PERCEIVED CONTRIBUTION OF LIBRARY SERVICES IN ENHANCING SCIENCE SUBJECTS PERFOMANCE IN PUBLIC SECONDARY SCHOOOLS IN BUNDA TOWN COUNCIL

KANWERA JAPHET

A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION IN ADMINISTRATION, PLANNING AND POLICY STUDIES

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CERTIFICATION

The undersigned certifies that they have read and hereby recommends for acceptance by the open university of Tanzania a dissertation entitled: "***Contribution of Library Services in Enhancing Science Subjects Performance in Public Secondary Schools in Bunda Town Council"*** in partial; fulfillment of the requirements for the degree of Master of Education in Administration, Planning and Policy studies (MED-APPS) of the Open University of Tanzania.

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Dr. Edgar Nderego

(Supervisor)

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Date

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Dr. Rweyendera Ngonge

(Supervisor)

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Date

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DECLARATION

I, **Kanwera Japhet**, declare that this dissertation is my original work and has not been submitted and will not be presented to any other college, institution or University other than the Open University of Tanzania for a similar or any other degree award. It is hereby presented in partial fulfilment of the requirements for the Degree of Master of Education in Administration, Planning and Policy Studies.

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Signature

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Date

DEDICATION

This dissertation is dedicated to my lovely father, Mr. Japhet Kanwera, my mother and my family.

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Firstly, i have a great pleasure to express my sincere gratitude to the Almighty God for giving me the opportunity, strength and courage which helped me to come to this stage. A number of people deserve thanks for involving themselves, in one way or another to make this dissertation reach the final stage. Second, I acknowledge and give my gracious and thank to my supervisors, and Dr Edgar Nderego and Dr Rweyendera Ngonge for their positive intellectual guidelines, criticism and valuable encouragement in every stage of writing this dissertation work.

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ABSTRACT

This study investigated the perceived contribution of library services in enhancing science subjects' performance in Bunda town council. The self-regulated learning theory (SRLT) as proposed by Barry Zimmerman guided this study. The concurrent triangulation design under mixed method approach was used in this study. The sample of 190 respondents (students, head of schools, Town Secondary Education Officers, Ward Education Officers and science subjects' teachers) were used to provide their answers to the specific questions related to this study. The researcher administered 171 questionnaires where 94 were distributed to the students and 77 were distributed to science subject teachers in five public secondary schools. 19 participants were interviewed by the researcher. The findings revealed that most public secondary schools are not adequately equipped with supplementary books, and computers that would help students in studying science subjects. The findings indicate that most public secondary students utilize library services to conduct private studies, doing discussion, doing assignments and homework and borrowing books for studying science subjects at schools. Again, the findings revealed that if students develop reading habits, access to varied learning materials, lead to inquiry-based learning and supplement classroom learning, the correlation of the frequency usage and academic performance would be high in public secondary schools. The study recommended that secondary schools should prioritize the expansion and modernization of their library facilities. Also the study recommended that schools should implement a comprehensive monitoring and evaluation system to assess the impact of the library services on students' academic performance in science subjects.

Key words: *Students performance, science subjects and library services*

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LIST OF ABBREVIATION

BEST	Basic Education Statistics Tanzania
CSEE	Certificate Secondary Education Examination
EP4R	Education Programme for Results
IFLA	International Federation of Library Association
MoEST	Ministry of Education, Science and Technology
NECTA	National Examination Council of Tanzania
PO-RALG	President's Office Regional Administration and Local Government
SEQUIP	Secondary Education Quality Improvement Programme
SRLT	Self Regulated Learning Theory
TG	Tanzania Government
TSEO	Town Secondary Education Officer
WEO	Ward Education Officer
UNESCO	United Nations Educations, Scientific and Cultural Organization

CHAPTER ONE

INTRODUCTION

1.1 Chapter Overview

This study examined the perceived contribution of library services in enhancing science subjects' performance in public secondary schools. This chapter discussed the background to the study, the statement of the problem, the study objectives, the significance of the study, scope and delimitation of the study, definitions of some key terms, and organizational of the study.

1.2 Background to the study

Secondary education serves as a critical foundation for students' academic growth and future success (Alyami, 2021). This is because secondary education serves as a stepping stone for students transitioning to higher education institutions such as colleges and universities. It provides students with a broader and comprehensive academic foundation across various subjects including mathematics, sciences, and languages (Mkimbili et al, 2019). Within this educational landscape, science subjects hold particular importance as they inculcate scientific principles, theories, and methodologies among secondary schools' students.

Science subjects refer to subjects being taught in secondary schools whereby they are concerned with discovering and describing phenomena by observing and experimenting. Science subjects include Physics, Biology and Chemistry. It develops students' scientific inquiry skills, values and attitudes including critical thinking in performing different issues (Akinnodi, 2020). The performance of science subjects in

secondary schools form the basis for understanding the natural world and its phenomena. Proficiency in science subjects such as physics, biology and chemistry equips students with fundamental knowledge which is applicable across various disciplines and daily life scenarios (Dinah, 2013).

Despite the significance of science education, there is a continuation of failures and poor performance in science subjects in secondary schools' examinations (Mabula, 2012). In the United State of America (USA), there is a concerning trend of poor performance among American youth in science education (DeBoer, 2019). Studies comparing science proficiency across countries position US students at lower levels, suggesting a lack of science literacy in both young and adults. Additionally, there is a noticeable drop in interest among professional pursuing careers in science education, alongside a significant decline in university enrollments in science-related fields (DeBoer, 2019). This issue of poor performance in science subjects extends beyond the USA, as indicated by studies conducted by various scholars. For instance, Landry (2018) observed comparable trends in Canada, and Fonseca and Conboy (2016) documented similar issues in Portugal. Furthermore, recent studies in Spain, such as the one conducted by Fernandez et al (2022), have also pointed poor performance in science education.

This trend is not limited to developed nations; it is also prevalent in African countries, where many students in science streams struggle academically. In Zambia, a study conducted by Edgar (2022) revealed persistently poor performance in science subjects among secondary school students. For instance, in 2018, 59.4% of students

scored low grades in mathematics, 35.4% in biology, and 39% in science overall. Similarly, Olundare et al. (2022) in Nigeria found consistently low performance over a five-year period in Physics and Biology. In Kenya, statistics also show poor performance in science subjects. For instance, in 2017, 72% of the candidates who sat for biology examination scored grade D and E in 2017, and in 2016, nearly 50% of the candidates recorded grade D and E (KCSE, 2017). This indicated that there is a poor performance in science subjects.

In Tanzania, the performance in science subjects among secondary school students has been notably poor. Recent statistics highlight that a significant percentage of students fail to achieve passing grades in key science subjects. For instance, in the 2022 Form Four results, 79.92% of students failed in Basic Mathematics, and similar trends were observed in Physics, and Biology (Citizen, 2023).

Bunda Town Council also experiences the problems of poor performance in science subjects in secondary schools because majority of the candidates scored grade D and F in their CSEE. The performance of Physics, Chemistry and Biology from 2020 to 2022 in Bunda Town Council is shown by the tables below.

Table 1.1. Science Subjects' Performance in Bunda Town Council for CSEE from 2020-2022 in Public Secondary Schools

Year	PHYSICS		CHEMISTRY		BIOLOGY	
	Grades in performance	Percent	Grades in performance	Percent	Grades in performance	Percent
2020	A-C=42	16.6%	A-C=224	49.1%	A-C=275	17.6%
	D &F=210	83.7%	D &F=232	50.9%	D &F=1287	82.4%
2021	A-C=39	14.6%	A-C= 227	70.27%	A-C=527	29.47%
	D&F=228	85.4%	D &F=196	29.73%	D&F=1,261	70.5%
2022	A-C= 86	34.1%	A-C=296	67.4%	A-C=556	31.21%
	D&F= 166	65.9%	D &F= 143	35.6%	D&F=1,225	68.78%

Source (Necta, 2022).

Table 1 above indicates that majority of the students are performing poorly in science subjects as large numbers of students have been scoring grade D and F in their national examination.

Poor performance in science subjects is attributed by several factors. These include gender disparities in self-concept, attitude, and perception (Majere et al., 2012), students' attitude towards science subjects (Awang et al., 2013); study techniques (Omoteso et al., 2013); mathematics anxiety (Estonanto, 2018); instructional and environmental factors (Mazana et al., 2018); reduced sensitivity to science discipline (Hwang et al., 2020); teacher likability; lack of enough and quality textbooks (Dzana, 2012); lack of physical facilities, such as libraries (Chukwueke, 2018; Akomolafel, et., 2016). Addressing these factors through targeted interventions and support systems may help improve academic outcomes in these subjects.

Furthermore, the government has focused on enhancing practical learning experiences for students by constructing school laboratories under the Education Programme for Results (EP4R). This initiative aims to facilitate hands-on learning opportunities in science subjects (MoEST, 2018). In addition, different in-service training seminars for science teachers have been in place to strengthen the teaching and learning process in physics, biology and chemistry for instance in 2023 science subjects' teachers training conducted across various region in Tanzania under SEQUIP to enhance pedagogical skills and content knowledge in science education (MoEST, 2023).

Moreover, there has been a concerted effort to improve access to science textbooks across the country. In 2021, for example, the Minister of Education, Science, and Technology launched a textbook distribution program (MoEST, 2021). For example, in Bunda TC, the government distributed 3,348 physics textbooks, 2,913 chemistry textbooks, and 4,528 biology textbooks to secondary schools. Similarly, in 2021, 2,321 physics textbooks, 2,010 chemistry textbooks, and 2,312 biology textbooks were distributed. In 2022, distributions continued with 2,967 biology textbooks, 3,379 chemistry textbooks, and 4,115 biology textbooks reaching secondary schools (BEST, 2020,2021, & 2022). The provision of science textbooks in schools serves a dual purpose: (i) to enhance library services and; (ii) to strengthen academic achievement among students (BEST, 2022).

Research has consistently shown a strong correlation between school library services and students' academic success. For instance, Oji and Ababa (2012) demonstrated that access to library services positively influences students' study habits. They

emphasized that learning does not solely occur within the confines of the classroom; students need access to library resources to supplement their classroom instruction. Libraries play a crucial role in meeting students' informational needs by providing a repository of materials that support their studies. Additionally, studies have highlighted the critical role that library services play in supporting science subjects' performance. Access to diverse resources, such as scientific journals and databases, is fundamental for comprehending intricate scientific concepts. For instance, in 2021 study published in the Journal of Academic Librarianship found that students who frequently utilized library resources exhibited markedly higher academic performance in science disciplines. Moreover, libraries serve as hubs for fostering information literacy skills, equipping students with the ability to effectively navigate and evaluate scientific information. This was evidenced in a 2022 report in College & Research Libraries, which demonstrated a positive correlation between participation in library-led information literacy programs and improved grades in science subjects (Smith et al, 2021).

There are number of policies that focused on utilization of library services in secondary schools, such as International Federation of Library Association and Institutions(IFLA) in collaboration with UNESCO, advocates for the integration of school libraries into education systems, highlighting their role in fostering critical thinking and independent learning, which are crucial for mastering science education (IFLA, 2006). This was followed by regional policy that Africa Union's Continental Education Strategy for Africa (CESA) underscores the need for robust library services to support quality education and scientific research where libraries are seen

as critical in providing access to scientific knowledge and supporting inquiry-based learning in science education (Africa Union, 2016). In Tanzania, according to the Tanzania Library Service Board Act of 1975, the board is responsible for establishing and maintaining public libraries throughout the country, including those in secondary schools (Tanzania Government, 1975).

This ensures that students have access to a wide range of resources and materials to support their learning in science subjects. Furthermore, the National Library Policy, which was introduced in 1995, emphasizes the importance of promoting and developing library services in the educational sector (Tanzania Government, 1995). This policy outlines strategies for improving the quality of library services, including the provision of relevant and up-to-date resources, the training of library staff, and the integration of library services into the curriculum. By ensuring provision of relevant resources, the Tanzania Library Service Board Act and the National Library Policy contribute to enhance the performance of secondary schools' students in science subjects (Mushi, 2018). This, in turn, can lead to improved academic performance and better preparation for further education and career in science-related fields.

There are number of studies worldwide that highlight the impact of libraries on student learning outcomes. For instance, Vast of other studies include those conducted in USA by Oberg (2011); Lance & Hofschire (2012); Scotland by Williams et al, (2013); in Netherlands by Nielen and Bus (2015); In Nigeria by Afolabi et al, (2016); Yusuf (2014). However, there are fewer studies related to this

in Tanzanian context. Studies done by Ida (2016), Bernard and Dulle (2014), and Chipana (2018) focused more on the availability of library resources in improving students' academic performance, it was therefore important to undertake a study on the perceived contribution of library services in enhancing science subjects' performance in Bunda Town Council.

1.3 Statement of the Problem

The performance of science subjects should reflect a high level of proficiency among the students, characterized by comprehensive understanding, critical thinking skills, and practical application of scientific principles (Adekola & Molebatsi, 2016). Several studies have highlighted the factors affecting academic performance of science subjects, for example Komba and Nkumbi (2016), Mushi and Kinyata (2016) and Mwakapasa, 2016) have noted that outdated teaching methods, inadequate of science teachers, lack of motivation, and limited access to education materials such as text books, journals and supplementary books acted as a barriers in contributing promising performance in science subjects.

From these studies we find that in Tanzania context less is known about the contributions of library services in enhancing science subjects' performance in public secondary schools. Therefore, this study was to set to investigate about the contribution of library services in the performance of science subjects. From this perspective this study can help to identify the best practices, resources gap and strategies to strengthen the integration of library services on student learning in science subjects. With this regard, the current study examined the perceived

contribution of library services in enhancing science subjects' performance in public secondary schools in Bunda Town Council.

1.4 Research Objectives

1.4.1 General Objective

The main objective of this study was to investigate the perceived contribution of library services in enhancing science subject performance in secondary schools in Bunda Town Council.

1.4.2 Specific Objectives

The specific objectives of this study include;

i. To assess the current status of resources available in secondary school libraries for studying science subjects
ii. To find out how students utilize the school library resources for studying science subjects.
iii. To examine the relationship between frequency of library usage and academic performance in science subjects among the public secondary school students.

1.5 Research Questions

This study was guided by the followings critical questions

i. What is the current status of the school library resources specifically needed for science subjects?
ii. How do students access and utilize library resources to support their

learning in science subjects?

iii. What is the relationship between the frequency of library usage and academic performance in science subjects among the secondary schools' students?

1.6 Significance of the Study

The findings of this study are expected to contribute a body of knowledge about the contribution of library services in enhancing science subject performance in secondary schools. Also, findings of the study can ensure that school libraries become more effective tools for students in science education and academic success, and also findings enabled educational policy makers and institutions in fostering an environment conducive for scientific learning for science subjects. Furthermore, the findings also enabled educational stakeholders, curriculum developers to make informed decision about designing professional development programs to support librarians in effective use of library resources in helping students achieve better services. Moreover, the findings of this study may pave the way for further research.

1.7 Scope and Delimitation of the Study

This study was confined to Bunda Town Council whereas the researcher's conclusion was drawn from respondents in one location. The study was carried in ordinary level public secondary schools in Bunda Town Council, where only science teachers, head of secondary schools, school librarians, Ward Education Officers and students in the selected schools were involved. Contextually, the study examined the contribution of school library services in enhancing science subjects' performance in

secondary schools. Furthermore, the study used both quantitative and qualitative approach, where by interview; questionnaire and observation were used as a method for data collections.

1.8 Limitation of the Study

Firstly, the researcher faced with the challenges of limited cooperation from the respondents, which was encountered by building clear rapport during the onset of the meeting day and explaining the purpose of the study and ethical issues to carry out the research process. Secondly, the researcher experienced limited time. Hence to cope with this limitation a researcher asked permission to the authority on the day that respondents had time to share with a researcher inline to specific objectives

1.9 Definitions of the Key Terminologies

1.9.1 Students Performance

According to Hattie, (2009) students 'performance refers to the level of achievement, competence or proficiency demonstrated by students in their academic endeavors'. It encompasses various aspects such as grades, test scores, class participation, and overall academic success.

1.9.2 Science Subjects

Refers to the field of study concerned with discovering and describing the phenomena by observing and experimenting. In secondary schools Biology, Physics and Chemistry are considered as a science subjects being taught where are serving as

an option subjects. All of these subjects are branches of science.

1.9.3 Library Services

Library services in this study refers to the availability, accessibility, and quality of resources (books, digital materials and reference support) and facilities that aid students in learning, researching and improving their understanding of science subjects.

1.9.5 Organizational of the Study

This study was organized into five chapters: chapter one presented the introduction of the study, background of the problem, statement of the problem, general objective of the study, specific objectives, research questions, significance of the study, scope and delimitation of the study and operational definition of key terms. Chapter two presented the introduction of the chapter, theoretical literature review, and empirical analysis of relevant studies, research gap, conceptual framework and summary of the chapter. Chapter three comprises introduction of the chapter, research paradigm, research approach, research design, area of the study, study population, sample size, sampling techniques, data collection methods, data analysis procedures, validity and reliability of research instruments, and ethical consideration issues. Chapter four presented findings and discussions and chapter five presented summary, conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presented the review of related literatures. It also covers the theoretical as well as empirical review with regard to world, Africa and Tanzania perspective. The chapter also shows the research gap and conceptual framework of the study and summary of the chapter.

2.2 Theoretical Literature Review

This study adopted Self-Regulated Learning Theory (SRLT) developed by Barry Zimmerman in 1980s in establishing a theoretical foundation on the perceived contribution of library services in enhancing science subjects' performance in public secondary schools in Bunda Town Council.

2.3 Self-Regulated Learning Theory (SRLT)

This study adopted Self-regulated learning theory (SRLT). SRLT is a learning theory which is guided by metacognition (thinking about one's thinking), strategic action (planning, monitoring, and evaluating personal progress against a standard), and motivation to learn (Zimmerman, 2008). Self-regulated learning theory emphasizes individuals' ability to control and regulate their own learning processes. It involves setting goals, monitoring progress, and adjusting strategies to optimize learning. This theory suggests that the learners who are actively manage their learning by planning, implementing, and reflecting on their strategies are more likely to succeed in acquiring knowledge and skills (Zimmerman, 2008). It involves metacognition,

motivation, and effective use of resources to enhance the learning experience (Kuhthau, 2010). The choice of this theory is that it places a strong emphasis on metacognition, which involves understanding one's own learning processes. Investigating how students in a school library setting use metacognitive strategies while studying science subjects, also SRLT enables learners utilizing resources effectively by investigating how students can make use of the resources available in the school library for studying science subjects can assess the library's contribution to academic performance.

2.3.1 Relevancy of the Theory

Self-regulated learning theory (SRLT) was highly relevant in understanding how library services can enhance science subject performance in secondary schools. Self-regulated learning theory refers to the process by which students take control of and evaluate their own learning and behavior, utilizing strategies for planning, monitoring, and assessing their understanding and performance (Zimmerman, 2008). Libraries serve as critical environments for fostering SRLT by providing resources and spaces that support independent learning. Access to diverse scientific materials, including textbooks, journals, and resources allowing students to explore and understand complex scientific concepts at their own pace (Kuhthau, 2010). This autonomy in learning is fundamental to SRLT, as it encourages students to set personal learning goals and diverse strategies to achieve them. Moreover, libraries often offer instructional sessions on information literacy, which is crucial for effective SRLT. These sessions teach students how to locate, evaluate, and use information efficiently, skills that are essential for mastering science subjects (Julien

& Barker, 2009).

2.4.1 Status and Resources Available in School Library for Studying Science Subjects

Aanu and Olatoye (2011) observed that the use of library resources and study habits are important predictors of science achievements in secondary education. Again, Ivwighreghweta and Igere (2014) also showed in their survey that students who had access to use online library resources, text books and supplementary books for their academic pursuits had better grades and they could lean self-study skills for life-long learning. In the same vein, Anthony (2018) pointed that the use of library resources and services for secondary school for private studies impacted more the academic performance in their subjects, therefore the use of textbooks, novels, dictionaries, newspapers, and atlas found in the school library can help students to acquire different information which can help students in their subjects to expand more knowledge.

Murugan (2019) argued out that, the use of library services such as internet facilities, textbooks, e-journals, references materials, and theses or dissertation among the university students were high, which enable students access different learning materials in their studies. This study ascertains that students used the university library services and resources regularly for their academic, research, and updating the knowledge. Therefore, library services and resources are vital in supporting student learning their academic subjects.

Basil (2012) in his study reveals that the facilities, services, information resources are the major facets which make more impact on the satisfaction of the users of the library. Information literacy programme have a direct effect on the utilization of the library resources and usefulness of the library. It basically includes orientation to library amenities, assets & holding and services & application of information tools to locate the resources. For the optimum exploitation of the academic library, the students should have knowledge to access its resources to their full benefit. Sohail and Pandye (2012) in their study on use of library resources by the students of University of Kalyani found that to meet the information needs of students' guidance and help is required to use the library resources and services such textbooks, journals, supplementary books and use of internet services inorder to expand knowledge in their subjects.

2.4.2 How Students Utilize School Library Services for Studying Science Subjects' Performance

Yusuf (2014) argued that school library utilization does impact on students' academic performance positively. He further recommended broadening the range of information sources and services provided in school libraries through equipping them with enough current and relevant information sources and services in addition to employing adequate qualified library staff who can assist students in library utilization. This indicate that library utilization helped students in doing some class assignments, and homework provided by teachers, conducting their own discussion with their peers, and reading different materials related in science-field subjects which can impact students' performance in science subjects.

Again, Morouf (2015), pointed that in some public secondary school in Nigeria, school libraries were not utilized more well by students as there were inadequate library resources, poor findings for library activities, lack of reading culture and lack of adequate provision for school library development. This shows if the students were not utilizing well the library services in studying their subjects, there are minimal rate of excelling in their science subjects' performance. Therefore, library services utilization is very crucial for the performance of science-related subjects in secondary schools.

Adeyami (2010) linked students' outcomes in school to the use of library resources and these resources are used effectively; the students will naturally have better grades in schools. Jato et al, (2014) reported that the regular use of school library services by students of secondary schools could lead to high scores in test and examination. This shows that there is a significant relationship between using school library services and students' performance in academics. From this study it was revealed that library services utilization is most significantly impacted to the students' performance.

Ida (2016) revealed that, the students from secondary with libraries and enough materials were observed to perform better in CSEE than secondary schools with no libraries and enough materials due to the fact that, the availability of well-equipped libraries services encourage learning habits and strengthened students study skills which results to performance of the students CSEE.

2.4.3 Relationship Between Frequency of Library Usage and Academic Performance in Science Subjects' Performance Among the Secondary School Students

Lance and Hofschire (2012) investigated the link between school library and academic achievements in Colorado public schools in the United State of America. Their study examined the provision of library services to see whether it had impact on students reading habits. The researchers found that in some schools, where they had provided library services, it increased the reading habits of their students, thus making a positive effect in students' academic achievements. Therefore, presence of library services for secondary schools is very important for the performance of science subjects.

Oberg (2011) recognized the influence of school library on students' achievements. For example, studies conducted in diverse setting to examine the colleration between library use and academic performance the study found that there is high correlation between library usage and academic performance among the secondary schools' students. Therefore, it is very important for the students to use library services for the performance in science subjects. Additionally, Rodrigues and Mandrekar (2020) showed that there is a significant and remarkable relationship between the library usage and the students' academic performance and success. This was due usage of library increases student's success. When students use the library there seems to be increase in their academic success and performance. They achieve higher level of academic performance when they used the library for reference and updating their notes in learning their subjects.

2.5 Empirical Analysis of Relevant Studies

2.5.1 Status and Resources Available in School Library for Studying Science Subjects

In Ghana study conducted by Boakage (2018) on user's satisfaction with library resources and services. The study employed mixed methods approach. The quantitative data were analyzed descriptively and qualitative data were analyzed thematically. The data were collected through questionnaire and semi-structured interview. The findings found that large numbers of students were satisfied with library resources and services available in the school library. He also found out that the books are the most widely used by the users and circulation services is considered as the most preferred services in the library. User's has given suggestions to use library services more efficient and effective in their studies so as to score good performance. Therefore, the current study is similar with the study conducted by Boakage in a sense that both employed mixed method approach, however the current study differed from aspect of knowledge gap. With this regard, the current study investigated the perceived contribution of library services in enhancing science subjects' performance in public secondary schools in Bunda TC.

A study conducted in Ghana by Agyekummar and Filson (2012), on the challenges of school libraries in the new educational reforms. The study used mixed research approach and questionnaire and interview were used as data collection tools. The quantitative data were analyzed descriptively with the aid of SPSS and qualitative data were analyzed by using content analysis. The findings indicated that most students use library resources and services to implement their class notes and

assignments, and this helps them with examination preparation. This is what is referred to as active learning which the school libraries are to instill to students. This study is similar to my study as it used mixed approach and the same data collection tools as the current study used. However, the current study differs from Agyekummar's study by investigating the perceived contribution of library services in enhancing science subjects' performance in public secondary schools in Bunda TC.

In Tanzania research conducted by Bernard and Dulle, (2014) on accessibility of school library information resources in Morogoro municipality. The study employed mixed methods approach. The qualitative data were analyzed manually by thematic analysis while quantitative data was analyzed by using descriptive statistics with the aid of computer software called SPSS. The findings found that students who were able to utilize resources and services available in the school library such as textbooks and novels performed better in their subjects. This means that library services utilization is very important to enhance and expand understanding of subject matter among the secondary school's students. Benard and Dulle's study is important in my study because they used the same approach as also the current study used. However, this study goes beyond Benard and Dulle's study by investigating the perceived contribution of library services in enhancing science subjects' performance in public secondary schools in Bunda TC.

2.5.2 Utilization of the School Library Services for Studying Science Subjects

Jato et al. (2014) observed study habits, use of school libraries and students'

academic performance in selected secondary schools in Ondo State in Nigeria. The study employed quantitative approach. The data were collected through semi-structured interview. The qualitative data were analyzed thematically. The findings indicated that it is students' bad study habits to use school libraries that have negative effect on their academic performance. However, it does not tell exactly why the students' bad study habits to use school library have negative effect on their academic performance not something else that affects the performance. This study is similar in my study because the methods used for data collection the same as the current study used; however, the current study differed from Jato et al's study based on methodological gap, where the current investigated the perceived contribution of library services in enhancing science subjects' performance in public secondary schools in Bunda TC using mixed methods approach.

Yusuf (2014) investigated the impact of school library services and library utilization on student performance in Eastern Hararghe, Ethiopia. The study used mixed methods approach. The qualitative data were analyzed through content analysis while quantitative data were analyzed by using descriptive statistics. Questionnaire and semi-structured interview were used to collect the data. The study determined that school library utilization does impact on students' academic performance positively. He recommended broadening the range of information sources and services provided in school libraries through equipping them with enough current and relevant information necessary for enhancing learning. However, the current study differed from Yusuf's study based on knowledge gap. Thus, the current study filled the knowledge gap on investigating the perceived contribution of library services in

enhancing science subjects' performance in secondary schools in Bunda TC.

In Tanzania research study conducted by Chipana (2018) on the influence of library resources utilization on secondary school student's academic performance in Dodoma municipality. The study employed mixed research approach and descriptive research design were used. The data were collected through questionnaires, interviews and documentary review. The Qualitative data were analyzed by using content analysis and quantitative data were analyzed with aid of SPSS with a total of 96 samples. The findings indicated that in some schools, where they had library services, it increased the reading habit of the students through accessing materials found in the library such as textbooks, novels, supplementary books, thus making a positive impact on student's academic achievement. However, the current study differed from Chipana's study based on contextual gap. Thus, the current study filled contextual gap by investigating the perceived contribution of library services in enhancing science subjects' performance in public secondary schools in Bunda TC.

2.5.3 Relationship Between Frequency of Library Usage and Academic Performance in Science Subjects' Performance Among the Secondary School Students

Dilshad and Akhtar (2019) conducted a study on school library and academic achievement in Pakistan. The study employed qualitative approach to gather more information. The qualitative data were collected through semi-structured interview and observation. The qualitative data were analyzed thematically. The findings indicate that there is a positive relationship exists between library facilities and

students' academic achievement. Therefore, the current study differed from Dilshad and Akhar's study based on methodological gap. Thus the current study employed mixed approach to complement the weakness of each other on the perceived contribution of library services in enhancing student academic performance in public secondary schools in Bunda Town Council.

A study conducted by Suleiman and colleagues (2018), on a comparative study on the impact of library usage on achievement of students in secondary schools in Uganda. The study employed mixed approach. Questionnaire and semi-structured interview were used to collect the data. The quantitative data were analyzed using descriptive statistics with the aid of SPSS software and qualitative data were analyzed through content analysis. In this study, she compared two schools, one with and the other without a library service. The findings indicated that schools with library services performed better, while school without the library service did not perform better. In her final analysis, she found that to some extent students' performance are influenced by library service. This means that there is a high relationship to the students who utilize effectively library services in studying their subjects. The current study differed from Suleiman and Colleagues study based n knowledge gap. Therefore the current study filled knowledge by investigating the perceived contribution of library services in enhancing science subjects' performance in public secondary schools in Bunda TC.

In Tanzania study done by Ashura (2019) on effectiveness of student's use of Library. The study employed quantitative approach. The quantitative data were

analyzed by using descriptive statistics with the aid of computer programme software called SPSS. The data were collected through questionnaire. The findings found out that library usage among the secondary school students in Ilala district is lower as the number of students was less effective in utilizing the facility, therefore the reading habits of students did not appear to be beneficial. This means that if library services in secondary schools are utilized enough will help students develop reading habits and eventually will impact their academic achievements in a positive way. Therefore, the current study goes beyond Ashura' s study by investigating the perceived contribution of library services in enhancing science subjects' performance in public secondary schools in Bunda TC using mixed method approach.

2.6 Research Gap Identified

Empirical studies on influence of library resources and services in Tanzania have mainly focused on factors that influence students' academic performance. In relation to this achievement, there is substantial number of studies that have recently focused on the influences of school library on academic performance. Such studies include Ida (2016), Chipana (2018), Bernad and Dulle (2014), and Ashura (2019). However, literature review has revealed that the cause and effect of school library provision is not fully understood from current research in Tanzania. Observations accrued from literature review indicate that the focus on the effect of school library programme on academic performance in public secondary schools is very low. Very little is known about school library services in enhancing academic performance in secondary schools because not much have neither been studied nor documented about its linkage to science subjects' performance. This situation suggests that there is a gap in

establishing the fact that school library can have a positive impact on students' academic achievement in science subjects. Again, some studies employed either qualitative approach or quantitative approach, therefore the current study employed mixed method approach so as to minimize and complement the weakness of each other. Therefore, the current study filled both methodological gap and knowledge gap on investigating the perceived contribution of library services in enhancing science subjects' performance in public secondary schools in Bunda Town council.

2.7 Conceptual Framework

Conceptual Framework is an illustration, either graphically or in a narrative form about the main thing composing the study. Kothari (2019) affirms that, conceptual framework relays toward abstract ideas or theory used by philosophers and thinkers in building up new notions or to reinterpret existing ones. The conceptual framework gives the relationships between the dependent and independent variables (Kothari, 2010). Conceptual framework involves understanding the interconnected elements that influence the relationship between library services and science subjects 'performance. This framework may include factors such as the availability of resources, how student utilize library resources, into science education

INDEPENDENT VARIABLE **DEPENDENT VARIABLE**

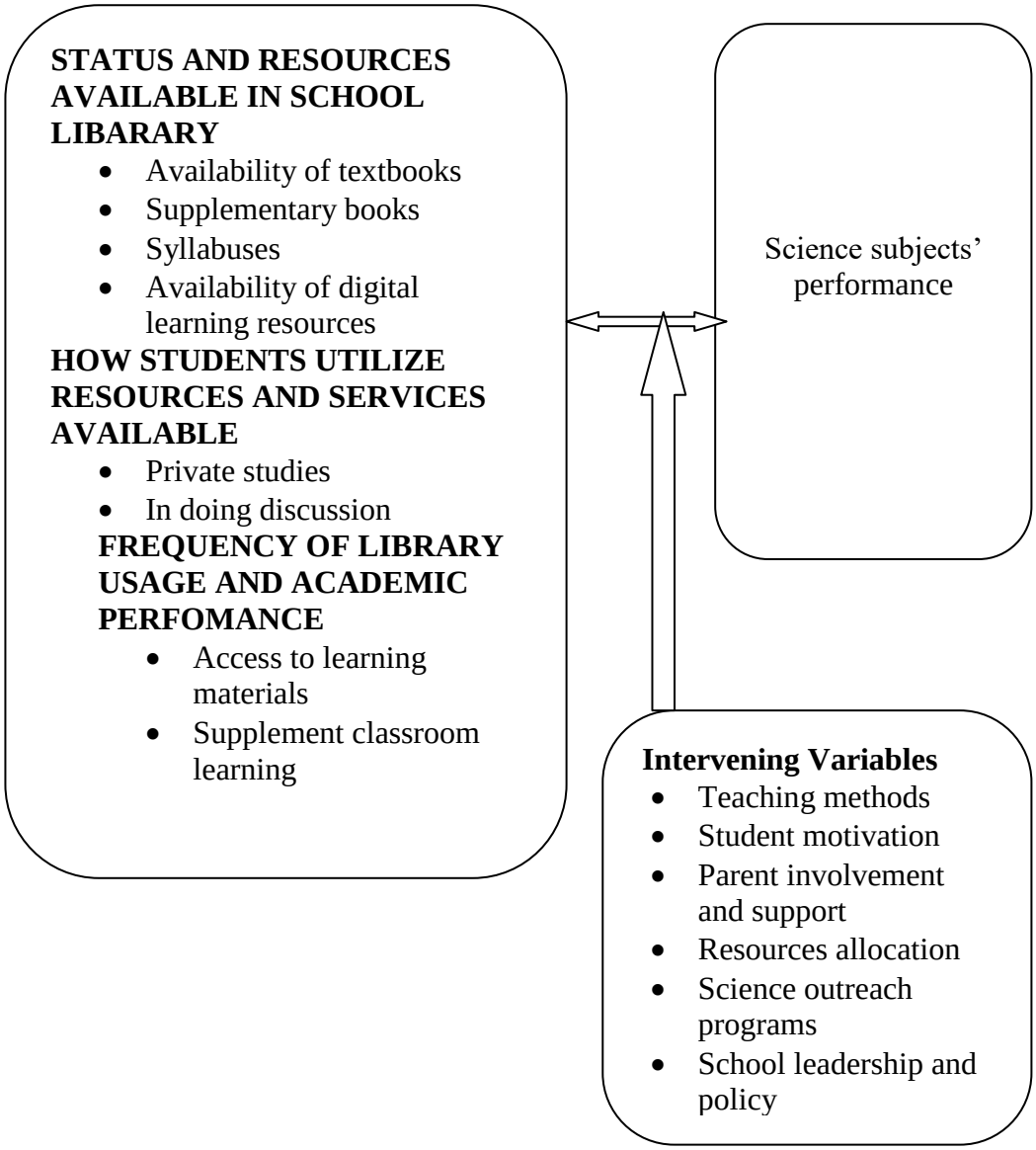


Figure 2.1 Above Illustrates the Relationship Between Independent Variables and Dependent Variables

Source: (Researcher's idea, 2023)

The success of students in science subjects' performance on the use of library facilities depends on the use of services and resources available in the library such as

availability of textbooks, journals, internet connectivity, professional librarians and as well science subject teachers. To make clarification on these variables, the teachers at the school are responsible for teaching students and providing assignments or take home tasks. Once students are in the library are directed by school librarian who guide and assist them if the materials are not in the books. By referring to students on the use of library services, teachers help students to complete their tasks on time by doing their assignments and lead students do better in tests and examination, hence achieve good performance in science subjects.

2.8 Summary

The aim of the literature review was to examine evidence from empirical research which establishes a link between education quality improvement interventions in science subject's performance (beyond material inputs) and academic success. Interventions have been reviewed to assess factors that affect the learning outcomes globally, regionally as well as across the country. On the other hand, the literature review intended to establish the above mentioned gaps that this research intends to fill.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section presented the research methodology that employed to generate and analyze information on perceived contribution of library services in enhancing science subjects' performance in public secondary schools. The section comprises of the followings sub-section; research paradigm, research approach, research design, area of the study, population size, sampling technique, data collection tools, data analysis procedures, validity and reliability of research instruments, and finally ethical issues.

3.2 Research Paradigm

This study was guided by pragmatism research philosophy. This philosophy was chosen because it enables the establishments of clear correlations between library usage and academic performance in science subjects. Thus from this study, researcher was able to triangulate qualitative and quantitative method within a single study in investigating the contribution of library services in enhancing science subjects' performance in public secondary schools. The paradigm encourages the use of mixed methods as it allows a researcher to pinpoint an issue and see it from a widest angle possible, leading to research inquires that aim to comprehend the problems more fully and ultimately find a solution. The combinations of approaches encourage researcher involvement, permits adaptive modification, and maximize research advancements.

3.3 Research Approach

This is systematic and structured ways that researchers use to conduct research they differ in terms of underlying logic and method of inquiry (Hassan, 2022). This study adopted mixed-methods approach where as the reason of using a mixed research approach was to combine both qualitative and quantitative approaches in a single study based on the purpose of the study and the nature of the research questions with the aim of providing a better understanding of the research problem (Taherdoost, 2021). This approach allows triangulation of data findings, enhancing the validity and reliability of the study's conclusions The mixed-method approach was employed in the whole processes of collecting, analyzing, data from various respondents and sources whereas under this study. This strategy was appropriate since the researcher was able to gather data using two distinct methods. This strategy enables researcher to use the strengths of both qualitative and quantitative data to overcome the limits of each method. With this approach, the researcher collected and analyzed both qualitative and quantitative data.

3.4 Research Design

This study used concurrent triangulation research design because enables researchers to collect both quantitative and qualitative data. By combining both qualitative and quantitative data, researchers can corroborate findings, validate results, and provide a richer understanding of the relationship between library services and academic performance in science subjects. It is a design in which two data sets were combined to get a complete picture of the issue that was explored and to validate one set of findings with the other (Creswell & Plano, 2018). The researcher employed this

design since it improves the study's validity and reliability by identifying and addressing anomalies or conflicts. This design enabled researcher to acquire detailed data from qualitative sources and quantitative source simultaneously on the perceived contribution of library services in enhancing science subjects' performance in public secondary schools.

3.5 Area of the study

The study was conducted in Bunda Town Council basing on secondary schools. Bunda TC is one among of the council found in Mara region. The major economic activities in the council include commerce and trade, agriculture, livestock keeping, small-scale service production and services provision for example transport hotel, medicinal and civil services. Bunda Town Council has been chosen because of poor science subjects' performance among the secondary schools. For instance, in CSEE 2020,83.7% of the students scored grade D and F in physics, 50.9% scored grade D and F in chemistry, and 82.4% scored grade D and F in biology, in CSEE 2021 85.4% scored grade D and F in physics subject, 29.73% scored grade D and F in chemistry subject and 70.5% scored grade D and F in biology subject, while in CSEE 2022, 65.9% scored grade D and F in physics subject, 35.6% scored grade D and F in chemistry subject and 68.78% scored grade D and F in biology subject. This means that performance in science subjects in public secondary in Bunda Town Council is relatively very low; therefore, the current study aimed at investigating the perceived contribution of library services in enhancing science subjects' performance in public secondary schools. Additionally, no such study had been conducted in Bunda Town Council prior to this research, therefore, the current study was undertaken to fill the

knowledge gap concerning the perceived contribution of library services in enhancing science subjects performance in public secondary schools.

3.6 Study Population

Population is the population the researcher is interested to research on, which is extracted from the general population (Majid, 2018). This study will involve science subjects' teachers, school librarians, Head of secondary schools, Town Secondary Education Administrators, Ward Education officers, and students the head of secondary schools were involved as the one who is responsible for the supervision activities within a schools, ward education officers were involved as they oversee the educational activities and resources management within a ward, school librarian were involved as they are directly responsible for the management, curation, and utilization of the library's resources at the schools, Town Secondary Education Officer administrators were involved as the one who is responsible for the implementation and supervision of education issues within a council and students were involved because are the primary beneficiaries of the library services provided at school levels. The study involved 1500 students, 96 science subjects' teachers, 3 Town Education Officers Administrators, 9 head of public secondary schools, 14 ward education officers, and 9 public secondary school librarians. Hence, the total population was 1631.

3.7 Sample Size

The sample size refers to the number of elements or individuals selected from the study population to create a sample (Creswell, 2012). A sample size for this study

will be calculated using Yamane formula (1967).

3.7.1 Sampling for Students

The researcher utilized Yamane's (1967) formula to calculate the sample size of students, ensuring the selection of an appropriate number of science students for the study. The formula was as follows:

$$n=\frac{N}{1+Ne}2$$

Where n signifies the sample size, N signifies the population under study, e signifies the marginal error (it could be 0.10, 0.05 or 0.01) the target population of this study is 1500 taking e=0.1, then

$$n=\frac{1500}{1+1500x(0.1)}2$$ based on this formula, the sample size for students under this study were 94 respondents

3.7.2 Sampling for Science Subjects' Teachers

The researcher utilized Board Yamane's (1967) formula to calculate the sample size of science subjects' teachers, ensuring the selection of an appropriate number of science subjects' teachers for the study. The formula was as follows:

n = N / (1 + N * e^2)

Where:

n = Sample size required

N = Target population of teachers (96 in this case)

1 = Constant of the formula

e = Error of prediction (typically 0.05)

Using these values, the calculation was performed as follows:

$$n=\frac{N}{1+Ne}2$$

$$n=\frac{96}{1+96x(0.05)}2$$

n = 96 / (1 + 96 * 0.05^2)

n = 96 / (1 + 96 X0.0025)

n = 96 / (1 + 0.24)

n = 96 / 1.24

n = 77

n ≈ 77

The sample size for science subject teachers were 77 respondents

On the other hand, usually, qualitative studies involve a small sample; qualitative studies do not require calculation to justify the sample size. The most important thing is information richness; thus, they require the selection of participants who provide relevant information (Msoroka, 2018). The distribution of sample size under qualitative approach were 5 head of secondary schools, 5 school librarian, 2 Town Secondary Education Officers administrators and 7 ward education officers. However, the actual size was obtained after reaching saturation point from the field. Hence, making a total of 19 participants.

Table 3.1: Sample Size of the Study

S/N	Respondent category	Population	Sample size	Sampling Technique
1	TSEO Administrators	3	02	Purposive
2	Ward Education Officers	14	07	Purposive
3	Head of Secondary Schools	9	05	Purposive
4	School librarian	9	05	Purposive
5	Science subjects teachers	96	77	Random
6	Students	1500	94	Random
Total		1631	190	

Source: Researcher's construct 2023.

3.8 Sampling Techniques

Sampling procedure refers to the process of selecting a sample from population (Kothari, 2004). The study employed the simple random sampling technique and purposively sampling technique to get the sample:

3.8.1 Simple Random Sampling Technique

Random sampling is a method of selecting respondents whereby all members of a group (population or universe) have an equal and independent chance of being selected (Kothari, 2004). Simple random sampling was used in selecting, 94 students from 05 sampled public secondary schools, to form a sample of this study. This sampling procedure was used in order remove hints of bias since individuals who make up the subset of the large group are chosen random. Furthermore, a researcher used random number generator to select 94 numbers corresponding to the identifiers, ensuring that each students has an equal chance of being chosen.

3.8.2 Purposive Sampling

Purposive sampling technique involved identification and selection of the individuals who were well informed with a phenomenon under study (Etikan, Musa & Alassim, 2015)). In this study heads of public secondary schools, ward education officers, school librarian, and Town Secondary Education Officer were selected purposively. This sampling process was undertaken purposely since it allows researcher to deliberately select participants who possess specific qualities or characteristics relevant to the study, such as extensive experience, leadership skills, or knowledge of educational policies. Again five public secondary schools were selected purposively based criterion random sampling techniques where public secondary schools with head of secondary schools with more than five year of leadership experiences were selected purposively to participate under the study.

3.9 Data Collection Methods

Research instruments are the strategies for collecting facts, the tools for data gathering, including interview, questionnaire and observation (Anum, 2017). Therefore, to obtain adequate and reliable information for the topic under study triangulation methods were adopted. Through triangulation the researcher combined different data collection methods. These are semi-interviews, and questionnaire.

3.9.1 Interview

According to Kothari (2004) interviews involve a set of questions that are intended to collect information through oral or verbal communication in a face-to-face contact between the researcher and respondents. The researcher used personal interviews

where by face-to-face interaction with the respondents will enable the researcher to elicit responses from TSEO office, ward education officers, head of secondary schools, school librarian. The semi-structured interview was flexible to giving out an opportunity for the researcher to seek clarification from the study participants to enrich the study. The conversation from the study participants carried out through note-taking technique and was recorded by the digital audio recorder with the aim of keeping the reliability and validity of the information and not to miss any important information spoken by the research participants when the researcher is transcribing the data (Denzin & Lincoln, 2018; Kothari, 2019). The researcher used personal interviews where by face-to-face interaction with the respondents was enabled the researcher to elicit responses from Town secondary education officer administrators, ward education officer, and head of secondary schools as shown in (Appendix 3, 4, 5 and 6) about the objectives of the study.

3.9.2 Questionnaire

According to Kasomo (2006) a questionnaire is a carefully designed instrument that consists of questions and statements (written, typed or printed) for the purpose of collecting data direct from respondents. The questions entailed in a questionnaire may either be close-ended or open-ended. Open ended questions allow freedom of responses in the respondent's own words. Close ended questions limit the respondents' freedom of response. For the purpose of this study a combination of both close ended and open ended questionnaire was prepared by the researcher under directives of the supervisors. Basically, the use of questionnaires has an advantage of providing the respondents adequate time to reflect on the questions asked, and

consult relevant documents before providing the required data (Kasomo, 2006). In this study, likert scale survey was prepared and used to generate data from the study respondents as shown in Appendix 1 and 2. Questionnaire is a tool used to collect data where carefully selected, orderly, self-administered questions are used. It is more efficient in that it requires less time for respondents to give information, permits respondents to remain anonymous in their responses and it is easy to administer. The questionnaires administered personally by the researcher to the 94 students and 77 science subjects' teachers making a total of 171 respondents. Hence, the likert scale survey consisted five points scale which were; strongly Disagree (SD), Disagree (D), undecided (UD), agree (A), and strongly agree (SA) on each of the objectives minor questions.

3.10 Data Analysis Plan

The collected quantitative data were analyzed descriptively based on frequencies with the aid of statistical package for social science (SPSS) and were deduced into tables and figures for quantitative data. The collected data were coded using number, thereafter, the data were inserted in the statistical package for social science (SPSS) software where data were arranged in the rows and columns in the table formats or structured data. Besides quantitative analysis, the study also employed content analysis in analysing qualitative data. This involved five (5) steps that entails; first, the researcher had to read thoroughly the information and categorize study themes. Secondly, data were placed in sub topics of the study based on study themes. Third, the researcher repetitively read the common patterns in each category to select required information while dropping redundant. Fourth, the researcher validated the

themes quantitatively based on frequencies of occurrence and finally, the researcher interpreted theme narrates from respondents to gain its meaning and in some instances recording and quotation will be made to capture respondents' experiences and feelings.

3.11 Validity and Reliability of Research Instruments

3.11.1 Reliability of Research Instruments

The concept of reliability refers to the consistency or dependability of a measurement technique. To ensure reliability of research instruments the researcher employed test-retest technique in order to be assured of the consistency of the results. Under this case, the researcher administered the same instrument to the individuals.

3.11.2 Validity of the Study

Validity refers to the level to which a measuring instrument records the quality or behavior it is supposed to measure and is a measure of how well an instrument of measurement executes its functions (Bolarinwa, 2015; Sürücü & Maslakc, 2020). In other words, validity is the degree to which results obtained from the analysis of the data represent the phenomenon under study. It is suggested by Creswell, (2014) that under mixed-method's design should base on establishment of both quantitative and qualitative validity. Thus, for this, triangulation method was employed so as to ensure validity of research instruments. The researcher used different methods in a study of the same phenomenon such as the use of structured questionnaires, and interview guides for methodological triangulation.

3.12 Ethical Consideration Issues

Research is the task of highest and ultimate important requiring an ethical and moral consideration throughout the execution of the study. The study adhered all ethical considerations from proposals writing, data collection, and processing, analyzing, dissemination of research report. Some ethical considerations include anonymity, informed consent, seeking of data collection clearance letters from authorities, maximizing profit by minimizing risk of participants. Thus, all information which were collected and interrogated respondents were handled with highest degree of confidentiality and were utilized for academic purpose only

CHAPTER FOUR

PRESENTATION, INTERPRETATIONS AND DISCUSSION

4.1 Introduction

This chapter presents data analysis, presentation and discussion of the study on perceived contribution of library services in enhancing science subjects' performance in secondary schools in Bunda town council. The data analysis, presentation, and discussion were guided by research objectives as stipulated below;

i. To assess the current status and resources available in secondary school libraries for studying science subjects
ii. To find out how students, utilize the school library resources for studying science subjects.
iii. To examine the relationship between frequency of library usage and academic performance in science subjects among the public secondary school students.

4.2 Demographic characteristics of the respondents

This section presents demographic characteristics of the respondents who participated in this study. This study used 190 respondents. Thus, under this section age, sex and education level of the respondents are discussed below.

Table 4.1: Demographic characteristics of the respondents

AGE	F	%	SEX	F	%
15-25	94	49.47	MALE	98	51.58
26-35	26	13.68			
36-45	33	17.37	FEMALE	92	48.42
46-55	28	14.74			
56 ABOVE	9	4.74			
TOTAL	**190**	**100.00**		**190**	**100**

Source: Researchers' construct (2024).

4.2.1 Age and sex of the respondents

The data from the table 4.2 above shows demographic characteristics of the respondents (n=190) used in this study. It is revealed that majority of the respondents were aged between 15-25 years as they take 49.47 percent. This data communicates that the researchers have used the large sample of the students (aged 15-25 years) so as to provide important information on utilization of libraries in secondary schools. On the other hand, majority of the respondents (51.58%) were male compared to 48.42 percent who were female respondents. Thus, this implies that most of the students who take science subjects are male so do the science teachers.

Table 4.2: Educational level of the respondents

Variable	F	%
Secondary education	94	49.47
Diploma	35	18.42
Degree	51	26.84
Masters	10	5.26
TOTAL	190	100

Source: Field data, (2024).

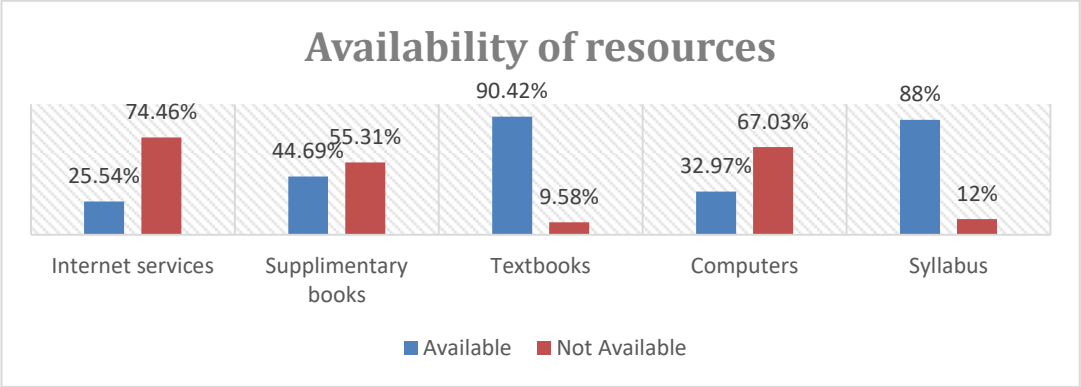
4.2.2 Education level of the Respondents

The field data as revealed in table 4.3 above shows that most of the respondents (49.47 percent) have secondary education. This is due to the fact that the study has 94 secondary schools' students as respondents in this study as they are yet to other advanced educational level. However, other respondents hold diploma, degree and masters. This implies that secondary schools' teacher's minimum entry qualification is diploma in secondary education thus teachers and other officials used in this study have enough qualification.

4.3 The Current Status and Resources Available in Secondary School Libraries for Studying Science Subjects in Public Secondary Schools

The first objective was to assess the current status and resources available in secondary school libraries for studying science subjects. The researcher used questionnaires and interview guides as research tools in the collection of data for this objective. In questionnaires, 171 respondents were asked to respond to statements concerning the current status and resources available in school libraries for studying science subjects in public secondary schools. 94 questionnaires were administered to students and 77 questionnaires were also administered to science teachers in public secondary schools. Other 19 participants were interviewed.

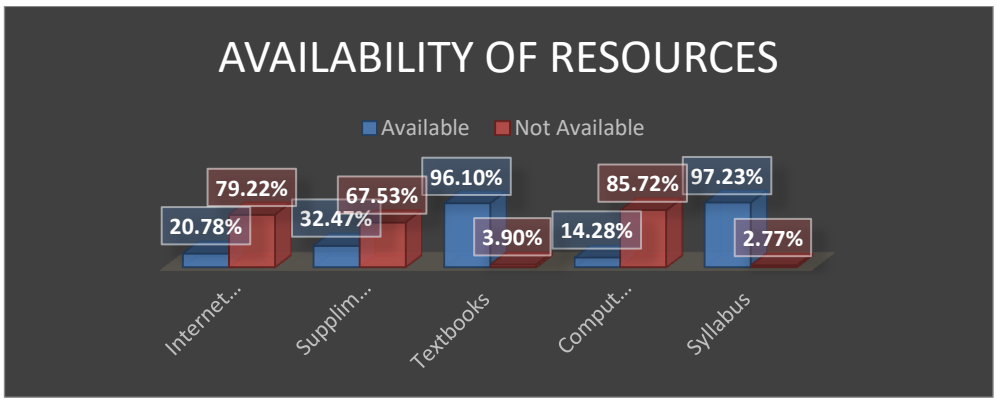
Figure 4.1: The Current Status and Resources Available in Secondary School Libraries for Studying Science Subjects in Public Secondary Schools



Source: Field data, (2024)

Figure 4.1 above presents information obtained from the questionnaires filled by the students which reveals that only textbooks (90.42 percent) and Syllabus (88 percent) were highly available in most of the public secondary schools' libraries. On the other hand, internet services, Computers and Supplementary books were found unavailable in most of public secondary schools.

Figure 4.2: The Current Status and Resources Available in Secondary School Libraries For Studying Science Subjects in Public Secondary Schools



Source: Field data, (2024)

Data presented in (figure 4.2) above reveals that teachers have said that syllabus (97.23 percent) and textbook (96.10 percent) were available in their secondary schools whilst other resources like internet services (20.78%), Supplementary books (32.47%) and Computers (14.28%) were available in some of public secondary schools in Bunda Town Council.

4.3.1 Internet Services

Research findings have revealed that 14.28% of the students (from figure 4.1) and 32.97% of teachers from (figure 4.2) revealed that internet services are available in libraries in few secondary schools. This implies that most of secondary schools' libraries have no internet access that will help students to search for important materials in learning science subjects. One of the head of school when asked said;

> "*We are lucky that we have library, but we don't have internet access. It is very difficult for our students to access materials from the internet as currently the service is unavailable in our school*" *(HOS C, 17th July, 2024)*

Additionally, one of the school librarian had this to say;

> *"In our school, internet is not an issue. We have internet service but the issue is all about data bundles. We sometimes don't access internet because we have limited fund to buy data bundles" (School librarian from school B, 17th July, 2024)*

Furthermore, when town secondary education officer asked had this to say;

> *"Most secondary schools libraries within my ward does not have internet services, which greatly affects the teaching and learning science subjects, this situation is unfortune especially when we expect improved performance and a better understanding of science subjects among learners" (WEO C, 17th July, 2024)*

The quoted interviews correlate with data obtained from questionnaire as stipulated in figure 4.1and 4.2 above. Majority of secondary schools have no internet services. Astonishingly, the researcher observed that the few school with internet services, but internet services cannot be accessed. This means that the absence of internet services in most public secondary schools significantly limits the educational outcomes of students. This digital divide restricts access to online resources, modern learning tools and collaborative platforms, thereby disadvantaging students in developing critical digital skills essential fr future careers. This finding is in line with a study conducted by Hampton et al (2023) who found that students with limited internet access develop weaker digital skills, which are crucial for academic success and future employment opportunities. Similarly, Hargittai and Dobransky (2021) emphasize that internet connectivity fosters resources access and improves instructional delivery, directly impacting students learning outcomes.

4.3.2 Supplementary Books

The field data reveals majority of the respondents (55.31 percent and 67.53 percent of students and teachers respectively) argued that supplementary books are not available in libraries. This implies that students (science takers) are not equipped with supplementary books to enhance their learning in science subjects the thing that can lead to poor performance in science subjects. Some of the participants had the following to say when asked:

One of the head of school had this to say;

> "*As you can see here, our library is not well equipped with supplementary books especially science subjects. This makes the*

> *students to rely only on the teacher's teaching notes as their reference" (HOS A, 17th July 2024)*

Additionally, one of school librarian commented this;

> *"Frankly speaking, we have a lot of supplementary books in our library. Our shelves are full of supplementary books for our students to learn*" (*School librarian from school D, 17th July, 2024)*

Similarly when ward education officer asked had this to say;

> *"Most of secondary schools libraries in our ward are not equipped supplementary books, this makes students depends on materials given by teachers during teaching process (WEO D, 17th July, 2024)*

Furthermore, town secondary education officer had this to say when asked

> *"Its unfortunates that the majority of secondary schools under our town council lack adequate supplementary books in their libraries, this creates a gap in the learning process, especially in science subjects that require extended reading and practice"(TSEO, 17th July, 2024)*

Participants' views show that supplementary books were available in some of the public secondary schools despite the fact that most of the public secondary schools were not equipped with supplementary books. With this data in place, science takers (students) are likely to struggle in finding materials from other places. This means that lack of sufficient supplementary books in public secondary schools has serious implications for students learning and students' academic achievement. Supplementary books enrich the curriculum by providing diverse perspectives, reinforcing classroom learning and supporting self-study. Without these resources, students face limited opportunities to develop critical thinking and comprehension skills, which are vital for academic success. This finding is in line with a study

conducted by Makotsi (2011) who highlighted that regular access to diverse learning materials enhances literacy, vocabulary acquisition, and comprehension skills forming the backbone of academic success.

4.3.3 Text Books

The field data as revealed in figure (4.1 and 4.2) shows that majority of the respondents (90.42 percent of students and 96.10 percent of teachers) have said libraries in their secondary schools are equipped with text books for science subjects while the minority of the respondents has argued that text books are unavailable in their libraries. This communicates that students have the text books for their learning in science subjects. Thus, the performance of students in science subjects is likely to be improved with the availability of textbooks. When the participants of this study were asked, one of the school librarian had this to say;

> "*We have received enough text books from the government in our school. Our ratio is one to five for form one and two while we have many science textbooks than students in form three and four"(School Librarian from school B, 18th July, 2024*)

Similarly, when one of the Ward Education Officer asked had this to say

> "*Based on assessment I conduct, all secondary schools within the ward are adequately supplied with textbooks because the book to students' ratio now meets the national standard ensuring each student has access to the required learning materials" (WEO G, 18th July, 2024)*

Again in the same line, when one of the head of school asked had this to say;

> "*Our school currently has enough textbooks to support effective learning, with a student to book ratio that meets the required guidelines, so we are grateful for the support from education*

> *stakeholders, and we continue to monitor resources to maintain this standard for the benefit of every learner"(HOS E, 18th July, 2024)*

Correspondingly, findings given from both questionnaires and interviews show that there were a lot of textbooks in public secondary schools which enable students in learning science subjects especially for form three and form four students. On the other hand, researcher observed that majority of public secondary schools have enough textbooks, but very few numbers of students attend library to use it in their daily study learning. The availability of textbooks in public secondary schools has significant implications for academic performance and learning quality. This finding is in line with a study conducted by Ivwighreghweta and Igere (2014) who found that students who had access to online library resources, textbooks, and supplementary books for their academic pursuits had better grades and could learn self-study skills for life-long learning. Additionally, Anthony (2018) pointed out that the use of library resources and services for secondary schools for private studies impacted the academic performance in their subjects Thus, it can be concluded that most of libraries in public secondary schools are well equipped with textbooks for learning science subjects.

4.3.4 Computers

The findings as presented in (figure 4.1 and 4.2) above reveal that many libraries in secondary schools don't have computers for students to learn science whilst only few respondents (14.28 percent of the teachers and 32.97 percent of the students) revealed that they have computers in their libraries. This implies that computer is not

the resource that is available in most secondary school's libraries for the students to have access to e-materials for their learning. The researcher had interviews with some of school heads they quoted saying.

> "*We don't have computers in our library. But we have one for the academic office. The available computer is not accessible to the students as it is only for administration. It is difficult for our students to access e-books that would facilitate their learning in science subjects" (HOS B, 19th July, 2024)*

Similarly, Town Secondary Education Officer had this to say when asked;

> *Most of the secondary schools under our supervision still lack computers in their libraries; this situation hinders the integration of digital literacy into curriculum, which is essential in today's learning environment (TSEO, 19th July, 2024)*

Again one of school librarian had this to say;

> *Despite having a designated library space, our secondary schools lack computer which limits students' access to digital learning resources.(School librarian from school C, 19th July, 2024)*

The findings obtained from questionnaires revealed that public secondary schools have no computers in their libraries while participants interviewed argued that computers are available in their schools despite the fact that these computers are for administration issues only. Thus students cannot use them for their studies. Thus, computers for students to access learning materials are not available in most of the public secondary schools. The lack of computers in most public secondary schools has several implications for education. As it limits students and teachers access to digital resources, which are crucial for learning in the modern era. This gap hinders

the development of essential digital literacy skills, making students less prepared for technology-driven job market. This finding coincide with a study conducted by Hoq (2020) who discussed the limited adoption of ICT in secondary schools, noting that inadequate fund hinder the integration of ICT in classrooms. This limitation restricts students from gaining essential digital literacy skills and impedes modernization of teaching methodologies. Additionally, Sohail and Pandye (2012) pointed out that the use of library resources and services such as use of computers is very important for students to expand their knowledge in their subjects.

4.3.5 Syllabuses

The findings are presented in (figure 4.1) above indicates that 88% of the students revealed that there is availability of syllabuses in libraries in some public secondary schools, while in (figure 4.2) above shows that 97.23% of teachers revealed that in most public secondary schools there are availability of syllabuses. Therefore, syllabus is very important because it is a guide to both teachers and students on what to be taught and learnt. In absence of syllabuses, the students cannot attain the required learning outcomes. One of the head of school had this to say;

> "*Syllabus is a very important learning material for students and teachers. We have three copies of syllabuses in every subject (science subject included). Students use the available syllabus in the library to identify specific areas that they have to learn" (HOS C, 19th July, 2024)*

Additionally, one of the Ward Education Officer had this to say;

> *In the schools I oversee the syllabi are generally available in the libraries and are accessible to both teachers and students because they play a crucial role in aligning*

> *classroom instruction with curriculum objectives (WEO D, 19th July, 2024)*

Similarly, when Town Secondary Education Officer asked had this to say;

> *Most of the secondary schools in our town have access to the official syllabi in their libraries, these documents guide both teaching and learning ensuring consistency with the national curriculum (TSEO, 19th July, 2024)*

The participant above had agreed that syllabus is important document for both teachers and students in learning of science subjects. Some of the respondents have revealed the absence of syllabus in some of secondary schools. The researcher sees the difference in views between teachers and students on the availability of syllabus. Therefore, the availability of syllabuses assists secondary schools' students by detailing course goals, topics, and evaluation methods, helping them organizes their studies. Thus, the result imply that availability of syllabus helps both students and teachers to identify areas (in science subjects) to be covered. Correspondingly, Murugan, (2019) coincides with this study finding and posited that library resources are vital in supporting student learning their academic subjects.

4.4 How Students Utilize the School Library Resources for Studying Science Subjects

The second objective of this study sought to find out how students utilize the school library resources for studying science subjects in Bunda district. The researcher addressed this objective qualitatively as he used interview guides to the respondents to collect information as far as this objective was concerned. The specific question in

this objective was “How do students’ access and utilize library resources to support their learning in science subjects? The following were the responses of the respondents on how students utilize school library resources for studying science subjects.

4.4.1 Private Studies

Majority of the respondents have articulated that students utilize school library resources for private studies. The library is very quiet places that smooth learning which is why students use the library as a good place for their private studies. The respondents of this study when asked said:

> “*Most of the students in our school use the available resources in our library for private studies. They come here due to the availability of required materials. For example, we have books (both supplementary and textbooks), pamphlets, and past papers. So, they use these materials for their self-studies to develop their deep understanding of science subjects*” (*HOS B, 22nd July, 2024)*

Similarly, one of the school librarian noted saying

> “*We don’t have enough learning materials at home as our parents cannot afford to buy them. We only depend on the library to find the required materials. As a science taker, you have to spend most of your time learning that is why I attend much at the library after class hours” (School librarian from school D, 22nd July, 2024)*

4.4.2 In Discussion

The data from the field as obtained from the scheduled interview sessions reveals that students utilize library resources to conduct group discussions with their peers in secondary schools. Students use available resources in their libraries to support their arguments in their discussions. The researcher had quoted one of the head of school

as he had this to comment.

> *"I see students in groups in our library. They purposively come here for the group discussion. Unlike other areas, the library is a pleasant area for discussion. When they discuss, it is easier for them to get the required materials which are found in the library" (HOS A, 22nd July, 2024)*

Similarly one of the school librarian were noted saying,

> *"Every day after classes, I see students coming into library in groups, particularly those studying science subjects, they sit and use science textbooks, revise past papers, and engage in intense discussion to solve problems and clarify concepts"(School librarian of school B, 22nd July, 2024)*

Again, one Ward Education Officer from Ward A commented this;

> *From my observation and report from schools within my ward, students frequently use the library services for conducting academic discussions, especially in science subjects (WEO A, 22nd July, 2024)*

The participants view suggests that discussion plays a vital role in helping students utilize library services effectively when studying science subjects. Through group discussion, students share knowledge, clarify complex concepts, and critically analyze scientific information sourced from library materials such as textbooks, journals, and past papers. This collaborative learning enhances understanding and retention. This view is in line with a study conducted by Aina (2014) who asserted that libraries services promote collaborative environments that support students learning behaviors. Additionally, self-regulated learning theory support this finding by emphasizing that students take active control of their learning through goal-setting, self-monitoring, and reflection practices often fostered during academic

discussions

4.4.3 Doing Assignments and Homework

Majority of the participants who were interviewed by the researcher had said that they use library resources as reference in doing their assignments and homework as given by their teachers. Thus, this implies that library resources are highly utilized by students in public secondary schools in learning science subjects. This fact is evidenced by quoted interviews from the participants of this study as revealed hereunder. One of the head of school had this to say;

> "*We assign our students with library assignments to develop their learning habits. They conduct library research in the group*" *(HOS E, 23rd July, 2024)*

Corresponding, one of school librarian had this to say;

> "*They come here to do their homework given by their teachers. It is a student-centered curriculum that requires students to learn by himself or herself with a teacher being a facilitator. I see them (students) doing their assignments in the library" (School librarian from school E, 23rd July, 2024)*

The participants' view suggests that students' ability to borrow materials in the library fosters a collaborative learning environment, enabling students to engage with their subjects more thoroughly and develop critical thinking skills essential for their academic success. Thus, the results imply that the regular visiting in the library to access different materials found, will help students improve their subjects and perform well homework and assignments given by their teachers. The findings coincide with Agyekummar and Filson (2012), as their study posits that most students use library resources and services to implement their class notes and

assignments, and this helps them with examination preparation.

4.4.4 Borrowing Books

The respondents of this study had identified book borrowing as the utilization of library resources done by the students in their secondary schools. Students borrow books for their learning at their home. The researcher had a chance to interview participants of this study and one of the school librarian was quoted as saying;

> *"We have a tendency of lending books to the interested students. Some of the students come to borrow books and other materials for a week. That is another way of students to utilize the available resources in our library*"(*School librarian from school A 23rd July, 2024)*

In the same vein Town Secondary Education Officer had this to say;

> *In our town council secondary school libraries play a vital role in students' academic development, through regular monitoring, we found that students borrow books not only for class work but also for personal growth in science subjects(TSEO, 23rd July, 2024)*

Again, one of the head of school commented this;

> *From my experience, I can confidently say that our students visit the school library to borrow books, especially during exam preparation periods.(HOS C, 23rd July, 2024)*

Similarly, one of the Ward Education Officer had to this to say;

> *When I conduct regular monitoring within public secondary schools in my ward I have observed that many students in our schools actively use library services, particularly for borrowing textbooks and reference materials (WEO B, 23rd July, 2024)*

The participant's views indicate that students have tendency to access library services for completing assignments and homework in science subjects because they use materials found in school library that assist them to provide essential information needed for the studies. This access to library helps them find accurate and relevant materials related in studying science subjects. Thus, the results imply that when students attend library in borrowing different materials related to science subjects will helps to improve their performance in science subjects. This participant's view coincides with the study done by Ashura, (2019) who argued that library usage among secondary school students is lower as the number of students was less effective in utilizing the facility, therefore the reading habits of students did not appear to be beneficial. This means that if library services in secondary schools are utilized enough will help students develops reading habits and eventually will positively impact their academic achievements. On the other hand, Morouf (2015) contrarily pointed out that in some public secondary schools in Nigeria, school libraries were not utilized well by students as where inadequate library resources, poor findings for library activities, lack of reading culture and a lack of adequate provision for library school development.

4.5 The Relationship Between Frequency of Library Usage and Academic Performance in Science Subjects Among Public Secondary School Students

This was the last objective of this study which aimed at examining the relationship between frequency of library usage and academic performance in science subjects among the public secondary school students. The researcher used questionnaires and interview guides as research tools in the data collection of this objective. In

questionnaires, 77 teachers and 94 students were asked to respond to statements on the relationship between the frequency of library usage and academic performance in science subjects among public secondary school students. Other 19 respondents were interviewed.

Table 4.3: Pearson Correlation Statistics on Library Usage and Academic Performance of Students in Science Subjects for Teachers

Variables					
Develop learning habit	Pearson Correlation	1	0.491	-0.096	0.284
	Sig. (2-tailed)		0.000	0.409	0.012
	N	77	77	77	77
Access to varied learning materials	Pearson Correlation	0.491	1	0.499	0.591
	Sig. (2-tailed)	0.000		0.000	0.000
	N	77	77	77	77
Lead to inquiry-based learning	Pearson Correlation	-0.096	0.499	1	0.403
	Sig. (2-tailed)	0.409	0.000		0.000
	N	77	77	77	77
Supplement classroom learning	Pearson Correlation	0.284	0.591	0.403	1
	Sig. (2-tailed)	0.012	0.000	0.000	
	N	77	77	77	77

Source: Field data, (2024)

The data from table 4.4 above reveals responses which were provided by teachers on correlation between frequency of library usage and academic performance in science subjects among the public secondary school students. Majority of the respondents indicate positive and significant relationships between usage of library and students' academic performance in public secondary schools. Thus, responses indicate that library usage develop learning habit, access to varied learning materials, lead to inquired-based learning and supplement classroom learning. Generally, the given data shows that frequency of library usage can lead to improved academic

performance in science.

Table 4.4 Pearson Correlation on Library Usage and Academic Performance of Students in Science Subjects for Students

Variables					
Develop learning habit	Pearson Correlation	1	0.687	0.399	0.473
	Sig. (2-tailed)		0.000	0.000	0.000
	N	94	94	94	94
Access to varied learning materials	Pearson Correlation	0.687	1	0.287	0.483
	Sig. (2-tailed)	0.000		0.005	0.000
	N	94	94	94	94
Lead to inquiry-based learning	Pearson Correlation	0.399	0.287	1	0.428
	Sig. (2-tailed)	0.000	0.005		0.000
	N	94	94	94	94
Supplement classroom learning	Pearson Correlation	0.473	0.483	0.428	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	94	94	94	94

Source: Field data, (2024)

From Table 4.4 above, the findings from students reveal that there are positive and significant relationships between library usage and students' academic performance in science subjects. Thus, library usage develops learning habits and access to varied learning materials, leads to inquiry-based learning and supplements classroom learning which results to increased students' academic performance.

4.5.1 Develop Reading Habits

Data from the field as presented in (Tables 4.4 and 4.5) indicates that the respondents from students and teachers had agreed that frequency of library usage correlates to academic performance in a sense that students develop the reading habit as they frequently visit the library with Pearson correlation values ($r = 1$, $p, < 0.01$), ($r >$

0.491, p, < 0.000), and (r > 0.284, p, < 0.012) for teachers and (r = 1, p, < 0.01), (r > 0.687, p, < 0.000),(r > 0.399, p, < 0.000), (r > 0.473, p, < 0.000) for students. However, some responses (r > -0.096, p, < 0.409) show negative and weak relationship between library usages variable of developing reading habits and academic performance. This implies that library services to students in secondary schools are very important as they create students with high reading habits as a result performance in science subject will be improved. One of the head of schools when asked said had this to say;

> "*Reading does not come from the vacuum. Students have to learn how to read. One of the techniques is to frequently visit library and read many books. As the students read many books, reading habit is likely to be developed as result the academic performance will be improved"(HOS D, 25th July, 2024)*

Similarly when Ward Education Officer asked commented this

> *When I conduct assessment to the schools I notice that students who frequently use library services tend to develop strong reading habits (WEO D, 25th July, 2024)*

Again, when Town Secondary Education Officer when asked had this to say;

> *"Frequent use of library services plays a vital role in shaping students reading habits; this is observed when students consistently visit the library, so when we conduct regular monitoring and evaluation we always notice this situation in our public secondary schools" (TSEO, 25th July, 2024)*

Data from the administered questionnaires coincide with those obtained from the scheduled interviews as both of them agreed that when the students frequently use library they develop reading habits which will make them perform better in their

studies. Thus, there is huge correlation between usage of library services and students' academic performance in science subjects. Concurrently, Chipana, (2018) in his study indicated that in some schools, where they had library services, it increased the reading habit of the students through accessing materials found in the library such as textbooks, novels, supplementary books, thus making a positive impact on student's academic achievement. On the other hand, Ashura, (2019) had the similar view when she argued that if library services in secondary schools are utilized enough will help students develop reading habits and eventually will impact their academic achievements in a positive way.

4.5.2 Access to Varied Learning Materials

As shown in (table 4.4 and 4.5) above, results indicate that the respondents from teachers and students had agreed that frequency of library usage correlates to academic performance in a sense that students access to varied learning materials as they frequently visit the library lead to increased academic performance as shown by the Pearson correlation coefficients ($r > 0.491$, $p, < 0.000$), ($r = 1$, $p, < 0.01$), ($r > 0.499$, $p, < 0.000$), and ($r > 0.591$, $p, < 0.000$) for teachers and ($r > 0.687$, $p, < 0.000$), ($r = 1$, $p, < 0.01$), ($r > 0.278$, $p, < 0.005$), ($r > 0.483$, $p, < 0.000$) for students. Responses revealed that access to varied learning materials due to frequency usage of library services has a strong positive and significant correlation with academic performance in science subjects. This implies that as student frequently go to library, he or she has ability to access varied learning materials that will help him or her in improve his or her performance in science subjects. When one of the head of school asked had this to say;

> "*Library is the only place where by a student has an access to different and many learning materials than other areas. Also the student cannot afford to buy all books but by consulting library he or she will have a good chance to access learning materials from different sources and authors*"*(HOS A, 26th July, 2024)*

One of the Ward Education Officer when asked had this to say;

> *"Its noted that students who frequently visit the library gain access to a wide range of learning materials from different sources including references books, past papers and other educational resources that enrich their understanding"(WEO H, 26th July, 2024)*

The participant view above show that academic performance in science subjects will be improved through frequently visiting library as the students will be able to access varied of learning materials from different sources. This view is similar to that given by respondents as majority of them strongly agreed on the statement. Thus, the results imply that library services for students who opt for science subjects is very important as it improves academic performance. Concurrently, Anthony (2018) pointed that the use of library resources and services for secondary school for private studies impacted more the academic performance in their subjects, therefore the use of textbooks, novels, dictionaries, newspapers, and atlas found in the school library can help students to acquire different information which can help students in their subjects to expand more knowledge.

4.5.3 Lead to Inquiry-Based Learning

Data from the field as presented in (Tables 4.4 and 4.5) indicate that the respondents from teachers and students had agreed that frequency of library usage correlates to academic performance in a sense that it promotes inquiry-based learning. This is shown by the Pearson correlation coefficients ($r > 0.499$, $p, < 0.000$), ($r = 1$, $p, <$

0.01), and ($r > 0.403$, $p, < 0.000$) for teachers, and ($r > 0.399$, $p, < 0.000$), ($r > 0.287$, $p, < 0.005$), ($r = 1$, $p, < 0.01$), ($r > 0.428$, $p, < 0.000$) for students. However, some teachers' responses indicate a weak and negative correlation with ($r > -0.096$, $p, < 0.409$). The field results indicate that majority of the responses show that frequency usage of library services lead to inquiry-based learning which positively and significantly correlation to better performance of science subjects in secondary schools. Thus, when the student frequently attend library, the desire to learn more is developed hence improving academic performance of the science subjects.

4.5.4 Supplement Classroom Learning

As shown in (table 4.4 and 4.5) above, results indicate that the responses from teachers and students on the frequency of library usage correlates positively and significantly to academic performance in a sense that students frequent visit to the library, supplement classroom learning which in turn lead to increased academic performance as shown by the Pearson correlation coefficients ($r > 0.284$, $p, < 0.012$), ($r > 0.591$, $p, < 0.000$), and ($r > 0.403$, $p, < 0.000$), and ($r = 1$, $p, < 0.01$) for teachers and ($r > 0.473$, $p, < 0.000$), ($r > 0.483$, $p, < 0.005$), ($r > 0.428$, $p, < 0.000$), and ($r = 1$, $p, < 0.01$) for students.

The majority of the responses reveal that frequency usage of library services correlate with academic performance in a sense that it supplement classroom learning to the students. This implies that, the students have the chance to add more knowledge from what have learnt in the classroom through frequently attending to library. Since learning is a complex and the teachers cannot provide everything to the students, the students have to use the available library services to supplement

learning of science subjects. When participant of this study asked, one of head of school had this to say;

> *"Teacher's teaching is not enough alone for the secondary school student especially science takers. The student needs to supplement classroom learning by visiting the library frequently" (HOS E, 27th July, 2024)*

Similarly, one of the Ward Education Officer had this to say;

> *"I strongly believe school libraries play a vital role in reinforcing classroom learning. During my visits, I have seen students engage with books beyond their syllabi, developing critical thinking and independent learning" (WEO F, 27th July, 2024)*

Furthermore, when one of the school librarian asked had this to say;

> *"As a school librarian, I have observed that students who regularly use the library services perform better academically, they come here to explore textbooks, reference materials and storybooks which deepens their understanding of topics taught in class"(School librarian from school D, 27th July, 2024)*

The quoted interview above suggests that library services supplement classroom's learning as the students will go beyond their teacher's lesson for the purpose of developing their learnt lesson. Similarly, this view coincides to the findings obtained from the questionnaires. Generally, there is a high correlation between the frequency of library usage and academic performance for science subjects in secondary school. When students frequently use library services in their school, their academic performance of science subjects will be improved. A similar view was given by Bernard and Dulle, (2014) as they indicated that students were able to utilize resources available in the school library such as textbooks and novels which helped

them to improve their performance. Nevertheless, Boakage (2018) argued that the use library services more efficient and effective in their studies so as to score good performance. Additionally, Lance and Hofschire (2012) found that in some schools, where they had provided library services, it increased the reading habits of their students. Astonishingly, Yusuf (2014) argued that school library utilization does impact on students' academic performance positively. He further recommended broadening the range of information sources and services provided in school libraries through equipping them with enough current and relevant information sources.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The general objective of this study was to investigate the perceived contribution of library services in enhancing science subjects' performance in Bunda Town Council. This chapter presented summary of the study, conclusions which is presented as per specific objectives of the study, recommendations and the area for further studies.

5.2 Summary of the Findings

The summary of the findings based on specific objectives was explained below;

The first objective one was to assess the current status and resources available in secondary schools' libraries for studying science subjects. The findings indicate that most public secondary schools do not have internet services that helped students search different materials for studying science subjects. Again the data revealed that most public secondary schools are not equipped with enough supplementary books, and computers that would help students in studying science subjects. Furthermore, findings revealed that most public secondary schools have enough science textbook but students do utilize it more for studying science-related subjects.

The second objective was to find out how students utilize the library services for studying science subjects in public secondary schools. The study revealed that most public secondary students utilize library services in conducted private studies, doing discussion, doing assignments and homework and borrowing books for studying

science subjects at schools.

The last objective was to examine the relationship between the frequency of library usage and academic performance in public secondary schools. The findings revealed that if students develop reading habits, access to varied learning materials, lead to inquiry-based learning and supplement classroom learning, the correlation of the frequency usage and academic performance in science subjects would be high in public secondary schools.

5.3 Conclusions

Basing on the findings obtained, the study had the followings conclusion;

i. It was revealed that public secondary schools are faced utilization of library services. This ineffective utilization of library services was not from the vacuum rather there were the main causes of poor performance in science subjects. From revealed current status and resources available in school library for studying science subjects, the researcher discovered that the most of the mentioned cause are lack of internet services in the school library which could help students search different materials for studying science subjects, lack of supplementary books in the school library. Thus, in a presence of these factors the poor science subjects' performance will persists.

ii. It was found that most public secondary students do not utilize library services effectively in studying their science subjects

iii. It was noted that there is high correlation between the frequency of library usage and academic performance for science subjects in secondary school.

When students frequently use library services in their schools, their academic performance in science subjects will be improved. There is high frequency of library usage and academic performance in a sense that students develop reading habit as they are frequently visiting library for their individual learning.

5.4 Recommendations

5.4.1 Recommendation for Actions

i. Secondary schools should prioritize the expansion and modernization of their library facilities. This includes investing in a diverse collection of scientific literatures, both in print and digital formats to cater to the diverse learning needs of students

ii. Secondary schools should implement a structured program that integrates library services into the curriculum for studying science subjects. This could involve scheduling regular visits, where students can engage in research, attend workshops or participate in interactive activities that complement their classroom learning.

iii. Secondary schools should implement a comprehensive monitoring and evaluation system to assess the impact of the library services on students' academic performance in science subjects. This can involve tracking metrics such as academic achievement, engagement, and overall interest in science subjects, as well as gathering feedback from students, teachers and parents. The findings from this evaluation can then be used to refine and strengthen the library services, ensuring that they continue to meet the evolving needs

of the school community.

iv. Secondary schools should enhance their library collections it a wider range of science textbooks, reference materials, and digital resources to support in-depth study and understanding of science subjects.

5.4.2 Recommendation for Further Research

The researcher recommends to other researcher to have their studies on the following related areas;

i. Examining the contribution of library services on students' academic performance in public secondary schools.

ii. Examining the contribution of library resources on enhancing students' academic performance in public secondary schools.

iii. Investigating how students utilize the library services in enhancing academic performance in public secondary schools.

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APPENDICES

Appendix 1: Questionnaire Guide for students

My name is KANWERA JAPHET a student pursuing Masters of Education in Administration, planning and policies studies at The Open University of Tanzania. I am conducting research titled "Contribution of library services in enhancing science subjects performance in secondary schools in Bunda town council "In order to fulfill the requirements for the mentioned award. I kindly request you to cooperate with me in this study by answering the following questions. The information you are going to provide is for academic purpose only and it will remain confidential.

Instructions.

Please put a tick (√) to the option you think is most appropriate and correct.

1: Status and resources available in a school library for science subjects.

Please put a tick (√) to each statement below.

	Resources	Available	Not available	In use
1	Internet services			
2	Supplementary books (Science subjects)			
3	Text books (Science subjects)			
4	Computers			
5	Syllabuses			

2: How do students utilize school library services in studying science subjects

	Statements	SD	D	NS	A	SA
1	I use library for private studies					
2	I use library services in discussion with my peers					
3	Searching for academic materials					
4	Doing assignments and home works					
5	Borrowing books and other learning materials					

Please give your opinion to either SA= Strongly Agree, A= Agree, D=disagree, SD=strongly disagree or NS=Not sure by put a tick (√) to each statement

3. Relationship between frequency of library usage and academic performance in science subjects.

	Statements	SD	D	NS	A	SA
1	Develop reading habits					
2	Access to varied learning materials					
3	Lead to inquiry-based learning					
4	Supplement classroom learning					

Thank you for your participation.

Appendix 2: Questionnaires guide for science subjects' teachers

My name is KANWERA JAPHET a student pursuing Masters of Education in Administration, planning and policies studies at The Open University of Tanzania. I am conducting research titled "Contribution of library services in enhancing science subjects performance in secondary schools in Bunda town council "In order to fulfill the requirements for the mentioned award. I kindly request you to cooperate with me in this study by answering the following questions. The information you are going to provide is for academic purpose only and it will remain confidential.

A. Demographic Information of the respondents

Please fill in blanks in the following blanks.

I. Age _____

II. Sex _____

III. Education level_____

B. Responses to the research's objectives

1: status and resources available in a school library for science subjects.

Please put a tick (√) to each statement below.

	Resources	Available	Not available
1	Internet services		
2	Supplementary books (Science subjects)		
3	Text books (Science subjects)		
4	Computers		
5	Syllabuses		

2: How do students utilize school library services

	Statements	SD	D	NS	A	SA
1	They use library for private studies					
2	They use library services in discussion with my peers					
3	They use for Searching for academic materials					
4	They use in doing assignments and home works					
5	They borrow books and other learning materials					

Please give your opinion to either SA= Strongly Agree, A= Agree, D=disagree, SD=strongly disagree or NS=Not sure by put a tick (√) to each statement

3. Relationship between frequency of library usage and academic performance in science subjects

	Statements	SA	A	D	SD	NS
1	Develop reading habits					
2	Access to varied learning materials					
3	Lead to inquiry-based learning					
4	Supplement classroom learning					

Thank you for your participation.

Appendix 3: Interview guide for TSEO Administrators

Dear Respondent,

My name is **KANWERA JAPHET** a student pursuing Masters of Education in Administration, planning and policies studies at The Open University of Tanzania. I am conducting research titled "**Contribution of library services in enhancing science subjects performance in public secondary schools in Bunda town council** "In order to fulfill the requirements for the mentioned award. I kindly request you to cooperate with me in this study by answering the following questions. The information you are going to provide is for academic purpose only and it will remain confidential

1. How many schools in Bunda town council have library?
2. Do those available libraries in Bunda town council equipped with necessary materials for science subjects?
3. How do you manage to equip libraries with the required resources for learning science subjects?
4. Please tell me the effect (if any) of a having a library services in secondary schools towards improving academic performance in science subjects?
5. What is academic performance (in science subjects) to the school that have libraries compared to those that don't have libraries?

Thank you for your participation.

Appendix 4: Interview guide for Ward Education Officers

Dear Respondent,

My name **is KANWERA JAPHET** a student pursuing Masters of Education in Administration, planning and policies studies at The Open University of Tanzania. I am conducting research titled **"Contribution of library services in enhancing science subjects performance in public secondary schools in Bunda town council** "In order to fulfill the requirements for the mentioned award. I kindly request you to cooperate with me in this study by answering the following questions. The information you are going to provide is for academic purpose only and it will remain confidential

1. Does your school found in your area have library services?
2. Do those available libraries in Bunda town council equipped with necessary materials for science subjects?
3. How do you manage to equip libraries with the required resources for learning science subjects?
4. Please tell me the effect (if any) of a having a library services in secondary schools towards improving academic performance in science subjects?

5. What is academic performance (in science subjects) to the school that have libraries compared to those that don't have libraries

Thank you for your participation.

Appendix 5: Interview guide for Head of secondary schools

Dear Respondent,

My name is **KANWERA JAPHET** a student pursuing Masters of Education in Administration, planning and policies studies at The Open University of Tanzania. I am conducting research titled "**Contribution of library services in enhancing science subjects performance in secondary schools in Bunda town council** "In order to fulfill the requirements for the mentioned award. I kindly request you to cooperate with me in this study by answering the following questions. The information you are going to provide is for academic purpose only and it will remain confidential

1. Does your school have library library services?
2. Do those available libraries in Bunda town council equipped with necessary materials for science subjects?
3. How do you manage to equip libraries with the required resources for learning science subjects?
4. Please tell me the effect (if any) of a having a library services in secondary schools towards improving academic performance in science subjects?

5. What is academic performance (in science subjects) to the school that have libraries compared to those that don't have libraries

Thank you for your participation.

Appendix 6: Interview guide for School librarian

Dear Respondent,

My name is **KANWERA JAPHET** a student pursuing Masters of Education in Administration, planning and policies studies at The Open University of Tanzania. I am conducting research titled "**Contribution of library services in enhancing science subjects performance in secondary schools in Bunda town council** "In order to fulfill the requirements for the mentioned award. I kindly request you to cooperate with me in this study by answering the following questions. The information you are going to provide is for academic purpose only and it will remain confidential

1. How is your library equipped with necessary learning materials for science subjects?
2. What kind of learning materials (Science subjects) are mostly found in your library?
3. Do students in your school visit library? How often do they come to library?
4. How do students use library services?
5. How do you assist students in searching library materials for studying science subjects?
6. For your experience do science subject teachers and students have a tendency of visiting library to search teaching and learning materials?
7. As school librarian how do you guide students on using library services for studying science subjects?
8. How do the library resources influence science subjects' performance for students?

Thank you for your participation

Research Clearance Form

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

THE OPEN UNIVERSITY OF TANZANIA

Ref. No OUT/PG202001859 **3rd July, 2024**

Regional Administrative Secretary

P.O. Box 299,

MUSOMA.

Dear, Regional Administrative Secretary,

RE: RESEARCH CLEARANCE FOR MR KANWERA JAPHET REG NO: PG202001859

2. The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1stMarch 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 1stJanuary 2007.In line with the Charter, the Open University of Tanzania mission is to generate and apply knowledge through research.

3. 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. Kanwera Japhet , Reg.No:PG20201859),** pursuing **Masters of Education in Administration Planning and Policy Studies (MED APPS)** We here by grant this clearance to conduct a research titled " **Contribution of Library Service in Enhancing Science Subject Performance I**

Public Secondary Schools in Bunda Town Council". He will collect his data at your office from July 3rd , 2024 to 31st July 2024.

4. 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 thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,

THE OPEN UNIVERSITY OF TANZANIA

Prof.Gwahula Raphael Kimamala

For: VICE CHANCELLOR

Kinondoni Biafra, Kawawa Road; P.O 23409; Dar es Salaam; Tel: +255 22 2668 445;
E-Mail:vc@out.ac.tz|| Website:www.out.ac.tz

THE UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION & LOCAL GOVERNMENT

MARA REGION
Tel.No:DC: 028-2985713
:DAS: 028-2985712
E-mail:das@bunda.mara.go.tz
web site:www.bund.go.tz

District Commissioner's Office,
P.O Box. 250,
BUNDA.

Ref. No: AB.225/267/03/203

12th July, 2024

The Director,
Bunda Town Council,
P.O Box 219,
BUNDA.

RE: RESEARCH ATTACHMENT FOR MR. KANWERA JAPHET.

Reference is made to the above mentioned subject.

The above named is a student of Open University of Tanzania (OUT) who is at the moment conducting his research.

The purpose of this letter is to inform you that permission has been granted to him to conduct research at Bunda Town Council for a period from July to Augost, 2024.

The title of his research is ***"Contribution of Library Service in Enhancing Science Subject Performance in Public Secondary Schools; Case Study of Sizaki Secondary School,Rubana Secondary School,Guta Secondary School, Wariku Secondary School and Kabasa Secondary School in Bunda Town Council".***

Please give any help that may facilitate him to achieve his research objective.

Thank you.

Salum H. Mtelela
DISTRICT ADMINISTRATIVE SECRETARY
BUNDA

DISTRICT ADMINISTRATIVE SECRETARY
BUNDA

Copy to: DC – (In file).

MR. KANWERA JAPHET

THE UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION & LOCAL GOVERNMENT

MARA REGION
Tel. No.028-2622005, 2622004,
2622305

Fax No.028-2622324/2622764
E-mail: ras.mara@tamisemi.go.tz

REGIONAL COMMISSIONER'S OFFICE,
13 BOMA ROAD,
P.O. BOX 299,
MUSOMA.
MARA

In reply please quote

Ref. No. FA 190/227/01/H/101 **08 July, 2024**

District Administrative Secretary,
BUNDA TOWN COUNCIL

RE: **RESEARCH PERMISSION FOR KANWERA JAPHET**

Please make reference to your letter No. OUT/PG.202001859 dated 3 July, 2024 regarding the above subject matter.

2. The named above is a student of the Open University of Tanzania (OUT) pursing Master's of Education in Administration Planning and Policy Studies (MED Apps) conducting a research that involved data collection on secondary Education Particular at Public secondary Schools.

3. With this letter you are informed that the permission has been granted to the named student to conduct his research in Bunda District for a period that does not exceed one month at **Guta secondary School.**

4. The title of his research is "**Contribution of Library Service in Enhancing Science Subject performance in Public Secondary Schools'.**

5. Thank you for your cooperation.

Gerald M. Kusaya
REGIONAL ADMINISTATIVE SECRETARY
MARA

Copy to:
Open University of Tanzania,
P.O.Box 23409,
DAR ES SALAAM

Kanwera Japhet

THE UNITED OF TANZANIA

PRESIDENT'S OFFICE
REGIONAL ADMNISTRATION & LOCAL GOVERMENT

BUNDA TOWN COUNCIL

Please quote:
Ref. No: HMB/T:30/2 VOL II/26

16th July, 2024

Town Secondary Education Officer,
Bunda Town Council,
P.O BOX 219,
BUNDA

RE: RESEARCH ATTACHMENT FOR MR. KANWERA JAPHET

Refer to the heading above.

2. Reference is made on the letter dated **12th July, 2024** with reference number **AB.225/267/03/203** of the above captioned subject.

3. I would like to introduce to you Mr. Kanwera Japhet who expects to conduct research title "***Contribution of Library Service in Enhacing Science Subject performance in public secondary schools; Caase study of Sizaki Secondary School, Rubana Secondary School, Guta Secondary School, Wariku Secondary School and Kabasa Secondary School in Bunda Town Council***" For a period of July to August,2024.

4. With this letter you are requested to provide the necessary cooperation in completing the research as intended.

Yours Sincerely,

Peter Z. Kafuku
For: TOWN DIRECTOR
BUNDA TOWN COUNCIL

" Principals,
Wariku, Rubana, Guta and Kabasa - **Give Him Cooperation**

" Town Planning and Coordination Officer,
Bunda Town Council,
S.L.P 219,
BUNDA - **For Information**

" **Mr. Kanwera Japhet**