantity of the infrastructure matter a lot in the process of teaching and learning of the students. Thus, good air, quality light, comfortable and safe environment, building age and condition, quality of maintenance, temperature, and colour, could affect studentsø academic performance. The studentsø health, and learning, safety as well as a sense of self and psychological state need be realized. Policymakers should be concerned about the relationship between school infrastructure facilities and studentsø academic performance. Note International Journal for Research in Social Science and Humanities Research Vol.2 may 2016 only because of health, security and psychological issues, but also because the failure to create and maintain optimum learning environments can undermine other

efforts to reform education (Vendiver, 2011).

According to Seker(2013) there are many factors such as infrastructure, teacher behaviours, school rules, classroom environment, studentøs family, the students themselves, teaching process, examinations taken and evaluation processes thought to influential on attitudes towards school(Seker,2013). Many researchers such as Harner (1974), Group (1999) Earthman (2002), Buckley, Schneider, & Shang (2004) explained those learning environments are important for studentsø academic achievement (Earthman, 2002).

School with better building conditions have up to 14 percent lower student suspension rates (Boese & Shaw, 2005). Improving a schooløs õOverall Compliance Ratingö to meet health and safety standards can lead to a 36-point increase in California Academic Performance Index scores (Buckley, Schneider, & Shang, 2004). Substandard physical environments are strongly associated with truancy and other behaviour problems with students (Kumar & Johnston, 2008).Lower students attendance led to lower scores on standardized tests in English language, arts and mathematics (Duran- Narucki, 2008). Students reading speed, comprehension, and mathematics performance are adversely affected by room temperatures above 74 degree (Harner, 1974).

Studentsø achievement scores tend to decrease as the school building age as high as 9 percent, depending on maintenance factors (Blincoe, 2008). Studies indicate that studentsø performance is improved by an even distribution of daylight, an expansive

view, and limited glare and thermal heat gain (Boyce, 2004). One study found 20 percent faster student progress on mathematics and 26 percent faster progress in reading compared with students in classrooms with less exposure to daylight(Group,1999).

Ruth, Barbara and et al (2007) reported on cross-sectional case study designed to explore the relationships between learner-centred variables. It is powerfully influenced by the learning relationship within which individuals find themselves, particularly with their teachers and with key people in their school community. These three self-evaluation tools in this study provided a way of International Journal for Research in Social Science and Humanities Research Vol.2 Issue 5 May 2016 enabling learners to become agents of their own learning, and, to some extent, of their learning environment (Ruth Deakin, Barbara, Alice, Patricia & Marilyn, 2007).

However, it is tough to assume from these observations to identify requirements for a school classrooms. Rutter (1979) pupil's condition scale attempted to measure students working conditions and was positively related to examinations success. In Heshong's (2003) study, teachers were reported to desire more space, a good location and quiet environment, and have lots of strong and water in the classroom. Teachers preferred classrooms with glassed windows, enough daylight and views, but these were not a top priority. It is worth noted that much researches on open offices suggests that employees find them unsatisfactory (Brenanm et at., 2002), which might be relevant given that in many ways a secondary school classroom resembles an open office, in particular the lack of personal, or personalized, space

(Steve & Elaine, 2005, p.22).

The main factors attributed to repetition of students were recurring absence and the low level of motivation of children to learn poor educational infrastructure in most of the schools. The reasons mentioned for dropping out may also serve as de-motivating factors to academic achievement, leading to repetition of some students due to failure to perform to the required school standards. Further research is recommended in this regard to establish more conclusive evidence. Another item worth mentioning is that, contrary to the automatic promotion policy in Grades 1-3, repetition persists in some of the visited Child-friendly schools.

The reasons mentioned by the school principals are largely related to parental decision. Whenever, parents feel that their children are not achieving academically, they are said to insist on schools to revisit the performance and effectiveness of teachers, rather than making young children suffer repetition (UNICEF, 2010, p.23). According to Holmes (2011), the impact of school facility construction and renovation on academic excellence research in Texas, the purpose of this study was to explore the possible relationship between school infrastructure condition and studentsø academic performance. Participating schools designated as having proper infrastructure were determined by campus earning an Educational Appropriateness Award from the Texas Association of School Boards between 2005 and 2009.

Older infrastructure were determined by the Campus Comparability Report issued by Taxes Journal for Research in Social Science and Humanities Research Vol.2 Issue 5

May 2016 sample t-test. Six campus principals were also interviewed to ascertain their perceptions about the impact of school infrastructure on studentsø academic performance. Sullivan, Perry, & McConney (2014) presented the findings show that regardless of where the building is situated, most students believe that schooling is worthwhile, and report positive relationships with their teachers.

Perceptions of classroom disciplinary climate vary more across school communities, with students reporting less positive disciplinary climate in rural communities than in very large cities. Principalsø perceptions of teachers and studentsø behaviours related to school climate varied; with urban schools having much more positive results than schools in towns and rural communities.

Finally, our findings show that studentsø and principalsø perceptions of their school climate and learning environments are more positive in urban communities than in rural communities, but that the least positive environments are generally found in country towns rather than remote communities (Sullivan, Perry, & McConney, 2014). According to Cash and Twiford (2010), improving studentsø academic performance and school infrastructure in a time of limited funding research; this paper will provide a plethora of data that research has provided regarding how the learning environment can improve studentsø performance.

Over a decade of research has consistently confirmed that the physical environment impacts the learning and studentsø academic performance. In an era of data-driven decision making, one cannot ignore evidence that quantifies and specify the role of infrastructure (Cash &Twiford, 2010). If a school provides a quality environment for

students, this will arrange mental preparedness to gain knowledge which results into academic performance of the students. The choice of equipment is important; it should be versatile, resistant, durable and easy to repair. Use-based innovative processes should be at the heart of designing the physical learning environment of tomorrow's schools. This process should take into account the global needs of students, teachers, school administrators and communities while respecting the environment of learning. A judicious selection of products and services that minimizes negatives environmental impacts will also be of benefit to all.

Many researchers such as Beynon, 1997; Earthman, Schneider, 2002; Schneider, 2003, 2005 and Earthman & Lemasters, 2011 addressed an issue of physical facilities really necessary for learning and relationship between facilities and students' performance. Facilities are the premise that learning can take place in any modification or enhancements contributes to learning of students (Beynon, 1997, pp. 18-21). Moreover, Earthman emphasized that õwhen students are surrounded by safe, modern and environmentally friendly infrastructure, are likely to have great concentration in classrooms during learning and doing the examinations. This help to memory retrieval and appropriately responding to the asked questions. The facilities will have a greater positive effect on the teaching and learning climateö (Earthman, G. 2002, pp.1-17).

According to Sabates, Akyeampong, Westbrook & Hunt (2010 p.12) the school drop-out rate in Tanzania and Ghana is greater in schools. Several studies have found that the physical conditions of school buildings and inadequate facilities have positively affects in school completion and cycle completion rate. It is a fact that

having schools in good conditions is important for the students to achieve the expected academic results. In other word the school infrastructure condition has direct impact to performance and well-being of the students.

The fact is that a good school infrastructure, with renewed spaces, makes it possible for students to feel encouraged and attracted to coming at school, hence, increase attendance rate and performance. For the same reason, investments and establishment in/of school infrastructure have an essential role in solving access problems of students to the school system and improve their performance. Conditions for a quality school infrastructure must at least comply with the following parameters:- comfort for students, teachers, and administrators; spaces for teachers and students with adequate air, light, water, electricity and internet services as well as sanitary services and the respective drainage of sewage water.

This Space for the development of rehearsal and practices such as libraries, natural sciences, information technology and physics and chemistry laboratories. If educational infrastructure are not seriously addressed will hamper the achievement of educational goal and realization of middle income economy status in Tanzania as it has been stressed by the incumbent fifth government regime.

Classrooms, laboratories and other educational infrastructure are crucial elements of learning environments in schools and any other learning institutions. According to Ayine & Adelabu (2012) there is strong evidence that high quality infrastructure facilitate better instruction, improves students outcomes and reduces dropout rate

among other benefits. For example a recent study from UK found that environmental and design elements of school of infrastructure together explained 10 percent of variation in primary studentsø academic progress.

According to Nepal (2016) researches had shown that the design of educational infrastructure effects learning through three interrelated factors; naturalness (e.g. light, air quality, stimulation (complexity colour and individualization or flexibility of the learning space). Although educational policymakers are increasingly focusing on the quality of education and school learning environments. Educational policymakers should be concerned with infrastructure of which may affect other efforts of improving education quality if not taken into consideration. In some schools in the country infrastructure are unchecked. Many countries use a fragmented approach to investigating in their educational infrastructure (Amoroso & Gresham 2017).

Earthman (2004) emphasizes that buildingsø age often is reliable indicator that the studentsø performance is poor. Several scholars have found evidences to support the influence of infrastructure to studentsø academic performance. There is no more worry in discussion that many studies have found the great relationship between infrastructure and studentsø academic performance in secondary school worldwide (Keith, 2008).

Furthermore, in Tanzania government secular is clearly stated that the availability of adequate, standard physical resources and facilities are considered critical in the

curriculum for ordinary level secondary education, it is clearly stated that the implementation of curriculum can only be done through good infrastructure of which the provision is the responsibility of the schools owners, central government and local authorities (TIE, p.14. 2010). Despite such responsibility to rest in the hands of the government and non-government owned schools most of the infrastructure are not improved, standard and adequacy to match with the number of the students in secondary schools.

According to Human Rights Watch (2017) school infrastructure are poor and inadequate in most of schools, this is one of the barrier for students to realize their academic performance. As the result they dropout and miss the lawful and rightful requirement of education as stated in United Republic of Tanzania Constitution of 1977. The situation is rampant, insufficiently education acquired cause students dreams to fail. Students can no longer fit in society in terms of productivity power and socialization. Also they cannot have a mastery of national philosophy of education for self-reliance for personal and national development, together with the current fifth government regime philosophy of industrial economy.

Mabeyo (2016, p.58) argue that there is a shortage of school infrastructure in most of schools such teachersø houses, classrooms, toilets and desks in primary schools this lead to the poor academic performance a case study made in Nzega district Tabora. The problem of educational infrastructure in primary schools accelerates to secondary schools and become the alarming issues countrywide. The shortage and conditions of infrastructure in schools are causing miseries in learning and performance of the students.

Surprisingly, some schools have infrastructure purely putting the studentsø life in danger, and causing disturbance in the whole process of learning. Other students tend to go back home for self-service for call of nature during break time. It has been report to cause death in some schools whereby the toilets floor fall and caused students to sink and die. This situation has been reportedly taking front pages in Mass Media such Newspapers, Radios and Television stations (Tumma, 2013). Moreover, Tanzanian secondary schoolsø situation is bad mostly government owned secondary schoolsø infrastructure are in tense condition. The condition minimizes the efforts to perfectly enable learning which can bring about academic performance and realization of educational potentiality for all citizens, students in particular. Significantly, this is affecting people groomed in the economic and social oriented activities to get into semi-industrialized middle income economy country as full participants.

2.4 Research Gap

Many studies obtained from literature review have displayed educational infrastructure to be important elements and has effect to teaching and learning process. No study has gone thoroughly well on the need for clear monitoring and evaluation system of educational infrastructure concept and the use of effective reports for planning and designing educational infrastructure as the area of priority before studentsø enrolment during the new academic years. Moreover, the literature review witnessed no any study that has been conducted in Bukoba Municipality concerning the assessment of the effect of infrastructure, monitoring and evaluation

of infrastructure in relation to studentsøacademic performance.

The situation in secondary schools has remained silent and almost the same infrastructure throughout decades, despite the increasingly number of studentsø enrolment every academic year and won out of the infrastructure. The present educational infrastructure carrying capacity is low. Therefore, it is inevitable to conduct this study with the reasons behind of generating the recommendations of enhancing awareness and sensitization spirit in the need for improvement and permanent monitoring and evaluation of infrastructure in the country. The consistent financial planning and supply for quality improved educational infrastructure in secondary schools is necessary.

2.5 Summary

The chapter has presented the theoretical framework, conceptual framework, review of related literature and research gap. The focus has been on the review of the relevant literature on the assessment of the effect of educational infrastructure on studentsøacademic performance in secondary schools. School owners, managers and administrators are important figures to sufficiently and actively involve in planning, management, controlling, supervising and coordinating of educational infrastructure.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter deals with research methodology. Research is a process of gaining a better understanding of the complexities of human experience and social realities. The goal of research is to describe and understand a field practice through exploration and survey (Brown & Dowling, 2001).

McMillan and Schumacher, (2001) regard educational research to be imperative as it provides valid information, knowledge and principles to guide the decision-making. Therefore, research enhances thinking and discussion process in education through planned and systematic data collection, interpretation and analysis of data (Cohen &Manion, 1994). Thus, research methodology refers to the behaviour and instruments we use in performing research operation such as making observation, recording data, techniques of processing data and the like (Kothari,2007).

However, research methodology encompasses the complete research approaches, procedures and data collection or sampling methods used (McMillan & Schumacher, 2001). This chapter endeavours to explain the methodology to be used in conducting the fieldwork components of study, by presenting an outline of the research approach, research design, research area, study population, data collection, data analysis procedure, ethical consideration and organisational of the proposal.

3.1 Research Approach

Mixed research approach was adopted for this study. Mixed method research is the empirical research that involves the collection and analysis of both qualitative data and quantitative data. In mixed method research, qualitative and quantitative data are mixed, or combined (Punch, 2009). The aim of choosing this approach is to achieve complimentary strengths and overlapping weaknesses, where weaknesses of one method are offset by the strength of another research approach. The research methods associated with both qualitative and quantitative research, have their own strengths and weaknesses so that combing them allows the researcher to offset theirs weaknesses to drawn on the strength of both(Bryman, 2008).

Qualitative research approach is the one in which data were collected or coded into numerical forms, and at the statistical analysis was applied to determine the significance of the study (Terre Blanche et al, 2006). The researcher decided to use both qualitative and quantitative research approaches because of the nature of variable basing on the educational infrastructure has effect on studentsø academic performance.

3.2   Research Design

Mouton (2001) states that a research designs are a plan of how you intend to conduct the research. According to Hysamen (1993) a design is õthe plan or blueprint according to which data are collected to investigate the research hypothesis or question in the economical mannerøø Bless and Higson-Smith (1995:10) by contrast, point out that a research design is õa specification of the most adequate operations to

be performed in order to test a specific hypothesis under given condition.ö Likewise, the methodological design is the logic through which a researcher addresses the research questions (Mason, 2002, p.30), and gains data for the study (Denzin & Lincoln, 2000).

For this study, the researcher opted to use a quantitative-descriptive research design. The purpose of descriptive research is to make interpretations about and describes the current status of individuals, objects, conditions, setting or events(Mertler& Charles,2008), descriptive research examine the phenomenon as it exists; no attempt is made to artificially manipulate any conditions or situations. The two common descriptive research designs are survey research and observational research.

Leedy & Ormond(2005) point out that survey research involves acquiring information from individual representing one or more groups, for example about their attitudes, opinions, or characteristics by specifically asking them questions and tabulating their responses. The survey researchøs ultimate goal is to learn more about the current status of a reasonably large population either by surveying a sample from the population. Survey research is a relatively simple straightforward design, the analysis of data usually involves percentage or the calculation of the frequency counts.

The research method used in this study is survey approach, which is the one most commonly used   in educational research is descriptive method. The usefulness of this method has triggered the researcher to prefer it. According to Wiersma (1980),

the survey research deals more with õí í ..a question of what is rather than why is it soö. Therefore, the data obtained was presented qualitatively and quantitatively in chapter four due the potentiality of these two research techniques (Drew, Hardman & Hosp, 2008).

3.3 Research Area

This study was conducted in Bukoba Municipality. Bukoba is a town in northwest of Tanzania on the western shore of Lake Victoria. It is the capital town of Kagera region and the administrative seat for Bukoba Municipality Council. Bukoba town lies between latitudes 1^{0} 6ø0ö to 1° ÷8ø42ö south of the equator and longitudes 31° 16ø12øø to 31° 18ø54ö East of the Greenwich (BMC Report, 2011). The reason for selecting this area is because it is thought to be a good representative of Tanzanian situation. This is because some of the area in Bukoba Municipality has both township and ruralship features which address the current situation in many Tanzanian secondary schools and studentsø performance in secondary schools leaving examination in Tanzania (Sumra & Rajani 2006).

Bukoba urban has an area of 80 square kilometers out of which 30 square kilometres is the Urban Area proper (about 37.5%) and the rest 50 square kilometres covers surrounding urban villages. These Urban Villages are within the municipal boundaries with substantial area coverage of about 62.5% (BMC Report, 2018). Topographically the district consists of a plateau, tropical grasslands with scattered trees. The vegetation within the town vicinity and nearby villages is evergreen throughout the year due to the annum rainfall. The upper villages are covered with

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plantation of bananas, coffee, potatoes and other crops. In Bukoba Municipality there are 30 secondary schools where 10 are private like religious institutions and 20 are government owned secondary schools. These were included in this study (BMC Reports & NECTA Results, 2018).

The district is administratively divided into 14 wards into which the schools visited were sought from namely Kahororo, Buhembe, Nshambya, Nyanga, Kagondo, Kibeta, Ijuganyondo, Kitendaguro, Bilele Kashai, Miembeni, Hamugembe, Bakoba and Rwamishenye. The first eight include the urban villages whereas the last six covers the urban proper area.
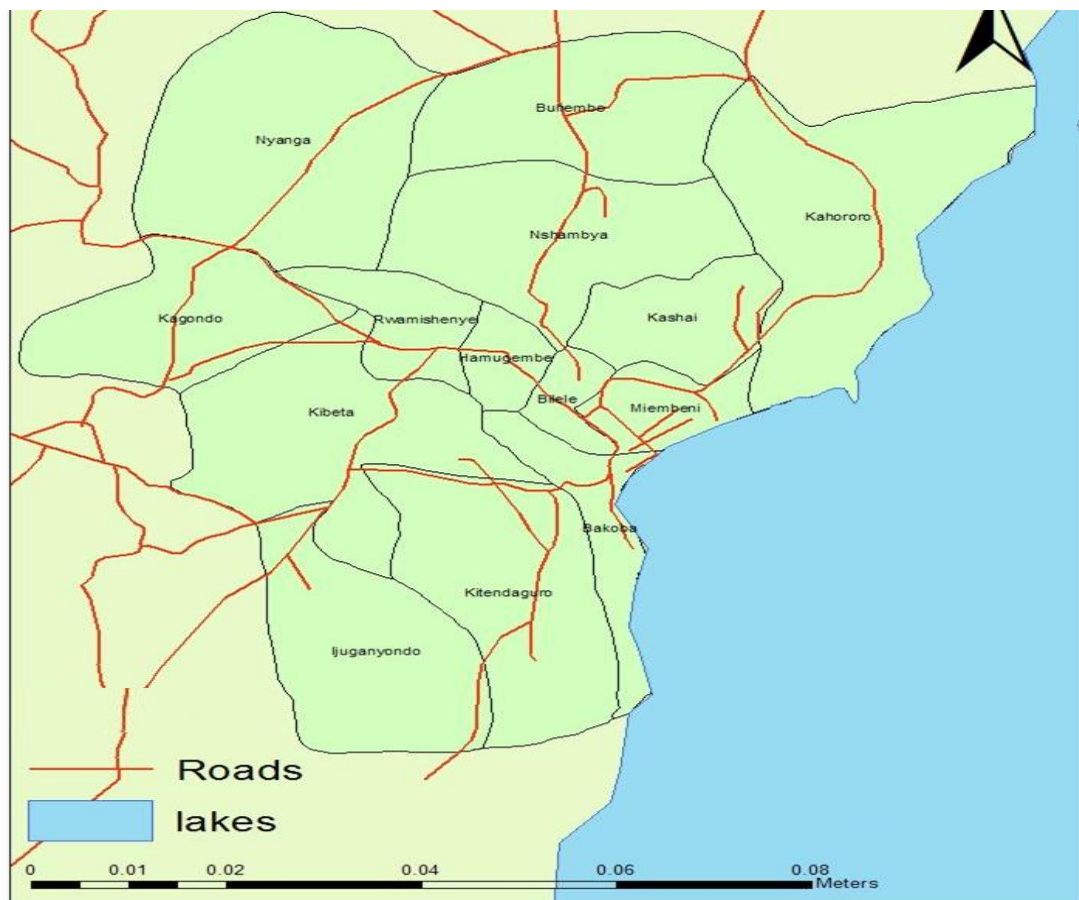
Figure 3.1: Bukoba Municipal Map
Source: Bukoba Municipal Office (2019)

3.4.1 Study Population

Population refers to all items in the category of things that are being researched (Denscombe, 2010), therefore, it includes the total units to be involved in research. Also Population is defined by Bless and Higson (1995:85) as õthe entire set of object and events or group of people about which the researcher wants to determine some characteristics.ö The population of this study was drawn from secondary schools teachers, students, Educational officials and policymakers in Bukoba Municipality. Bukoba Municipality has a total of 30 secondary schools in which 20 are government schools and 10 are private schools. Secondary school students, heads of schools, teachers were selected because these are the ones involved in teaching, Educational officials and policymakers are involved in this study because are concerned with budget planning, hence being crucial participants in social learning environment.

3.4.2 Sampling and Sampling Procedure

The basic principle of sampling is that, it is possible to produce accurate findings without the need of collecting data from each and every member of a surveyed population. This saves time and money (Denscombe, 2010).The study was based on mixed research approach; both probability and non-probability sampling procedures were employed. Probability sampling was used for quantitative research approach, where each unit of the population has a known chance of being selected (Bryman, 2008). The researcher used simple random sampling and purposive sampling to bring the population to manageable number and to reduce the errors. The study used sample of the population from schools and offices so as to meet targeted population

of the study as indicated above. (See table 2.1).

In selecting secondary schools, a list of secondary schools in Bukoba Municipal were obtained from Municipality Education Office and used as the sampling frame. Simple random sampling was involved by writing all names of schools on pieces of paper that were folded, put in a container and mixed up together. One paper was picked at random without replacement .The name of school on the picked paper was the one to be included in the study. Likewise simple random sampling was used in selecting students by using random number picker on search engine in the internet. The number of students needed from each school was inserted as number to pick, and it ranged from number one to the last. Folded papers with the names of wards were randomly picked to, the one chosen was included in the study. These formulae applied for getting educational officials and policymakers.

For the case of qualitative side, purposive sampling was used because this non-probability form of sampling aims at getting respondents that are relevant to the research specifically for Educational officials, teachers and heads of schools based on their titles and status. Teachers selected where only the one responsible for Academic and infrastructure and maintenance. The researcher also made observations on different available infrastructure and encoded the information on the planned observation guide (See Appendix 4 p. 86).

3.4.2.1 Simple Random Sampling

The concept of sampling involves taking a portion of the population, making a study of smaller group and generalizing the findings to larger population. Feasibility is the

major reason for sampling (Sarantakos, 2000:139) as it is seldom possible to cover the total populationn and all the members of a population of interest cannot possibly be reached (Yates, 2004:25). Generalizing is a necessary scientific procedure since it is rarely possible to study all members of a defined population (Behr, 1988).

Simple random sampling is used because every element in the population is having a chance of inclusion in the sample equal to that of every element (Kothari, 1990). The researcher used simple random sampling to get students, teachers and Ward education officials. Moreover, random simple sampling was used to obtain students and teachers due to the fact that this group of respondents were many so to get the right information free from biasness.

3.4.2.2 Purposive Sampling

According to Mugenda and Mugenda(2003) purposive sampling technique enables a researcher to use cases that have the necessary information with respect to objectives of the study. The researcher used purposive sampling to obtain Education officials such Regional Education Officials (REO),District Secondary School Education Officer (DSEO) and educational officers responsible for educational infrastructure support and management in the targeted population. The reason for using purposive sampling to these respondents is that the office is one and they have authority over the schools under this study site.

3.4.2.3 Sample Size

Sample size is the number of items to be selected from the universe to constitute a sample. It should not be either too large or too small (Kimia, 2008). The sample size

of this study was one hundred respondents from the targeted population. Bukoba Municipality has thirty secondary schools, whereby twenty and ten are government and non-government owned secondary schools respectively. 6(30%) government owned and 4(40%) non-government owned secondary schools were visited. Seventy students were involved in this study whereby seven students and two teachers were involved from each school. Two Ward Education Officers (WEO) randomly selected, four policymakers and, two officials each from District Secondary Education Officials (DSEO) and Region Administrative Secretary in Education Department (RAS).

Likewise, Teachers and Students filled open-closed questionnaire while officials were involved in the study through semi structured interview to obtain their perceptions and opinions evoked through experience on the availability and condition status of infrastructure in the area of their authority. Infrastructures has vital impacts on studentsø academic performance and establish measures on the necessity of establishing monitoring and evaluation system to make school infrastructure quality, equitable and sustainable for students and teachers to gain the desired achievement in school as an organisation for centre of excellence. However, two respondents from Region Education Office (REO), namely Region Academic Officer (RAO) and Region Materials and Statistics Officer, two respondents from District Secondary Education Officer (DSEO) and District Secondary Academic Officer (DSAO), two Ward Education Officers (WEO) offices and four policymakers (Ward Councillors), these were able to provide information to the study.

Bukoba Municipality has thirty secondary schools, ten non-governments, and twenty government owned schools. This sample can be summarized in percentage as follow 10(33.3%) secondary schools of the all secondary schools were visited in Bukoba Municipality. The reasons for determining sample size of this study was that scientifically one third can be enough to explore the fact of the phenomenon by obtaining the reliable, credible and authoritative information which help in drawing conclusion of the information required in the research in place. The table below shows the summary classification of the respondents and the names of the secondary schools involved in this study.

Table 2.1: Classification of Study Respondents

No	School/Office	Students	Teachers	WEO	DSEO	REO	PM	T
1	Kaizirege (NGO)	7	2	-	-	-	-	9
2	Nshambya (Gvt)	7	2	-	-	-	-	9
3	Rwamishenye (Gvt	7	2	-	-	-	-	9
4	Hamugembe (Gvt)	7	2	-	-	-	-	9
5	Rugambwa (Gvt)	7	2	-	-	-	-	9
6	Kagemu (Gvt)	7	2	-	-	-	-	9
7	Kashai (Gvt)	7	2	-	-	-	-	9
8	Josiah (NGO)	7	2	-	-	-	-	9
9	Jaffery (NGO)	7	2	-	-	-	-	9
10	Harvest (NGO)	7	2	-	-	-	-	9
11	Officials			2	2	2	4	10
	Total	70	20	2	2	2	4	100

Source: Author own construct, 2019

3.5 Research Methods

According to Mugenda and Mugenda (2003), state that, data are information which the researcher collect or gather for his or her study. Under this study mixture of the two methodological design qualitatively and quantitatively was used three methods instruments namely; Questionnaire, Interview and Observation guide to collect data

from the selected respondents in the survey study. The mentioned herein with are the methods the researcher used in collecting data of this study.

3.5.1 Questionnaire

Kumar (2005:126) define a questionnaire as, a written list of questions, the answers to which are recorded by the respondents. According to Strydom (2005:166) the main objective of the questionnaire is to obtain many facts and opinions from the people who are informed about an issue. This is the data collection instrument to be filled out by the respondents rather than by the researcher. The researcher, assumes that his respondents are competent and knowledgeable enough source of data and would provide information, openly without any sort of suspicious or incompetence.

The researcher also believe that the respondents have ability to understand the questions asked and provide appropriate answers willingly to each provided item question(Rummel,1964).The researcher encompassed the questionnaire to collect data from the students and teachers as relevant educational stakeholders involved in this study. This group of respondents were able to read, understand and write the required information in the questionnaire.

The questionnaire used was open-ended questions format, the reason for using this type of questionnaire was to give the respondents free opportunity to express what they think is right in time of data collection and write their views to enable the researcher get the feedback with large enough information in deeper insight to the study questions being conducted (See Appendix 1 p. 73- 79).

3.5.2 Interview

Kothari (2004), define the interview as the method which involves presentation of oral-verbal stimuli and reply in terms of oral verbal response. It can be conducted through personal interview and if possible through telephone conversations. There are three types of interview, namely structured interview, semi-structured interview and unstructured interview method of data collection. This method allows further clarification if the respondents have misinterpreted the question. Hence, the researcher employed all of the three types of interview to collect data from the selected respondents by recording their responses against the item question asked in the structured interview guide prepared by the researcher (Cohen, Manion& Marrison, 2005).

Some of the respondents were reached through mobile phone calling interview to request for appointment and data collection while other respondents were interviewed live compared to their time convenience. The type of interview used under this study was semi-structured interview (See Appendices 3 p.80), in this format interviewees were asked the pre-planned questions thereafter were asked questions spontaneously raising from their responses for further details and information to improve the answers toward the research questions. The reason for the use of this type of interview was to capture more information in deeper and in holistic nature from the interviewees.

3.5.3 Observation

According to Young, P.V (2019) õobservation may be defined as systematic viewing coupled with consideration of seen phenomenon.ö Observation method of data

collection in research is a type of primary data collection techniques that researcher used to gather qualitative information. When observation is done by characterizing style of recording the observed information, standardized condition of observation, definition of units to be observed selection pertinent data of observation then it is structured observation. When is done without any thought then it is unstructured observation (Young, P.V .2019).

The researcher planned and used observation method due to its usefulness of giving a clear insight of viewing the condition and adequacy of the infrastructure physically during the course of data collection. It is not good enough to just observe only, in this regard the researcher needed to systematically record the observed entities. The following methods were interrelatedly used observation guide, recording sheet, checklist, Field note, taking photographs, in combination of the above depending on the nature of the area visited and item under observation. (See Figure 4.1, 4.2 and 4.3 on pp. 46, 47 and 48).

3.6   Validity and Reliability

In order to ascertain the validity and reliability of instruments professional view was sought from the supervisor, senior lecturers and peers on face during research tools proposal. The content and format of the questionnaire, interview and observation guide consultations with Supervisor helped to identify errors and offered the opportunity to modify and improve the instruments accordingly. The consultation made to various experts helped much more to ascertain the validity and reliability of

the research instruments, eventually brought the effectiveness during the data collection.

3.7 Data Analysis Procedures

According to McMillan and Schumacher (2006), data analysis is a process of bringing order, structure and meaning to mass of collected data. Likewise, data analysis consists of three activities namely data reduction, data display and conclusion drawing (Miles & Huberman, 1994).Therefore, õdata analysis is the process of making sense and meaning from the data that constitute the findings of the study in placeøø(Merriam, 1998, p 178).

The data obtained from the survey questionnaire were subjected to descriptive analysis. Descriptive analysis is a set of concepts and methods used in organizing, summarizing, tabulating, depicting and describing collections of data (Cohen and Manion, 1989). The aim of descriptive analysis is to provide a representation of data, which describes in tabular, graphical or numeral form the results of the research (Shavelson, 1981).

The data from the survey questionnaire were cleansed in order to look for possible errors, assess the quality and see if data answer the original questions, meet the research objectives and prepare the final data analysis. The descriptive analysis was used to interpret the statistical outputs. The results of analysis outputs was presented by using SPSS version 24 and Microsoft Excel in frequencies, as well as graphs, and tables for the respondentsø demographics, with regards to the recommendations for

the decision-making and sensitization. The data obtained from interview was analysed through narrative analysis method in which the researcher had to make the revision of the responses from the respondents and using that information in generating the findings summary.

3.8 Ethical Considerations

Ethics are generally considered to deal with beliefs about what is right or wrong, proper or improper, good or bad (McMillan & Schumacher, 2001, p. 196). It was the responsibility of the researcher to ensure that university and research ethical standards are well adhered to in the whole process of research activities. The hereinafter measures were sufficiently observed while planning and during conducting the research study to ensure that rights and welfare of each respondent would be protected and that nobody will be harm or hurt in any way during the research procedure. An explicit statement to justify the research ethics was accompanied in the questionnaire and interview guide in introduction note (See Appendices p. 69). Areas observed and considered during data collection, analysis and dissemination include confidentiality, permission, consent and anonymity as follow:-

Confidentiality: The key respondents who are informants in this study were verbally and in written be assured the confidentiality in the information they provide. Thus, information will remain confidential for the purpose of the study (Denzin, & Lincoln, p 139, Seale et al., 2004, p.233). This was to create the openness in involving the informants in the research study without fear of their personal views

and perceptions being publicly disclosed with their specific identifications.

Permission: The researcher sought for permission from the Directorate of Postgraduate Studies (DPGS) of Open University of Tanzania, Kagera Region Administrative Secretary (RAS), Bukoba Municipal Director, to visit school institutions under his authority and Heads of secondary schools under research study. The head of schools were consulted to get permit to researcher for meeting teachers and students in a given schools. Researcher also sought permission to make observation of the school infrastructure and school surroundings in general.

Consent: The prospective study respondents were fully informed about the procedures involved in the data collection and seek for their trustworthiness consent to involve in the study. The focus was to stress to the informants on the nature of data being required (Ary et al, 2002, p.438, Denzin & Lincoln, 2002, p. 138-139, Ritchie & Lewis, 2003, pp 66-67, Seale et al. 2004, pp. 231-232). Thus the respondentsø consent was sought to gain legitimacy to engage them in the information inquiring and filling questionnaires.

Anonymity: The participants remained anonymous throughout the study. There was no need to show the respondentsø names specifically and other related personal welfare (Denzin, &Lincoln, p.139, McMillan & Schumacher, 2001, pp.366-367, Ritchie & Lewis, 2003, pp.67-68). The respondents were assured of anonymity of their identification so that they can be free to give information under their office and capacity. The concept of anonymity was observed light from the Researcher questionnaire and interview introduction information. Therefore, the Open

University and research ethics were highly considered during the data collection, data analysis and information dissemination in this research.

3.9   Chapter Summary

This chapter has dealt with the research design and methodology of this study. The nature and methodology of the research was indicated. The qualitative data collection method was discussed and reasons were given for choosing this particular research approach. The strategies implemented to ascertain trustworthiness were pointed out. The data analysis process was outlined, and the ethical considerations was taken into account and properly outlined.

3.10   Organization of the Dissertation

This dissertation is presented into five chapters and each chapter comprises the necessary layout as recommended from the University Prospectus. Thus, observation of the chapter rules is crucially considered. Chapter one shows the background to the study, statement of the study problem, purpose of the study, objectives, research questions, significance of the study, justification of the study, and scope of the study. Chapter two is composed of the introduction, theoretical framework, conceptual framework and review of relevant empirical literature and research gap. Chapter three consists of research methodology which combines research design, sample selection, data collection methods, data analysis procedures, and ethical considerations in the study and summary of the chapter.

Chapter four consists of introduction, presentation of the results and summary, while Chapter five contains of summary of findings, conclusion, limitations of the study,

suggested areas for further studies and summary of chapter is also indicated.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1   Introduction

This chapter presents the findings of this study based on the research questions as they originate from chapter one throughout chapter two on literature review. These findings are based on seventy questionnaires from the students, twenty questionnaires from the teachers, ten interview responses from the officials and ten field observation notes as per taken from visited individual school.
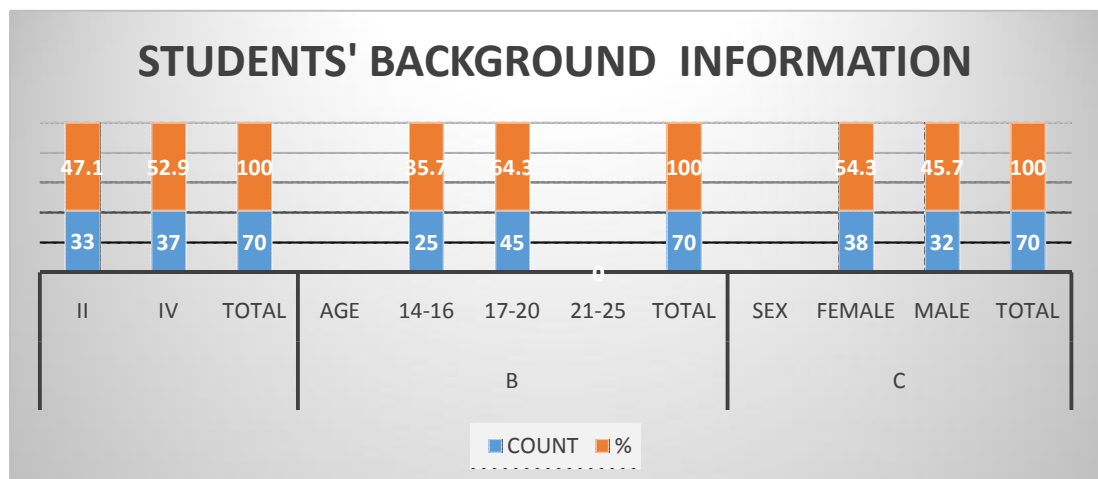
Figure 4.1: Students' Background Information
Source: Field Data, 2019

From the chart above 70 student- respondents were involved in the study. õAøø stand for Class which is Form II and IV, õBö stand for Age and õCö stand for Sex. Therefore, 33 (47.1%) Form II students and 37(52.9%) Form IV students were involved in the study. The student respondents had the age range 14-16 were 25(35.7%) and 17-20 were 45(54.3%) total 100%. Sex classification was as follows

38(54.3%) female and 32(45.7%) male.

4.1.2 Teachers' Background Information

Teachers were obtained through purposive random sampling and due to their willingness to assist the researcher and involve in this study. This information is presented graphically as shown in the figure below.
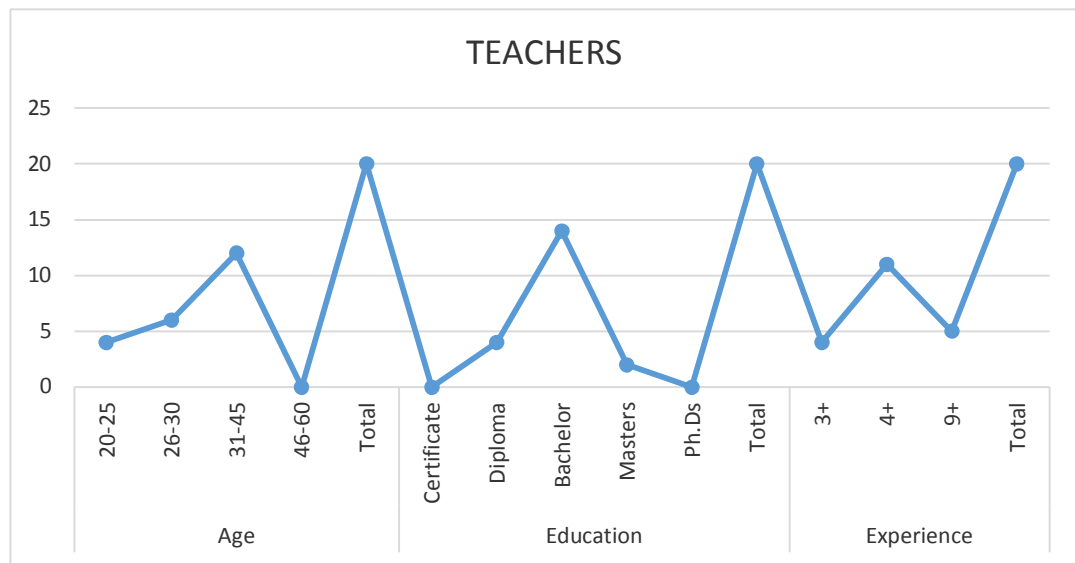
Figure 4.2: Teachers' Age, Education and Experience Background information

Source: Field Data, 2019

The graph above shows the teachersø age, experience and education level. The reason for including this information in the questionnaire was to discover the teacher- respondentsø legitimacy. The teachersø level of education and experience in the field of teaching, matters much to show whether they have legitimate knowledge to provide sound information on the purpose of the study. The teacher respondents were 20 in total, the level of education of the respondents was as follows: 4(20%) Diploma, 14(70%) Bachelor, and 2(10%) Masters. The working in educational institutional experience was in interval form as follows 0-3 they were 4(20%), 4-8

they were 11(55%) and 9 years above, were 5(25%). The level of education and age background for policymakers and officials was not taken into consideration instead the focus was on their perceptions, views and their role toward the educational infrastructure in the area of their authority.

4.2   Presentation of the Results

Data analysis was carried out by first finding the participants with õStrong Agree, Agree, Strong Disagree and Disagreeøø responses on each item question on the questionnaire. The total frequency counts of responses option for each item on the questionnaire indicated by all participants were calculated (See Figure 4.2, Table 4.1). Techniques used in calculating and presentation of data are in Microsoft Excel. Students were seventy, teachers were twenty and officials ten total on hundred respondents.

The results of the findings are dealt and presented in accordance with research questions as stated in chapter one. The presentations of the findings are based on one question after another. Thus, with regard to the demand of the research questions, the results are converted into percentage and presented as information of the research question as follows.

Research Question One: What is the availability and condition of the educational infrastructure in Bukoba Municipality Secondary Schools? The intention of this question was to find out which of the suggested potential basic infrastructure facilities in the questionnaire are available and their current conditions at the respective school in Bukoba Municipality. The respondents had opportunity to

put a tick against the correct response in the questionnaire, whether strong agree, agree, strong disagree or disagree. The responses of this question were counted and converted into percentage as indicated hereinafter in figure 4.3.
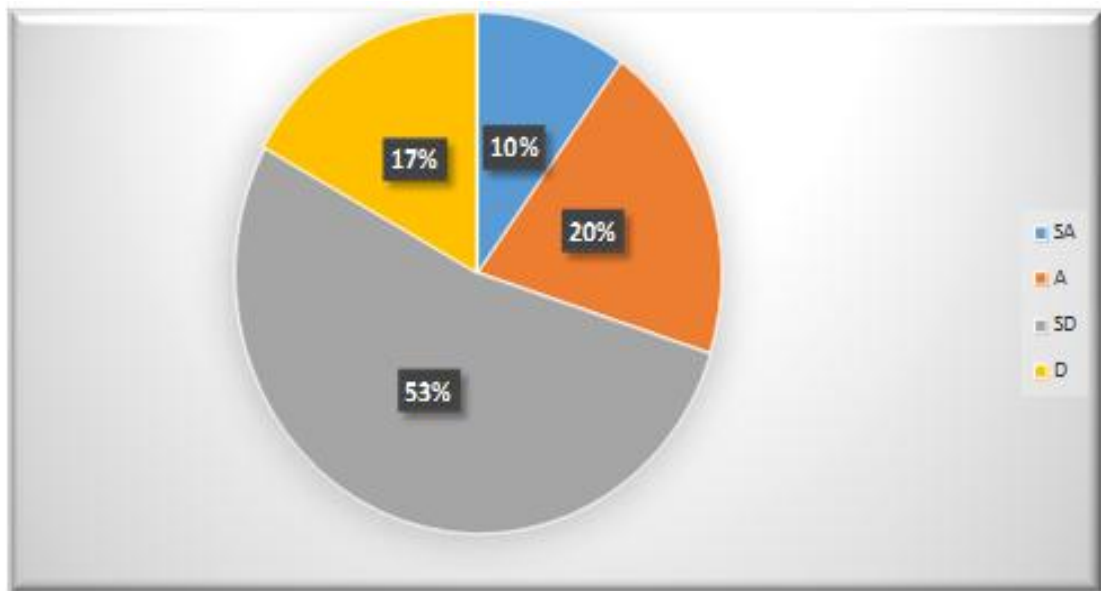
Figure 4.3: Teachers and Studentsø Responses
Source: Field Data, 2019

The responses were as follow 10(10%) strongly Agree, 18(18%) Agree 53 (53%) Strongly Disagree, and 17(17%) Disagree. From the findings above the study revealed that 53% out of hundred respondents strongly disagree and 20 percent disagree. These findings mean that the availability and presence of school infrastructure is not satisfactory to sustain the demands of the students at school. There are serious shortage of the important and crucial infrastructure in secondary schools such bathrooms and washing rooms especially in boarding secondary schools.

Day schools are mostly completely missing water supply facilities and washing rooms for students, especially girls to serve themselves when they are in menstrual

cycle. This lead to the lack of self-confidence and truancy among the girl students in day schools. As the result girls failure in examinations or truancy due to incomfortability to stay at school frequently because water facilities are not available. Therefore, from the observation it was observed that most of the school infrastructure were not friendly for special group students and teachers, especially those handicapped such cripples using tricycles and sticks could not move in school compounds friendly. Most of the infrastructure such classrooms have steps and rough in getting vividly causing difficulties for the handicapped to get into classroom.

Table 4.1: The Responses on the Availability and Condition of the Infrastructure

S/N	Questions asked on the availability and Condition of the infrastructure	SA	A	SD	D	%
1	Are the educational infrastructure at your school enough to accommodate your requirements?	12	20	45	23	100
2	Are your school educational infrastructure in good condition to support you achieve academic performance?	15	13	54	18	100
3	Do you involve in the process of monitoring and evaluation of infrastructure?	30	26	37	7	100
4	Do you have a well- defined financial budget planning for investing in educational infrastructure?	17	20	54	9	100
5	Are your school infrastructure affecting your learning progress to achieve your academic potentiality?	53	29	5	13	100

Source: Field Data, 2019

The findings in Table 4.1 on the item question one õare the infrastructure at your school enough to accommodate the requirements?ö The findings show that 12%

strongly agree, 20% agree, 45% strongly disagree and 23% disagree of one hundred respondents. Thus, almost 68% provided disagree responses, this implies that educational infrastructure is not enough in most of the secondary schools. The findings in item two õAre your school educational infrastructure in good condition to support you achieves academic performance?ö the responses were as follow 15% strongly agree, 13% agree, 54% strongly disagree and 18% disagree of the one hundred respondents.

Almost 28% of the respondents agree and are satisfied with the condition of the infrastructure while 72% of the study respondents disagree with the conditions and status of current situation of the education infrastructure in the schools. This can be concluded that the infrastructures are bad enough to enhance studentsø academic performance in most of the secondary schools. The findings in item three: õDo you involve in the process of monitoring and evaluation of infrastructure?ö
The findings show that 30% strongly agree, 26% agree, 37% strongly disagree and 7% disagree. The findings show that about 56% agree to be involving in monitoring and evaluation of infrastructure in secondary schools. 44% disagree to be involving in the whole process of monitoring and evaluation of infrastructure.

This implies that monitoring and evaluation at school is done though partially or no management of the results taken into consideration at all. In some schoolsø buildings and furniture are seen damaged, deserted and unrepaired. This evidently, implies that no regular preventive and maintenance of infrastructure. The findings in item four õDo you have a well- defined financial budget planning for investing in educational

infrastructure? öThe findings in this item is that respondents had the responses which show that 17% strongly agree, 20% agree, 54% strongly disagree and 9% disagree. 63% respondents disagree that their schools to have a well-defined budget of monitoring and evaluation of the educational infrastructure.

To conclude the findings is that most of the schools do not have sustainable and reliable management and planning budget for infrastructure priority, instead it depend on the uneven circumstances such as educational donors, local government authorities and central government unpredictable budget. The findings in item fifth õAre your school infrastructure affecting your learning progress to achieve your academic potentiality?ö The responses in this question are that 53% strongly agree, 29% agree, 5% strongly disagree and 13% disagree. Therefore, majority of the respondents which is 82% agree that infrastructure has great contributions to the studentø performance. Only 18% disagree this implies that, this percent do not believe in infrastructure has any contribution to studentsø academic performance in secondary schools education. Therefore, it is logically shown that infrastructure contribute much to studentsø academic achievement. With these findings infrastructure and academic performance are inseparable things and should be dealt desperately.

The findings have the implication that many people with clear understanding of quality education agree that education goals can only be obtained through quality infrastructure. With this high percentage of 82% there is no doubt that respondents have unquestionable belief that infrastructure enhance and facilitate studentsø academic performance in secondary schools, they have provided the response due to

their experience at their schools. From observation some teachers were seen sharing the students chairs whereby students again were seen getting in teachersø office (classroom adopted) to find their chairs and taking them back to their classrooms. The educational infrastructure acts as the motivational catalyst to teaching and learning. The absence of these facilities cause absenteeism and dodging among the students at schools
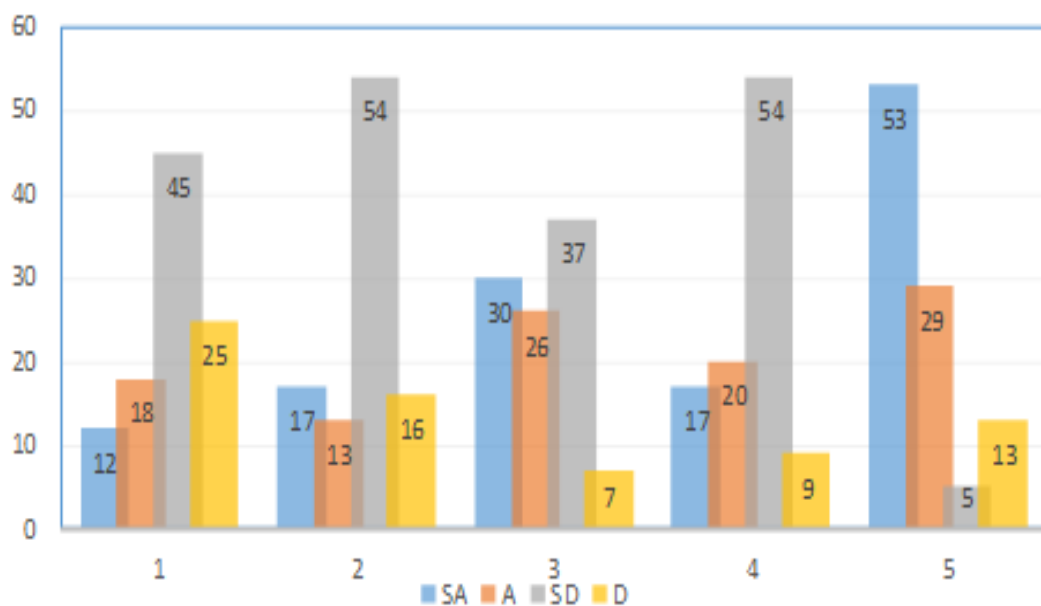
Figure 4.4: Summary of the Findings for Question Items 1-5
Source: Field Data, 2019

Research Question Two: **To what extent is educational infrastructure have contributions to students' academic performance**? The intention of this question was to examine the contributions and relationship of or between educational infrastructure facilities to studentsø academic performance in secondary schools in Bukoba municipality. The schools performance results for the four years (2015-2018) consecutively was analysed and presented (See Figures 4.4 and 4.5).

The analysis was based on the showing the division one to zero, the number of division was then converted into percentage as shown in the brackets hereinafter. To start with six government owned secondary schools a total of 704 candidatesø sit for the Form Four Final Examinations (CSEE).According to the findings the results were as follow:-
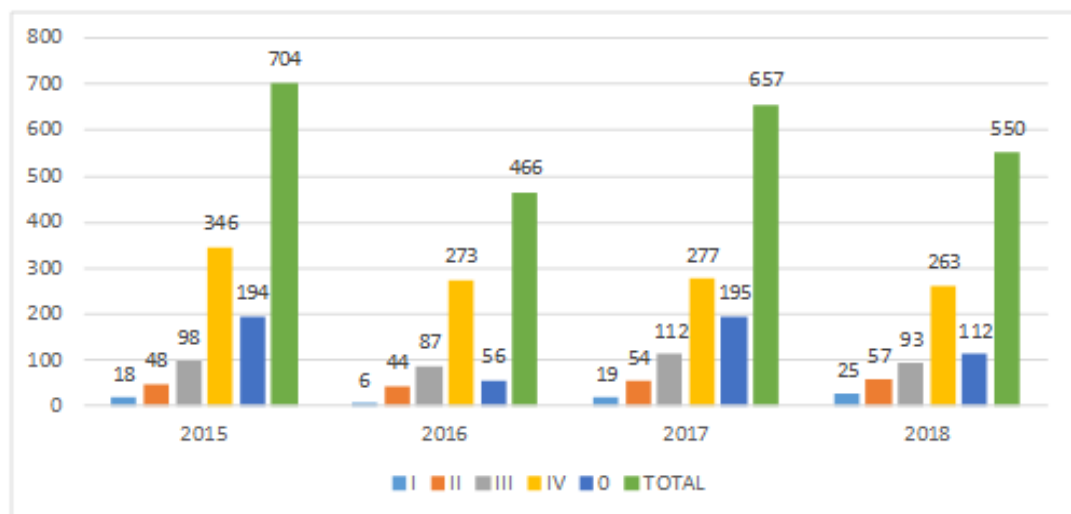
Figure 4.5 Government owned Secondary School Performance (2015-2018)

Source: Field Data, 2019

In 2015 the performance was division one 18(3%), division two 48(7%), division three 98(14%), division four 346(49%) and division zero 194(27%. In 2016 division one were 6(1%), division two were 44(9%), division three 87(19%), division four 273(59%) and zero were 56(12%). In 2017 division one were 19(3%), division two 54(8%), division three 112(17%) division four 277(42%) and zero 195(30%) and in 2018 performance was as follows division one 25(5%), division two 57(10%), division three 93(17%), division four 263(48%) and zero 112(20%).

The implication of the findings is that most of the government owned secondary

schools fail to achieve the education goals and objectives of imparting quality education to students. Division four 48% and Zero 20%, these percentages count 68% fail to continue with form five. Some of them end up in vocational training with poor base of capturing the knowledge being imparted in that college. These findings lead to the schools as intellectual industries to produce people who cannot engage skillfully and creatively in production for the development of the country. The failed students in academic issues at school for primary school standard seven years plus ordinary level education form four or form six are rarely actively engaging in production. The failed students in their examinations cannot avoid involving in drug abuse, environmental degradation, crimes, immoral behaviours and all sort of unlawful and unrightfully practices in the society they live as they struggle to earn income to sustain their live.
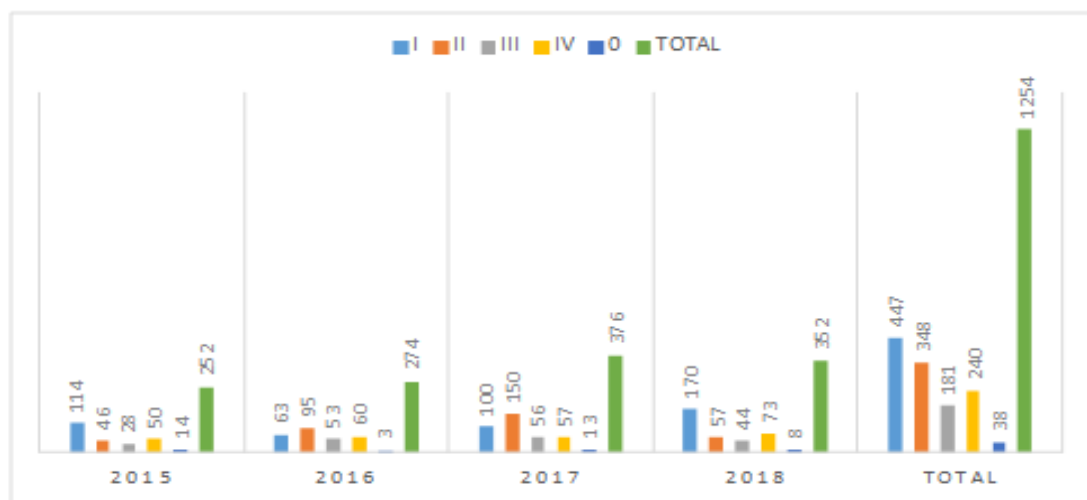
Figure 4.6: Non-Government Secondary Schools Performance (2015-2018)
Source: Field Data, 2019

The non-government owned secondary schools performance for the consecutive four years (2015-2018), in 2015 division one were 114(45%), division two 46(18%),

division three 28(11%), division four 50(6%) and zero 14(6%), in 2016 division one 63(23%), division two 95(35%), division three 53(10%), division four 60(22%) and zero 3(1%). In 2017 division one 100(26%), division two 150(40%), division three 56(15%), division four 57(15), zero 13(4). In 2018 division one 170(48%), division two 57(16%), division three 44(13%), division four 73(21%), and zero 8(2%).

Figure 4.7: Improvised Computer and Internet Room at Rugambwa S S

Source: Photo by Researcher, 2019

In non-government owned secondary schools the performance is higher the fact is that infrastructure has contributed much to the performance of the students because the infrastructure are at least available and in good condition compared to those of the government secondary schools. The number of the students is almost matching with the infrastructure available while the government owned schools have studentsø congested classrooms. The study displays that in government schools students are

many in one classroom instead of being at least in three classrooms. Teachers are unable to attend individual or group students for close follow up and assistance in the class during teaching. Thus, teaching and learning is not taking place perfectly, eventually poor performance in schools.

The findings showed that some of the schools have improvised computer and internet rooms of which students and teachers have access to learn some computer programmes and students explore materials for further knowledge. Thus, internet facilities make students able to solving homework and group assignments and go with the global changes, when provided by their subject teachers. The dimension and differences in learning sociologically bring inequalities and a sense of disregarded and devalued in knowledge acquisition. Students of the same level of education with different level of knowledge and exposure caused by nature of infrastructure facilities they undergo education.

Figure 4.8: Respondents Filling the Questionnaire at Josiah Girls' SS' Library
Source: Field Photo by Researcher, 2019

Focusing on the availability of the libraries, electricity supply and laboratories as one of the important component infrastructure forty percent of the visited schools have at least a mini library. Sixty percent of visited secondary schools had no library facilities at all. The findings imply that most of the students have nowhere to search for further learning and reference materials to supplement what they get from their teachers in the class. With this regard competence based teaching and learning cannot be properly achieved, the absence of participatory integrated teaching approach(PITA) lead to students lack curiosity and creativity in solving learning problems in classrooms and in social daily life.

The findings have revealed that there is great shortage of classrooms in secondary schools. Students are congested in the classrooms, no clear paths between the student and student's seat, hence, teachers fail to engage fully different teaching methods and strategies such group discussions and role play. Students cannot come in front of the class to deliver a particular concept before fellows as part of demonstrating creativity and experience through what one learn at school and the real life situation, pair sharing etc. as the results teachers cannot easily reach and provide students with learning assistance during teaching and learning process in the classrooms.

Non-government owned secondary schools had at least a room for library while in government owned most schools had none. With regard to laboratories most schools had inefficiency of apparatus and chemicals Teachers were observed conducting experiment locally using normal few available paraffin stoves. Many students crowded in round and struggling to get source of heat when performing experiments

in the special rooms (laboratories). The practice of keeping the chemical and apparatus were also too local, some teachers are endangering their health and life span because of lacking proper chemical utilities. Most of the practical subjectsø teachers were complaining of persisting headache, sneezing and eye problems caused by freely involving with practicals and chemicals unprotected such lack of masks.

Despite the shortage of infrastructure in schools, yet the available infrastructure had problem of quality. Thus, the study revealed that some of the classrooms have rough scratched floor and old looking with finished colour walls, absence of enough light during the day especially during cloudy periods of the rainy seasons. Darkness would be witnessed throughout. The findings imply that learning environments are not attractive, just why some of the respondents could complain that together with their parents or guardian are unsatisfied with the schools environment in terms of infrastructure.

Figure 4.9: Students filling the Questionnaire in one of the Classroom
Source: Field Photo by Researcher, 2019

Furthermore, the situation of the classrooms as indicated in the above Figure 4.7 implies that there is absence of monitoring in terms of regular preventive and maintenance or directly lack the proper fund planning availability to incur the maintenance expenses. This represents the real situation of Tanzanian schools. The consequences of students learning in dimlight is to suffer from eye short sighted or long sighted, hence failure to acquire the intended knowledge due to frequently suffering and going to hospital for eyes care and wearing spectacles unnecessarily.

Additionally, the study revealed that there is absence of water facilities such wells and other related sources to support the school in most of the schools especially day schools. The implication is that sanitation is not properly done, hence some of the diseases relating to faeces as toilets lack water system infrastructure facilities. This situation leads to students to lack self-esteem and confidence as they do not get water to quench the thirst and cleanliness during the time of study. As the results students remain dry skin and sometimes undergoing diseases relating to lack of water in the body. Communicable diseases may rise due to unsafe water put into use. Moreover, students miss studies and confidence, eventually individual student and school academic fall in internal and national summative examinations.

Research Question Three: What measures should be addressed to make improved and useful quality educational infrastructure in relation to students' academic performance in secondary schools? The intention of this question was to capture the respondentsø internalised mind perceptions and views on the strategies to

be imposed to make quality infrastructure for quality education in the country. This was an open-ended questions in the questionnaire and interview guide of which the respondents were free to provide one's good suit suggestions to surpass the demand of the question. The respondents had a belief that schools are the ground for developing students and community intellectually, this lead to the necessity for having sufficient and equitable infrastructure in schools which will offer inclusive and friendly environment for learning impacting into students' academic performance.

Moreover, the respondents suggestions were encoded accordingly that there are should be infrastructure that favour disabled students: classrooms with bigger glassed windows and doors ,fire extinguishers fixed right reachable, recruitment of teachers for special education, building teaching and Non-staff houses to enable them work friendly from the school premises by supervising the students extra curriculum activities building enough toilets, building teachers offices, playing grounds for students to refresh their mind and practice their sporting capacities, making sufficient furniture, computer and internet facilities established and installed. Furthermore, it was discovered that most of the schools have not built schools' fences to avoid interference during teaching and learning processes, this jeopardize students' safety.

Furthermore, the respondents had suggestions that there should be installation of modern water system facilities in toilets and bathrooms in schools. Playgrounds enhanced for sporting and demonstrating students' talent and creativity. Assembly

Halls for students to assemble for meeting and debates in which debates enhance inquisitive skills and logical argument and presentation of ideas. Recreational places for students watching the news programmes act as another catalyst source of knowledge to what has been learnt in the classrooms, laboratories and libraries.

Reliable electricity system should be fixed in schools to help supply light in classrooms. The availability of the above components rise the motivation for students to love schools and increase attentiveness to what is being instructed in classroom and school at large. The respondents also recommend financial planning for monitoring and evaluation in electric system.

Additionally, laboratories should be built in modern and friendly equipped to allow students explore the knowledge through doing experiments in the laboratories that enhance ability to discover and be innovative in nature. Science subjects strongly relay much on experiments done in laboratories. Thus, the respondents strongly had views that government to capture up with industrial economy development, investing in laboratory facilities is highly recommended. This creates scientists who are to engage in discovery and operating as engineers in industries and all fields pertaining architectural activities such designing, mapping, making machines etc.

Therefore, statistical data the heads of schools and school managements provide to higher authorities should be worked upon. Likewise, impact evaluation should be conducted and sufficiently implemented in the responsible schools institutions. Central government budget in educational infrastructure should be accommodative,

reflective and practicable in solving the current alarming situation of the scarcity of basic educational infrastructure in public schools. Shortage and total absent of dormitories in schools are critical issue in educational field because it lead students to walk a distant place to schools and home.

Other students in agreement with their parents tend to live in ghettos as the results they undergo family responsibility at teenager age. Other of been witnessed becoming pregnant and increasingly school dropout. The impact of mass failure creates an endless mind ignorance and absolute poverty from the family, national to global level. Educational infrastructure is tool for broadening the mind of the students in which the sense of creativity and innovative is built to suit in national development and manhood development.

4.3 Summary

The chapter has presented the data collected presentation, analysis and data interpretation of the study. The results revealed that there are great shortages of fundamental educational infrastructure facilities in most of the secondary schools government owned schools in particular. Also the study revealed that infrastructure facilities are not in good condition status to enable and encourage students to love school and motivate them to realize the potentiality of each other, this hamper studentsø expectations and national educational goals.

In summary the study also revealed that teachersø furniture and offices are mostly critical issue in government owned schools, teachers do not sit comfortably to

prepare the lessons, marking students assignments and examinations. Therefore, the study revealed that there are great relationship between educational infrastructure and studentsø academic performance. This study has focused through its approach vital aim of assessing the availability and condition of infrastructure in relation to studentsøacademic performance in Bukoba municipality. The next chapter five deals with summary of findings, conclusion of findings and suggested areas for the further study and recommendations.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0   Introduction

The previous chapter has dealt with the presentation, data analysis and interpretation. In this last chapter five the summary of findings, conclusion and recommendations are presented. Also limitations of the study and suggested areas for further study are outlined. The purpose of this study was to investigate the availability, condition status of the infrastructure, the contributions of education infrastructure to studentsø academic performance in both government and non-government owned secondary schools in Bukoba municipality and to search for possible recommendations to improve the existing infrastructure situation.

5.1 Summary of Findings

As indicated in chapter 1, 2, 3 and 4 the perceptions of the respondents related to personal experiences in their particular school environments was examined. This indicates that the research is explanatory, exploratory and descriptive in nature (Babbie & Mouton, 2001, pp.79-81, Marshall & Rossman, 199, p.33). This exploratory research aims to investigate the under-researched phenomena and the prime purpose is to develop understanding in an area that is little understood, especially intensive monitoring and evaluation of infrastructure in secondary schools.

This research can generates ideas for further research and leads to the identification of more issues relating to educational infrastructure management and improvement

in secondary schools. The study revealed the shortage or completely absent of some important educational facilities in schools that sustain the number of students such laboratories, libraries, internet facilities, toilets, water supplies, sanitation, classrooms, dormitories, playgrounds, electricity supply, furniture, teachersø offices, houses kitchens, dining halls. In some schools teachers were seen improvising the laboratoryø equipments and apparatus.

The study revealed many schools have no teachersø office instead they use one of the studentsø classrooms while classrooms are not enough for students, in some schools teachers are using studentsø furniture interchangeably. Some of the non- government schools teachers have well modern furniture (office desks and soft chairs) equipped staffroom. Lack of sporting spaces that could help students to discover their talents which add value to their life. The study reveals that there is great relationship between infrastructure facilities and studentsø academic performance in secondary schools.

The findings as discussed in the previous chapter display that infrastructure have significant contribution to individual sensation and consciousness of loving school and having clear attendance. It has been revealed many students are not happy with their school infrastructure and do not believe in them to achieve their self-actualization through the nature of the infrastructure their learning take place. Therefore, it is evidently that at least non-government owned secondary schools are lucky in terms of infrastructure and the academic performance is high comparing to government owned secondary schools. Focusing on the findings analysed for the

consecutive four years (2015-2018), non-government owned schoolsø performance graph is of high percentage in division one declining as directing to division zero. The situation is different to government owned secondary schools whereby division four and zero score occupy the high percentage declining as directing to division one.

Thus, it can be concluded that there is mass failure in government schools, this lead to students fail to accomplish their education ambitions and expectations due to unfriendly learning environment in terms of infrastructure. They learn in bad infrastructure and acquire bad education contrary to Tanzania Constitution of 1977 Act No. 15(i) of 1984 Section 6. Others end up being unproductive to the building of the national economy as the results they become dependants and severe burden to their family relatives, community or the government support through Tanzania Social Action Fund (TASAF) and other non-governmental organisations operating countrywide.

From the findings the implication is that most of the well financially parents are directing their children to non-government owned schools with the belief and evidence that their sons and daughters acquire quality education for their better future. Surprisingly, even the educational supervisors whom are government oriented planners and administrators are taking their children to non-government owned schools with claim that government owned schools are yet improved in terms of infrastructure to allow the parents and children achieve their educational dreams. If the school significantly is a backbone for development of any country Tanzania

inclusive, we need a consistent investment in monitoring and evaluation and financial allocation in education infrastructure for sustainable and improved education in the country.

5.2 Conclusion

The study has outlined the present status of the availability of educational infrastructure in secondary schools in Bukoba municipality. Form the findings the implication is that there still necessity for improving education infrastructure in terms of quantity and quality. Many infrastructures are not in good conditions as revealed by the respondents. Students and teachers involve in the process of monitoring and evaluation of infrastructure in schools. The schools management have no well-defined financial budget planning for regular preventive and maintenance, likewise, from the study it was observed that in some schools some furniture were seen scatted unmanaged in school premises.

Furthermore, the study reveals that infrastructure affects the teaching and learning progress, eventually impedes the academic performance in secondary schools. Also the study found out that there are high and significant relationship between infrastructure and studentsø academic performance in schools this was supported by the investigation made in the analysis of the form four final national examinations and the personal perceptions from the respondents.

Moreover, the findings analysis has discovered that students, parents and sponsors are not well satisfied and appetited with the status condition of the school

infrastructure. This creates the sense of worry whether one achieve the thirst of educations, it brings about inequality and lead to the inferiority complex among the students learning in insufficient knowledge due to lack of important facilities such laboratories for practical and experiments, library for further exploring knowledge and information.

The findings further highlighted that teachers and students in less equipped infrastructure schools lack confidence and self-esteem before those schooling in well-equipped infrastructure schools. Due to unattractive and unsafe school environment some studies are not taking place in some schools while the other schools learning are conducted fully. This create more education classes in the context that one academic graduate in the same level of education but acquired different knowledge due to the problem of not covering subjects syllabi and topics designed for that particular level of education. As the result education miseries in the society, if the infrastructure situation is left unchecked or superficially dealt.

5.3 Recommendations

The study findings and results established some of the important recommendations to the fundamental stakeholders and key actors (government, policymakers, education officials, teachers, community and students) in order to rectify the existing situation in secondary schoolsø infrastructure. Every key player has been recommended an crucial area to pay much attention and efforts to involve with. The following herein after are the explicit elaborative identified entity involved for which recommendations are provided as from the findings of this study.

5.3.1 Recommendations for Government

The government agents Ministry of Education Science and Technology (MoEST), The Presidentø Office- Regional Administration and Local Government (PO-RALG), Ministry of Information, Culture, Arts and Sports (MoICAS) are urgently needed to collaboratively invest and improve its secondary schools infrastructure facilities in the country. The educational infrastructure facilities such as school classrooms, fence, and playgrounds. Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) is recommended to have regular check-up of the educational infrastructure to see to what extent they suit to health standards. Such quality dormitories, water, sanitation and toilets. Studentsø toilet holes ratio twenty girl students one hole and twenty five boy studentsø one toilet hole are importantly needed to be observed to rescue studentsø health in schools. A school should be the base factor for civilization in healthy citizens and society mobilizer.

Most of the schools had no water sources especially wells for safe and clean water, this is undoubtedly that lack of water would lead to insufficient cleanliness especially areas demanding water such as toilets, classrooms and personal hygiene. The results is that students suffer from thirst and lack of confidence due to being dirty

The government is also required to allocate its schools in convenient areas where they are free from distractions and enough space to allow expansion construction of important buildings continue. Likewise, sufficient space enable students to engage in learning and in informal extra-curricular activities take place conveniently.

Furthermore, the government is urged to effectively implement its important legal and secular duty of responsibility of providing quality education through quality infrastructure facilities. School fence mostly needed to be constructed to ensure protection and security of the schools properties and studentsø life at school, hence realization of safety need.

Moreover, infrastructure such as teachersø houses, studentsø classrooms, recreational halls, conference halls, computer and internet facilities etc. The government owned schools the government should engage private sectors to help rescue the situation. Subsequently, the government should invest in the component of monitoring and evaluation unit and effectively work upon the results obtained from proper managed outputs of evaluation, this will enable the government to oversee the situation and set budget priorities in educational infrastructure.

5.3.2 Recommendations for Policymakers

Policymakers have duty to make sure they enact laws and principles that suit to improve education infrastructure quality. Also policymakers should advise, supervise and make a serious follow up to ensure government allocates appropriate fund for the improvement of the school infrastructure facilities. The policymakers should make sure government is in touch and accountable to laws and quality education provisions that enable students acquire relevant knowledge, skills and attitude which match with global challenges and the development of the country. Emphasize and encouragement in studentsø enrolment should be accompanied with the improvement of school infrastructure quality and carrying capacity. Education

infrastructure in the country need sensitively be of quality and sufficiently designed to enable students to enjoy productive learning which allows dreams achieved.

5.3.3 Recommendations for Officials and Quality Education Assurers

Educational officials and quality education assurers are considered elite and body of authority to inspecting, controlling, supervising, planning, advising, coordinating, and management of educational systems and monitoring and evaluation system. Now it is recommended that education for monitoring and evaluation system be taken in consideration to help teaching and learning infrastructure perfectly improved to enable students achieve their education potentiality.

5.3.4 Recommendations for Community

According to the Education policy of December 2015 the government proclaimed abolition of school fees and contributions, this meant a total fee free education from pre-primary schools to secondary schools, which means to form four. In that policy the role of expansion of and improvement of the school infrastructure was vested to the community. The community has responsibility to preview the school demands by making debates and make decision for the building of the educational infrastructure such as classrooms, laboratories, libraries, furniture, toilets holes, especially for those schools purely under community oriented authority.

Thus, community should be ready to organise their collective efforts in improvement of buildings comparing to the increasingly current number of students in schools. Planning and management of monitoring and evaluation system of education

infrastructure facilities in their schools for better products for the development of their society. The suitable infrastructure enable students to acquire knowledge which is currently relating to the modern science and technology. The situation in Bukoba can be generalized to be the same in the other areas in the country. Good infrastructure will help the schools to produce students with sound mind and strong gear in involving in the national development economy.

5.3.5 Recommendations for Teachers

From the findings the study has recommendation that teachers are key actors in educational field, thus, need to demonstrate their professional authority and legitimacy to advise the government to invest in quality infrastructure such staff houses, electricity supply, water supply for quality education. Teachers are supposed to tirelessly being aggressive and energetic enough to logically pressurize the schools owners to make availability of fund planning and management of monitoring and evaluation system eventually improve learning and teaching environment and studentsø academic performance in schools. It is also recommended that teachers should undergo capacity building trainings on the need for the supervision and designing of educational infrastructure as one of the stimulus to studentsø academic performance at schools.

5.3.6 Recommendations for Students

The study findings and results recommend that students have virtual responsibility to culminate the culture of care and maintenance of the available educational infrastructure at their respective schools. Through the effective learning and

acquiring knowledge of life skills, students can keep their infrastructure clean and appetite giving environment. Students should be nurtured and groomed to become good civilized, modern and responsible rightful citizens in the society. Additionally, students should be able to care for the collective owned permanent public properties such educational infrastructure facilities for them and the future generations in a particular school.

5.4   Limitations of the Research

The major challenge incurred in this study was to manage some of the respondents be involved in this study to offer time freely in the whole course of data collection. Some officials and teachers had meagre time to direct fully involve in the process of interview and filling questionnaire. This challenge was due to the nature of their duties at working stations, so the researcher had to use more persuasive techniques to beg them portion little time to involve in this study.

Finally, there are problem of poor English language command in most of the government owned secondary schools, though this challenge was solved by giving more clarification to item questions in the questionnaire, importantly to address it. Measures are to be taken to preview a better teaching pedagogical approach and curriculum to see the means by which English language is put into use in secondary schools. Principally students need to have mastery of English language due to the fact that many subjects are taught in English at secondary school level except Kiswahili subject. Subsequently, English language is used to fulfil daily communicative function such as in high court of law, judgements political forums, international conferences and summits, diplomatic matters, and parliamentary

documentary as well as mass media.

5.5 Suggested Areas for Further Studies

The study dealt with the assessment of the effect of educational infrastructure to studentsø academic performance in Bukoba Municipality. There is a need for research to be carried on the following areas.

i. The assessment of the effectiveness of the functional role of quality education assurers department in the improvement of education infrastructure.

ii. The effectiveness of the utilization of educational infrastructure monitoring and evaluation information in curbing the shortage of infrastructure facilities in secondary schools.

iii. Complaints of the teachers and students on education infrastructure and the myth of education quality in the country for economic development.

iv. The Community involvement in the rehabilitation and improvement of the educational infrastructure in secondary schools.

5.6 Summary

This chapter has presented and dealt with summary of findings, conclusion and recommendations to policymakers, community, students, government, teachers, limitations to the study and lastly concludes with suggested areas for further researches. There should be a strong institution with firm monitoring and evaluation system in educational infrastructure. The impact evaluation of the school infrastructure will enable the government and other key actors in education to invest in designing for sufficient educational infrastructure in the country.

Poor educational infrastructure is the obstacle to studentsøacademic success and the degree of quality education, students acquire in schools. This remarks the end of this dissertation manuscript. The next pages herein with present references, questionnaires, interview guide, observation guide and other supporting documents used in the whole process of data collection towards accomplishment of this study.

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APPENDICES

APPENDIX 1: STUDENTS' QUESTIONNAIRE

Dear Student,

My name is **MATUNGWA M. JOSEPHAT** a candidate pursuing Degree of Master of Arts in Monitoring and Evaluation (MA.M&E) at the Open University of Tanzania. I am carrying out a research on **"Assessment of the Effect of Educational Infrastructure to Students' Academic Performance in Secondary Schools in Tanzania: A Case of Bukoba Municipality, Kagera Region.''** Please, kindly you are requested to answer all the questions in this questionnaire as truthfully as you can. To assure you, all information given in this questionnaire will strictly remain confidential for academic use only.

INSTRUCTIONS

    i.   Do not write your name on this questionnaire

    ii.   Answer all questions

    iii. Tick in the box against your response

    iv. Fill in the space provided

SECTION A: PERSONAL PARTICULARS

1. Name of Schoolí í í í í í í í í í í .í Wardí í í í í í .
   Districtí í í í í í í í í í í í í í .Regioní í í í í í í í

2. Sex: A. Male B. Female   (   )

3. Age   A. 14 -16 B. 17- 20 C. 21- 25 (   )

4. What is your class?

A. Form one B. form Two C. Three D. Form Four E. Form Five F. Form Six (   )

SECTION B: GENERAL INFORMATION

1. Do you understand what educational infrastructure is?

    A. Strongly agree   B. Agree   C. Strongly Disagree D. Disagree   (   )

2. Are the following educational infrastructure available at your school? If Yes Put a tick, If No, put a cross against the item

    i. Classrooms (   )   ii. Libraries (   )   iii. Laboratories (   ) iv. Dormitories

    (   ) v. Kitchen (   ) vi. Toilets (   ) vii. Recreationsø Halls (   ) viii. Assembly

    Halls ( ) ix. Playgrounds ( )   x. Bathrooms (   )   xi. Electricity supply (   ) xii.

    Water supply (   ) xiii. Furniture (   ) xiv. Staffrooms (   ) xv. Sewerage (   )

    xvi. School fence (   ) xvii. Internet facilities (   )

3. Are the educational infrastructure at your school enough to accommodate the requirements?

    A. Strongly Agree B. Agree C. Strongly Disagree C. Disagree   (   )

4. Are your school educational infrastructure in good conditions to support you in achieving your academic performance?

    A.   Strongly Agree B. Agree   C. Strongly disagree D. Strongly disagree (   )

5. Are you satisfied with the condition of your school infrastructure in realizing teaching and learning which makes student to meet his/her self-actualization through academic performance?

    A. Strongly agree B. Agree C. Strongly disagree D. Disagree   (   )

6. Do you involve in the process of monitoring and evaluation of your infrastructure?

    A. Strongly agree B. Agree C. Strongly disagree D. Disagree   (   )

7. Do you have a well-defined financial budget planning to invest in educational infrastructures at your school?

A. Strongly agree B. Agree C. Strongly disagree D. Disagree   (   )

8.   Are your school infrastructure affecting your learning progress to achieve your academic potentiality?

A. Strongly agree B. Agree C. Strongly disagree D. Disagree   (   )

9.   How did your school perform in the last four academic years ago in Form Four/Six final examination (CSEE/ACSEE) in terms of divisions?

DIV/Year	I	II	III	IV	O	TOTAL
2015						
2016						
2017						
2018						
TOTAL						

10. Do you think the school infrastructure have any relationship with the results recorded above? Give five reasons.

i.   í

ii.   í

iii. í

iv.   í

v.   í

11.   You and your parents or sponsors are you satisfied with your school educational infrastructure in realizing your academic performance? Whether Yes or No, give reasons why?

i.   í

ii.   í

iii. í

iv.   í

v.   í

12. Which strategies do you recommend to be imposed at your school in order to make school educational infrastructure friendly in enhancing you achieve academic performance?

i.   í

ii. í

iii. í

iv. í

v.   í

THANK YOU VERY MUCH

APPENDIX 2: TEACHERS' QUESTIONNAIRE

Dear Teacher,

My name is **MATUNGWA M. JOSEPHAT** a candidate pursuing Degree of Master of Arts in Monitoring and Evaluation (MA.M&E) at the Open University of Tanzania. I am carrying out a research on õ**Assessment of the Effect of Educational Infrastructure to Students' Academic Performance in Secondary Schools in Tanzania: A Case of Bukoba Municipality, Kagera Region**.øø Please, kindly you are requested to answer all the questions in this questionnaire as truthfully as you can. To assure you, all information given will strictly remain confidential for academic use only.

INSTRUCTIONS:

- ❖ Do **not** write your name on this questionnaire
- ❖ Answer all questions
- ❖ Tick in the box against your response
- ❖ Fill in the space provided

SECTION A: PERSONAL PARTICULARS

1.   Name of school: --

2.   Sex. A. Male   (   )   B. Female (   )

3.   Age. A. 20-25years(   ) B. 26-30 years( ) C.31-45 years( ) D. 46-60 years()

4.   What is your level of education?

A.   Certificate ( ) B. Diploma (   ) C. Bachelor ( ) D. Masters (   ) E. Ph.D. (   )

5.   How long have you worked in secondary school institutions?

A.1-3 years (   ) B.4-8 years (   ) C.9 and above years   (   )

6.	Is your school owned by government or Non- government institution?

    A.	Government ( ) B. Non-government ( )

7.	 Is your school Boarding or Day school? A. Boarding ( ) B. Day ( )

SECTION B: INFORMATION

1.	Do you know what educational infrastructure mean? A. Yes ( ) B. No ( )

2.	Do you perform monitoring an evaluation of your school infrastructure?

    A. Strongly agree B. Agree C. Strongly disagree D. Disagree   (   )

3.	Are your school infrastructure in good condition in terms of security, modernity, adequacy and quality?

    A. Strongly agree B. Agree C. Strongly disagree D. Disagree   (   )

4.	Is your school infrastructure good enough to sustain the number of students and give welcoming state for teaching and learning?

    A. Strongly agree B. Agree C. Strongly disagree D. Disagree   (   )

5.	 Are you satisfied with the condition of your school infrastructure in realizing teaching and learning which makes student to meet his/her self-actualization through academic performance?

    A. Strongly agree B. Agree C. Strongly disagree D. Disagree   (   )

6.	How did your school perform in the last four academic years ago in Form Four/Six final examination (CSEE/ACSEE) in terms of divisions?

Year/Div.	I	II	III	IV	O	TOTAL
2015						
2016						
2017						
2018						
TOTAL						

7. Do you think the school infrastructure have any relationship with the results recorded above? Give five reasons

    i.   í

    ii. í

    iii. í

    iv. í

    v.   í

8. What is your view on the contributions of educational infrastructure to studentsø academic performance at your school?

    i.   í

    ii. í

    iii. í

    iv. í

    v.   í

9. What suggestions would you make so those educational infrastructures are improved to enhance studentsøacademic performance at your school?

    i.   í

    ii. í

    iii. í

    iv. í

    v.   í

THANK YOU FOR YOUR TIME

APPENDIX 3: INTERVIEW GUIDE FOR OFFICIALS

Dear Respondent,

My name is **MATUNGWA M. JOSEPHAT** a candidate pursuing Degree of Master of Arts in Monitoring and Evaluation (MA.M&E) at the Open University of Tanzania. I am carrying out a research on õ**Assessment of the Effect of Educational Infrastructure to Students' Academic Performance in Secondary Schools in Tanzania: A Case of Bukoba Municipality, Kagera Region.''** Please, kindly you are requested to respond to the questions as frankly as you can. Your cooperation and contributions towards this study will be appreciated. Information provided in this talk will be kept confidential for academic purpose only.

Institution/ Ward/Office/Department …………………………………………

SECTION A: PERSONAL PARTICULARS

1. Sex.   Male or Female

2. How old are you?   A. 20-25 B. 25-30   C. 30-40 D. 40-50 E. 50-60 (   )

3. What is your level of education?

 A. Certificate B. Diploma C. Bachelor D. Masters E. Ph.D. (   )

4. What is your current position?

SECTION B: INFORMATION

1. Can you tell what educational infrastructure are?

2. Do you support or budget fund for performing monitoring and evaluation of your educational infrastructure in your Region/District/Ward?

3. Do you schedule fund to invest in school infrastructure at your school in your

Ward/ District/Region? How

4. Do your infrastructures optimally sustain the number of students in schools in your area of authority? Why

5. What is the condition of your school infrastructure in your Region/District/Ward in order to enhance studentsøacademic performance?

6. How has it been effective to make infrastructure improved for students to realize education performance?

7. How often do you perform monitoring and evaluation of your school infrastructure? Quarterly, Termly or Annually?

8. Which schools are doing better in terms of infrastructure and academic performance in your area Government or Non-government owned schools?

9. How did your school perform in the last four academic years ago in Form Four and Six final examinations (CSEE/ACSEE) in terms of divisions?

10. Do you think educational infrastructure contribute anything to such performance? If Yes or No, give five reasons to support your position.

11. What suggestions would you make so those educational infrastructures are improved to make studentsø academic actualization achieved? Give five suggestions.

THANKS FOR INVOLVING IN THIS STUDY

APPENDIX 4: RESEARCH OBSERVATION GUIDE

No	Type of item	Availability		Condition			Remarks
		Present%	Absent %	Very Good	Good	Bad	
1	Classrooms						
2	Laboratories						
3	Libraries						
4	Dormitories						
5	Playgrounds						
6	Recreational Halls						
7	Assembly Hall						
8	Dining Hall						
9	Kitchen						
10	Toilets						
11	Bathrooms						
12	Furniture						
13	Electricity system						
14	Water system						
15	Sewerage system						
16	Staffrooms/offices						
17	Teachers' houses						
18	Internet facilities						
19	Open spaces						
20	School fence						

General observation comments……………………………………

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APPENDIX 5: ESTIMATED BUDGET FOR THE RESEARCH

	ACTIVITIES	ESTIMATED COST	GRAND TOTAL
1	Proposal Writing-Stationeries, internet service, Other Costs	150,000/=	150,000/=
2	Data Collection-Stationeries, Transport Fare, Communication, Accommodations Cost etc.	350,000/=	350,000/=
3	Data Analysis	100,000/=	100,000/=
4	Report Writing- i. Initial Report ii. Final Report/Dissertation	4copies@40,000/= 5copies@50,000/=	160,000/= 250,000/=
5	Transport Fare and Other Costs	500,000/=	500,000/=
	TOTAL	**1,510,000/=**	**1,510,000/=**

APPENDIX 6: REQUEST TO CONDUCT RESEARCH IN SCHOOL

MATUNGWA M. JOSEPHAT
E-mail: matungwamwemezi@yahoo.com
Mob: +255762954433
P.O.Box 567, BUKOBA.
June 10, 2019

THE HEAD OF SCHOOL,
………………………..SECONDARY SCHOOL,

BUKOBA KAGERA.

Dear Sir/Madam,

RE: PERMISSION TO CONDUCT RESEARCH

I hereby wish to formally apply for permission to conduct research at your school. My name is Matungwa, M.Josephat a student at The Open University of Tanzania studying Degree of Master of Arts in Monitoring and Evaluation (**MA.M&E**). I am now conducting a research titled "**Assessment of the Educational Infrastructure on Student's Academic Excellence in Secondary Schools in Bukoba Municipality**"
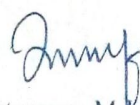
I have already obtained a go ahead permit from my Supervisor at The Open University of Tanzania, as well as Region Administrative Secretary and DSEO-Bukoba (**Letters attached**).

I would like to hand questionnaires to 2 teachers and 7 students as well as interviewing you at your school. The filling of questionnaire is expected to take 20 minutes.

I am aware of time constraints but would appreciate your co-operation. The duration for data collection is from June 10 - 24, 2019.

Thanks for your time.

Yours   Sincerely

Matungwa, M.J

APPENDIX 7: RESEARCH CLEARANCE LETTER

THE OPEN UNIVERSITY OF TANZANIA

DIRECTORATE OF POSTGRADUATE STUDIES

P.O. Box 23409
Dar es Salaam, Tanzania
http://www.openuniversity.ac.tz

Tel: 255-22-2668992/2668445
ext.2101
Fax: 255-22-2668759
E-mail: dpgs@out.ac.tz

Our Ref: PG201700306

Date:07TH June 2019.

Regional Administrative Secretary
P O. Box 142,
Kagera.

RE: RESEARCH CLEARANCE

The Open University of Tanzania was established by an act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No. 55 in the official Gazette. The act was however replaced by the Open University of Tanzania charter of 2005, which became operational on 1st January 2007. In line with the later, the Open University mission is to generate and apply knowledge through research.

To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you **Mr. MATUNGWA, Josephat M** Reg No: **PG201700306** pursuing Master of Arts in Monitoring and Evaluation (**MA (Monitoring & Evaluation))**. We here by grant this clearance to conduct a research titled *"Assessment of the Educational Infrastructure on Student's Academic Excellence"* He will collect his data at Bukoba District in Kagera region from 10th June 2019 to 24th June 2019.

In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O. Box 23409, Dar es Salaam. Tel: 022-2-2668820.We lastly thanks you in advance for your assumed cooperation and facilitation of this research academic activity.
Yours sincerely,

Prof. Hossea Rwegoshora
For: VICE CHANCELLOR
THE OPEN UNIVERSITY OF TANZANIA

APPENDIX 8: REGION ADMINISTRATIVE SECRETARY (RAS) REPLY

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

MKOA WA KAGERA
Telegraphic Address: REGCOM"
Telephone No: 2220215
Telefax No 2222341/2221356
E-Mail raskagera@pmoralg.go.tz
Tafadhali unapojibu Taja:

Ofisi ya Mkuu wa Mkoa,

S.L.P. **299,**
BUKOBA

Kumb. Na. DA.194/228/01/36

10 Juni, 2019

Mkurugenzi,
Manispaa ya Bukoba,
S.L.P. 284,
BUKOBA.

YAH: **UTAMBULISHO WA NDG. JOSEPHAT MATUNGWA**

Tafadhali husika na mada tajwa hapo juu.

2.   Ndg. Josephat Matungwa ni Mwanafunzi Chuo Kikuu Huria Tanzania ambaye anatarajia kufanya utafiti katika Mwezi Juni 2019 juu ya tathmini na ufuatiliaji kama sehemu ya masomo yake.

Unaombwa kumpatia ushirikiano.

Fidelis Apolinary
Kny: KATIBU TAWALA MKOA
KAGERA.

Nakala: Ndg. Josephat Matungwa
✓   S.L.P. 567,
BUKOBA.

APPENDIX 9: BUKOBA MUNICIPAL DIRECTOR'S PERMIT

BUKOBA MUNICIPAL COUNCIL
(All Correspondence should be directed to Municipal Director)

Tel : 028-2220226, 028-22202231
Fax: 028-2220226
Email: md@bukobamc.go.tz
Website: www.bukobamc.go.tz

P.O.BOX 284,
BUKOBA,
TANZANIA.

Ref. No. BMC/E.10/19/VOL.XIX/292

17th June,2019

TO WHOM IT MAY CONCERN

RE: RESEARCH PERMIT FOR MR. JOSEPHAT M. MATUNGWA

The heading above refers.

The above mentioned is a student from **The Open University of Tanzania** pursuing   Master of Arts in Monitoring and Evaluation. He has been granted the permit for conducting his research in Bukoba Municipality on the topic titled **"ASSESSMENT OF THE EDUCATIONAL INFRASTRUCTURE ON STUDENTS' ACADEMIC EXCELLENCE".**

This permit is valid until **28th July,2019.**

Please accord him any necessary assistance he may need from you.

Yours faithfully.

Lydia K. Leonard
For: MUNICIPAL DIRECTOR
BUKOBA

CC: Municipal Secondary Education Officer,
    Bukoba MC.

"   Heads of Schools,
    Bukoba MC.