FACTORS INFLUENCING PERFORMANCE OF GEOGRAPHY SUBJECT IN PUBLIC SECONDARY SCHOOLS IN NYAMIRA SOUTH SUB-COUNTY, KENYA

GUANTAI HARUN

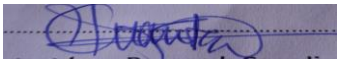
A PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF EDUCATION DEGREE IN EDUCATIONAL PLANNING OF MOUNT KENYA UNIVERSITY

OCTOBER 2024

DECLARATION AND APPROVAL

Declaration by the candidate

I hereby declare that this research proposal is my original work and has not been presented for a degree in any other University or other award.

Signature:  Date: 24/08/2024

HARUN GUANTAI

MED/2021/70551

Approval by the supervisor

This proposal has been submitted for examination with my approval as the university supervisor.

Signature_____ _____ Date: 24/08/2024

Dr. Jacob Kwaba (Ph.D)

School of Education

Mount Kenya University

DEDICATION

I dedicate this work to my wife Catherine, my children Caroline, Daisy, Lornah, Britney, and my grandchildren Lenah, Laureen, and Leila for their unwavering support.

ACKNOWLEDGEMENT

I am thankful to God for the grace, vitality, health, and determination required to complete this work. My heartfelt appreciation goes to my supervisor, Dr. Jacob Kwaba, for his expert guidance and insightful suggestions. Profound gratitude to my wife, children, and grandchildren for their unwavering support. I am equally grateful to my mother, Mrs. Jennifer N. John; my sisters, Ms. Lucy Kathure and Ms. Doreen Miriko Kamau; my brother, Mr. Mutai Nicholas; my grandmother, Mrs. Jennifer K. M'Arithi; my late father-in-law, Robert Muthamia; my cousin, Mr. Simeon Gichunge; and all friends and relatives for their encouragement. Special thanks to Mrs. Jane Nyanumba, Mr. Evans Ong'era, Mr. Makori Evans, Mr. George Nyabochwa, the geography teachers at Sironga Girls High School, the staff at the Nyamira South Sub-County Education Office, and all participants in this study. Lastly, I appreciate my classmates for their support throughout my academic journey.

ABSTRACT

Geography education plays a crucial role in equipping students with the knowledge and skills to understand and engage with the world around them. In Nyamira South Sub-County, Kenya, there has been growing concern about the performance of students in geography. The purpose of this study was to investigate the factors influencing the performance of geography students in public secondary schools in Nyamira South Sub-County. The specific objectives of the study are: to identify the availability and adequacy of teaching resources for geography, to evaluate the level of training and preparedness of geography teachers, to examine the socio-economic factors affecting student performance in geography, and to analyze the impact of student-to-teacher ratios on the performance of geography students. This study employed two theoretical frameworks: Constructivist Learning Theory and Socio-Economic Status (SES) Theory. Constructivist Learning Theory. The research employed a descriptive survey design to systematically describe the situation. The intended participants for this study are 101 geography teachers and 50 principals from Nyamira South sub-county. A census sampling technique was used to select participants. Data collection was carried out using questionnaires for geography teachers and interview schedules for principals. The analysis of quantitative data was conducted using descriptive statistics, including the use of tables, pie charts, and percentage calculations, facilitated by the Statistical Package for the Social Sciences (SPSS) software. Qualitative data was also processed through descriptive analysis. Key findings highlighted that teaching resources were inadequate, with textbooks and digital tools scoring low on availability, averaging 2.4 and 2.6, respectively. Teacher preparedness was another significant challenge, as most respondents indicated limited access to professional development opportunities, reflected by a mean score of 2.5. The large student-to-teacher ratios further compounded the issue, making it difficult for teachers to manage classrooms effectively and provide personalized attention, as evidenced by a mean score of 2.6. In conclusion, the study identified insufficient teaching resources, lack of professional development, and overcrowded classrooms as key factors negatively impacting geography performance. Addressing these issues is essential for improving the overall quality of education in the region. The study recommends that schools be equipped with up-to-date teaching materials and digital tools. Additionally, continuous teacher training programs should be implemented to improve instructional quality. Hiring more qualified teachers to reduce class sizes is also critical. Further research should focus on addressing socio-economic barriers to ensure equitable access to quality education for all students.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

G O K	-	Government of Kenya
I C T	-	Information Communication and Technology
K C S E	-	Kenya Certificate of Secondary Education
K I C D	-	Kenya Institute Curriculum Development
M O E	-	Ministry of Education
S P S S	-	Statistical Package for Social Sciences
T S C	-	Teachers Service Commission
U N E S C O	-	United Nation Educational Scientific and Cultural Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Geography, as a discipline, plays a crucial role in fostering a comprehensive understanding of our world by examining the relationships between people, places, and environments. This field of study is not only about maps and terrains but also about understanding the complex interactions that shape our world. It encompasses physical geography, which deals with the natural environment, and human geography, which examines the social, economic, and cultural processes that influence places and landscapes.

Globally, the importance of geography education is well-recognized. Studies have shown that a solid foundation in geography contributes significantly to the development of critical thinking and spatial awareness (Bednarz, Heffron, & Huynh, 2013). These skills are essential in various fields, including urban planning, environmental management, and disaster response. In countries such as the United States and the United Kingdom, geography education is integrated into the core curriculum, emphasizing its importance in understanding global issues such as climate change, urbanization, and sustainable development (National Geographic Society, 2015).

In the United States, geography is a fundamental part of the K-12 curriculum, with standards set by the National Geographic Society and the Association of American Geographers. These standards aim to equip students with a deep understanding of both physical and human geography, preparing them to address complex global challenges (National Geographic Society, 2015). Similarly, in the United Kingdom, geography is a compulsory subject in the National Curriculum for schools. It is designed to help

students develop a sense of place and understanding of the world, encouraging them to think critically about global issues and their local impacts (Roberts, 2017).

In the African context, geography education is pivotal in addressing the continent's unique environmental, social, and economic challenges. Countries like South Africa and Nigeria have acknowledged the importance of geography in their educational systems, integrating it into their secondary school curricula to promote environmental literacy and sustainable development (Govender, 2015). In South Africa, the curriculum emphasizes the study of physical and human geography to help students understand and address issues such as climate change, resource management, and urbanization. The inclusion of geography in the curriculum aims to equip students with the knowledge and skills needed to contribute to national and regional development goals. Similarly, Nigeria has made efforts to enhance geography education by updating the curriculum and incorporating contemporary geographical issues that are relevant to the local context (Olusegun, 2018). These efforts are designed to foster a generation of learners who are well-versed in the geographical aspects of their environment and capable of making informed decisions that promote sustainability.

However, despite these efforts, many African countries face significant obstacles in delivering effective geography education. One of the major challenges is the inadequate supply of teaching materials, which hampers the ability of teachers to provide comprehensive and engaging lessons. In many instances, geography textbooks are outdated, and there is a lack of supplementary resources such as maps, atlases, and digital tools that are essential for a modern geography curriculum. Moreover, the shortage of qualified teachers poses a critical challenge. Many teachers lack the necessary training and professional development opportunities to stay current with advancements in geographical knowledge and teaching methodologies (Adewuyi &

Misari, 2018). This gap in teacher preparedness affects the quality of instruction and subsequently, student performance.

Focusing on Kenya, the performance of geography in public secondary schools has been a subject of concern, particularly in regions such as Nyamira South Sub-County. The Kenyan education system recognizes geography as a critical subject that contributes to the understanding of the country's diverse physical and human landscapes. However, several factors influence the performance of geography in public secondary schools. These include inadequate teaching resources, insufficiently trained teachers, and socio-economic challenges that affect student attendance and engagement (Kimani & Mwoma, 2018). In Nyamira South Sub-County, these issues are compounded by additional factors such as high student-to-teacher ratios and limited access to modern educational tools and technologies (Nyaberi, 2019). Furthermore, cultural attitudes towards education and gender disparities also play a role in influencing students' performance in geography, with girls often facing more significant barriers to educational attainment compared to boys (Mugambi, 2020).

1.2 Statement of the problem

The performance of students in the geography subject in public secondary schools in Nyamira South Sub-County, Kenya, has been notably low, raising concerns among educators, policymakers, and stakeholders (Kimani & Mwoma, 2018). Despite the integration of geography into the national curriculum and its importance in fostering environmental literacy and sustainable development, students in this region consistently underperform in geography compared to other subjects. This underperformance is attributable to several factors, including inadequate teaching resources, insufficiently trained teachers, and socio-economic challenges that affect student attendance and

engagement (Nyaberi, 2019). Additionally, high student-to-teacher ratios and limited access to modern educational tools further exacerbate the problem (Mugambi, 2020). These issues not only hinder students' understanding and appreciation of geography but also limit their ability to apply geographical knowledge to real-world situations, thereby impacting their overall academic achievement and future prospects. Addressing these challenges is crucial to improving geography education and enhancing student performance in Nyamira South Sub-County.

1.3 Purpose of the study

The purpose of this study is to investigate the factors that influence teachers' performance in the implementation of geography curriculum in Nyamira South Sub County, Nyamira County of the Republic of Kenya.

1.4 Research objectives

The study was guided by the following objectives;

i. Establish ways in which use of teaching/ learning resources influence students' KCSE Geography performance.
ii. Determine how teachers teaching experience influences student performance in geography.
iii. Determine ways in which teaching methodology influence students' KCSE performance in geography.
iv. Establish how students' attitude towards geography influences their KCSE performance in geography.

1.5 Research questions

The study was guided by the following research questions;

i. How does teaching /learning resources influence students' KCSE Performance in geography?
ii. In what ways does teachers' teaching experience influence students' performance in geography?
iii. To what extent does teaching methodology influence Students' Performance in Geography?
iv. To what extent does students' attitude towards Geography influence their performance in Geography in KCSE?

1.6 Significance of the study

The study on the factors influencing the performance of geography in public secondary schools in Nyamira South Sub-County, Kenya, holds significant importance for several reasons:

Educational Improvement

Understanding the specific challenges that affect the performance of geography students in Nyamira South Sub-County will provide valuable insights for educators and school administrators. By identifying the key factors that hinder student achievement, this study might help in developing targeted interventions and strategies to improve geography education. Enhancing the quality of geography instruction can lead to better academic outcomes and foster a deeper understanding of the subject among students.

Policy Formulation

The findings from this study might be crucial for policymakers in the education sector. Detailed information about the obstacles faced by students and teachers can inform the

creation of policies aimed at addressing these issues. For instance, policies could be developed to ensure adequate allocation of resources, improve teacher training programs, and reduce student-to-teacher ratios. Such policy adjustments can contribute to a more equitable and effective education system in Nyamira South Sub-County and potentially in other regions with similar challenges.

Socio-Economic Development

Geography education plays a vital role in equipping students with knowledge about their environment and the world at large. Improved performance in geography can lead to the development of critical thinking and problem-solving skills that are essential for addressing local and global challenges such as climate change, urbanization, and sustainable development. By fostering these skills, the study contributes to the socio-economic development of the region as students are better prepared to engage in activities that promote environmental sustainability and community development.

Gender Equity

The study might also highlight any gender disparities in the performance of geography students. Understanding the barriers that girls face in accessing quality geography education can lead to the implementation of gender-sensitive approaches that ensure equal opportunities for all students. Promoting gender equity in education is crucial for the overall development of the community, as it empowers both boys and girls to contribute effectively to societal progress.

Academic Research

This study might add to the body of academic research on education in Kenya and other similar contexts. It will provide a basis for further research on geography education and its impacts, offering a comparative framework for studies in other regions and countries. Additionally, the study can serve as a reference for researchers

interested in exploring the intersection of education, socio-economic factors, and student performance.

1.7 Scope of the Study

The scope was narrowed to Nyamira South Sub-County, which avoids the logistical complexities and high costs of encompassing the entire county. This strategic limitation facilitates more manageable data collection and analysis within the set timeframe. The study is confined to fifty schools in Nyamira South Sub-County and involved 50 principals and 101 geography teachers. It investigated how the availability of resources, in-service training, administrative support, and teachers' attitudes towards teaching affect their performance. The study was conducted within one year from July 2023 to July 2024.

1.8 Limitations of the study

In this study, the participants, who are well aware of the declining standards in Geography, might hesitate to provide responses that could jeopardize their employment. To enhance the honesty of responses, participants was assured anonymity concerning their identities and the names of their schools. Furthermore, the challenging terrain of the study area may restrict access to certain locations, such as Etono, Nyabisimba, and Nyamotentemi secondary schools. Consequently, the researcher engaged with geography teachers through online platforms or during virtual meetings and workshops for geography educators.

1.9 Delimitations of the study

This research was specifically focused on examining the factors that influence teacher performance in the implementation of the geography curriculum in public secondary schools within Nyamira County. Consequently, the findings of this study are not applicable to private secondary schools.

1.10 Assumption of the study

The following are the basic assumptions of the study;

I. Respondents would answer and give accurate responses to the questionnaire

ii. Most of the teachers are assumed to have attended in-service programs on improvement of their services

iii. The sampled schools were representative of the entire population.

1.11 Operational Definition of Key Terms

Principal-is the head of institution or lead teacher or head teacher in a school.

Curriculum implementation- is the process of putting into action what has been prepared after it has been given in schools by teachers

Enrolment- relates to the quantity of pupils that are enrolled in a certain class or attending school.

Capacity building and in-service training- refers to brief training that is given to teachers who are already employed in order to refresh and enhance their knowledge and abilities.

Modern teaching and learning resources- are modern tools that improve efficient instruction, such as digital cameras, slide displays, computers for research and presentations, and more.

School administrators- refer to the head of the school or the teachers who have been given the authority to oversee the department(s), division(s), or institution.

Support-refers to financial or other support, such as morale, school resources including buses, textbooks, teaching and learning aids, ICT facilities, inspiration, etc., that teachers get from the school administration.

Teacher performance – This relates to teachers' performance as judged by student learning outcomes, completeness, and correctness, as well as the amount of time and resources they spent.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter looks at existing research related to geography education. It focuses on important factors like the availability of teaching resources, how prepared teachers are, students' attitudes toward geography, and the student-to-teacher ratio. By reviewing various studies, this chapter aims to understand how these factors affect students' performance in geography. The goal is to provide a clear background on these issues and suggest where more research or improvements might be needed to help students do better in geography.

2.2 Empirical Literature

2.2.1 Availability and Adequacy of Teaching Resources

Globally, the availability and adequacy of teaching resources are recognized as fundamental components of effective geography education. In the United States, the emphasis on providing comprehensive teaching materials has been supported by initiatives such as the National Geographic Society's educational programs, which aim to enhance geography literacy through the provision of up-to-date textbooks, digital resources, and interactive maps (National Geographic Society, 2015). Similarly, the United Kingdom has invested significantly in geography education, ensuring that schools are equipped with modern atlases, GIS tools, and access to online geographical databases (Roberts, 2017). Despite these efforts, disparities still exist, particularly in rural and underfunded schools, where resources remain limited, affecting the quality of geography education (Fisher & Binns, 2016).

In Australia, geography education has also benefited from substantial support in terms of resources. The Australian Geography Teachers' Association (AGTA) has been instrumental in providing teachers with professional development opportunities and high-quality teaching materials. Recent studies indicate that schools equipped with interactive whiteboards, digital projectors, and comprehensive geographic information systems (GIS) software have seen improved student engagement and performance in geography (Berry, 2018). However, challenges persist in ensuring that these resources are uniformly distributed across all schools, particularly in remote areas (Jones & Henderson, 2019).

In Africa, the availability of geography teaching resources varies significantly across different countries. In South Africa, efforts have been made to improve geography education through the provision of updated textbooks and digital resources. The Department of Basic Education has introduced initiatives to incorporate technology in the classroom, such as the use of tablets and digital content, to enhance the learning experience (Govender, 2015). However, resource distribution remains uneven, with schools in poorer regions lacking access to these modern tools, thereby limiting their educational potential (Molefe, 2016).

Nigeria presents a different scenario, where geography education faces substantial challenges due to inadequate teaching materials. Many schools rely on outdated textbooks, and there is a notable scarcity of atlases and digital resources. A study by Olusegun (2018) highlights that the lack of access to current geographical information and teaching aids severely hampers the effectiveness of geography instruction. Moreover, financial constraints often prevent schools from acquiring necessary teaching tools, exacerbating the disparities in educational quality between urban and rural areas (Adewuyi & Misari, 2018).

In Kenya, the situation reflects a blend of these challenges and efforts. While there have been attempts to update the curriculum and provide modern teaching resources, many public secondary schools still struggle with inadequate supplies. The government's push to integrate ICT into education has seen some progress, but the implementation has been uneven. A significant number of schools, particularly in rural areas, lack basic resources such as updated textbooks, maps, and access to digital tools, which impedes effective geography teaching (Nyaberi, 2019).

In Nyamira South Sub-County, Kenya, the availability and adequacy of geography teaching resources are particularly concerning. Despite national efforts to improve education through policy reforms and resource allocation, many schools in this region continue to face severe shortages. According to Kimani and Mwoma (2018), the lack of up-to-date geography textbooks, atlases, and digital teaching aids significantly affects student performance. The disparity in resource distribution is more pronounced in rural areas, where schools often rely on outdated materials and lack access to modern educational technologies.

Furthermore, the challenges in Nyamira South Sub-County are compounded by economic constraints and logistical issues. Limited funding for education at the county level has resulted in inadequate infrastructure and insufficient supply of essential teaching materials. As Mugambi (2020) notes, schools in this sub-county often struggle to provide even the most basic educational resources, which severely impacts the quality of geography instruction. Teachers are forced to rely on outdated materials and traditional teaching methods, which do not engage students effectively or foster a comprehensive understanding of geographical concepts.

Efforts to address these issues have included community and donor interventions aimed at supplementing government resources. Programs initiated by non-governmental

organizations (NGOs) and local community groups have provided some relief by donating textbooks and supporting the development of school libraries (Mwangi, 2021). However, these efforts are not sustainable in the long term and often fail to meet the comprehensive needs of all schools. A more coordinated and well-funded approach is required to ensure that all schools in Nyamira South Sub-County have access to adequate and up-to-date teaching resources.

2.2.2 Level of Training and Preparedness

Globally, the training and preparedness of geography teachers are critical factors influencing the quality of geography education. In the United States, professional development for geography teachers has been prioritized to ensure educators are well-equipped with the latest knowledge and teaching methodologies. Programs such as the National Geographic Educator Certification and the Advanced Placement (AP) Human Geography courses provide teachers with extensive training and resources to enhance their teaching effectiveness (National Geographic Society, 2017). Despite these efforts, a significant disparity still exists in teacher preparedness, particularly in underserved areas where access to professional development opportunities is limited (Bednarz, Heffron, & Huynh, 2013).

In the United Kingdom, continuous professional development (CPD) is mandated for geography teachers to maintain high teaching standards. The Royal Geographical Society (RGS) offers numerous CPD courses, workshops, and conferences aimed at updating teachers on the latest geographical research and pedagogical techniques (RGS, 2018). Studies have shown that teachers who regularly engage in CPD activities are more effective in delivering geography content and fostering critical thinking skills among students (Catling & Martin, 2017). However, barriers such as time constraints,

financial costs, and institutional support continue to affect the participation rates in these professional development programs (Roberts, 2017).

In Africa, the training and preparedness of geography teachers vary widely across different countries, impacting the quality of geography education. In South Africa, the government has made concerted efforts to enhance teacher training through initiatives such as the Integrated Strategic Planning Framework for Teacher Education and Development (2011-2025), which aims to improve the qualifications and professional development of teachers (Govender, 2015). However, challenges such as resource limitations, insufficient funding, and the uneven distribution of training opportunities remain significant hurdles (Molefe, 2016).

In Nigeria, the training of geography teachers faces substantial challenges. Many teachers in the country lack formal qualifications in geography education, relying instead on general teaching certificates. The lack of specialized training programs for geography teachers has led to a gap in subject-specific pedagogical skills (Olusegun, 2018). Moreover, professional development opportunities are scarce, with many teachers unable to attend workshops or courses due to financial constraints or logistical issues (Adewuyi & Misari, 2018). As a result, the quality of geography instruction is often compromised, affecting student engagement and performance.

In Ghana, efforts have been made to improve the training of geography teachers through various teacher education programs. Institutions such as the University of Cape Coast and the University of Education, Winneba, offer specialized courses in geography education. Despite these efforts, the implementation of continuous professional development remains inconsistent. Teachers often face challenges such as limited access to updated teaching materials and professional development

opportunities (Osei, 2016). This inconsistency affects the overall effectiveness of geography education in the country.

In Nyamira South Sub-County, Kenya, the level of training and preparedness of geography teachers significantly influences the quality of geography education. Many teachers in this region have not received specialized training in geography, relying instead on general education degrees. According to Mugambi (2020), this lack of specialized training affects teachers' ability to deliver comprehensive and engaging geography lessons. Additionally, the availability of professional development programs is limited, with many teachers unable to access these opportunities due to financial and logistical barriers.

Efforts to address these challenges have included various initiatives aimed at improving teacher qualifications and professional development. The Kenyan government, through the Teachers Service Commission (TSC), has launched programs to provide in-service training for teachers, focusing on enhancing their pedagogical skills and subject knowledge (Mwangi, 2021). However, these programs often lack the specific focus on geography needed to address the unique challenges of teaching this subject effectively. Moreover, the uneven distribution of these training opportunities means that many teachers, particularly those in rural areas, are left without adequate support.

In response to these challenges, local educational stakeholders have called for more targeted and sustainable professional development programs. Collaboration between schools, local government, and non-governmental organizations (NGOs) has been suggested as a way to provide more comprehensive training opportunities for geography teachers (Nyaberi, 2019). Such initiatives could include workshops, seminars, and online courses specifically designed to enhance the teaching of

geography, thereby improving the overall quality of geography education in Nyamira South Sub-County.

2.2.3 Socio-Economic Factors Affecting Student Performance

Globally, socio-economic factors significantly impact student performance in geography, as they influence access to resources, learning environments, and overall educational opportunities. In the United States, studies have shown that students from higher socio-economic backgrounds generally perform better in geography due to access to enriched learning environments, including well-resourced schools, extracurricular activities, and parental support (Reardon, 2013). Conversely, students from lower socio-economic backgrounds often face challenges such as inadequate learning materials, less experienced teachers, and limited access to technology, which can negatively affect their academic performance (Darling-Hammond, 2015).

In the United Kingdom, similar patterns are observed, where socio-economic status plays a crucial role in educational attainment. Research by the Education Endowment Foundation (EEF) indicates that students from disadvantaged backgrounds consistently lag behind their peers in geography and other subjects. This gap is attributed to factors such as lower levels of parental education, financial constraints limiting access to additional learning resources, and schools in deprived areas having fewer qualified teachers and less funding (EEF, 2018). Efforts to close this gap include targeted interventions such as additional funding for disadvantaged schools, teacher training programs, and initiatives to increase parental involvement in education (Sutton Trust, 2019).

In Australia, socio-economic disparities also affect student performance in geography. Studies have highlighted that students in rural and remote areas, often from lower socio-economic backgrounds, face significant educational disadvantages. These include

limited access to quality teaching, fewer educational resources, and reduced opportunities for field trips and practical learning experiences essential for geography education (Gore et al., 2017). Government initiatives aimed at addressing these issues include increased funding for rural schools, investment in digital learning technologies, and programs to attract and retain skilled teachers in remote areas (Australian Government Department of Education, 2019).

In Africa, socio-economic factors have a profound impact on educational outcomes, including geography performance. In Uganda, for example, students from low-income families often struggle with inadequate school facilities, lack of essential learning materials, and high absenteeism rates due to financial constraints (MoES, 2016). The Universal Secondary Education (USE) program aims to improve access to education for disadvantaged students, but challenges such as overcrowded classrooms and insufficient funding for educational resources persist (Namirembe, 2018).

In Tanzania, socio-economic disparities significantly affect geography education. Students from wealthier families typically attend private schools with better facilities, qualified teachers, and access to modern educational tools, while those from poorer backgrounds attend under-resourced public schools. The disparity in educational quality contributes to significant performance gaps in geography and other subjects (HakiElimu, 2017). Government efforts to address these issues include the implementation of the Education Sector Development Plan (ESDP), which focuses on improving infrastructure, teacher training, and resource allocation to disadvantaged schools (Tanzania Ministry of Education, 2018).

In Ethiopia, socio-economic factors also play a critical role in student performance in geography. Rural students, who often come from lower socio-economic backgrounds, face challenges such as long distances to school, lack of educational materials, and

inadequate school facilities. These barriers contribute to lower attendance and higher dropout rates, impacting academic performance (World Bank, 2019). The Ethiopian government has introduced various initiatives to improve educational access and quality, including school feeding programs, provision of textbooks, and construction of new schools in rural areas (UNICEF, 2018).

In Kenya, socio-economic factors significantly influence student performance in geography, particularly in regions like Nyamira South Sub-County. Students from low-income families often face challenges such as lack of basic learning materials, poor school infrastructure, and financial difficulties that hinder regular school attendance (Kimani & Mwoma, 2018). These socio-economic barriers limit students' ability to fully engage with the geography curriculum and negatively impact their academic performance.

Research by Nyaberi (2019) indicates that in Nyamira South Sub-County, socio-economic disparities are a major determinant of educational outcomes in geography. Schools in wealthier areas tend to have better facilities, more qualified teachers, and access to digital learning tools, while those in poorer regions struggle with inadequate resources and overcrowded classrooms. This inequality contributes to significant performance gaps between students from different socio-economic backgrounds.

Efforts to mitigate these disparities include government and community-based initiatives aimed at providing additional support to disadvantaged schools. Programs such as the provision of free textbooks, improvement of school infrastructure, and financial assistance for needy students have been implemented to enhance educational equity (Mugambi, 2020). However, challenges remain, and continued efforts are needed to ensure that all students, regardless of their socio-economic status, have equal opportunities to succeed in geography and other subjects.

2.2.4 Impact of Student-to-Teacher Ratios on the Performance

Globally, socio-economic factors significantly impact student performance in geography, influencing access to resources, learning environments, and overall educational opportunities. In Canada, socio-economic disparities manifest in the quality of geography education provided. Students from affluent backgrounds often attend well-resourced schools with access to advanced technological tools, such as Geographic Information Systems (GIS), which enhance learning and engagement (Smith & Sobel, 2018). Conversely, students from lower socio-economic backgrounds may attend schools with limited resources, resulting in lower academic performance and reduced opportunities for practical learning experiences (Frenette, 2019).

In Germany, socio-economic status plays a crucial role in educational attainment. Studies indicate that students from higher socio-economic backgrounds outperform their peers in geography due to access to private tutoring, extracurricular activities, and supportive learning environments at home (Becker & Schubert, 2017). The German education system has implemented measures such as the provision of additional support for disadvantaged students and the integration of inclusive teaching practices to mitigate these disparities (Klemm, 2018). However, significant gaps remain, particularly in urban schools serving low-income communities (Müller & Ehmke, 2016).

In Australia, socio-economic disparities also affect student performance in geography. Research has shown that students in rural and remote areas, often from lower socio-economic backgrounds, face educational disadvantages including limited access to qualified teachers, fewer educational resources, and reduced opportunities for fieldwork, which is essential for geography education (Gore et al., 2017). Government initiatives aimed at addressing these issues include increased funding for rural schools,

investment in digital learning technologies, and programs to attract and retain skilled teachers in remote areas (Australian Government Department of Education, 2019).

In Africa, socio-economic factors have a profound impact on educational outcomes, including geography performance. In Uganda, for example, students from low-income families often struggle with inadequate school facilities, lack of essential learning materials, and high absenteeism rates due to financial constraints (MoES, 2016). The Universal Secondary Education (USE) program aims to improve access to education for disadvantaged students, but challenges such as overcrowded classrooms and insufficient funding for educational resources persist (Namirembe, 2018).

In Ethiopia, socio-economic factors also play a critical role in student performance in geography. Rural students, who often come from lower socio-economic backgrounds, face challenges such as long distances to school, lack of educational materials, and inadequate school facilities. These barriers contribute to lower attendance and higher dropout rates, impacting academic performance (World Bank, 2019). The Ethiopian government has introduced various initiatives to improve educational access and quality, including school feeding programs, provision of textbooks, and construction of new schools in rural areas (UNICEF, 2018).

In Zimbabwe, the education system is similarly affected by socio-economic disparities. Students from wealthier families have better access to private schools with high-quality teaching resources and facilities, while those from poorer backgrounds attend under-resourced public schools. The economic crisis in Zimbabwe has exacerbated these disparities, with many public schools facing severe shortages of textbooks, laboratory equipment, and qualified teachers (Chinyoka, 2017). Efforts to address these issues include community initiatives to support school infrastructure development and

government programs to provide basic educational materials to disadvantaged schools (Matsika, 2018).

In Zambia, socio-economic status significantly impacts students' educational outcomes. Many students from low-income families attend poorly resourced schools that lack adequate textbooks, teaching aids, and qualified teachers. This situation leads to lower academic performance and reduced opportunities for practical learning experiences, particularly in geography (Mulenga & Mwanza, 2019). The Zambian government has implemented policies to improve educational access and quality, such as the provision of free primary education and the construction of additional schools in rural areas (Ministry of Education, Zambia, 2018).

In Kenya, socio-economic factors significantly influence student performance in geography, particularly in regions like Nyamira South Sub-County. Students from low-income families often face challenges such as lack of basic learning materials, poor school infrastructure, and financial difficulties that hinder regular school attendance (Kimani & Mwoma, 2018). These socio-economic barriers limit students' ability to fully engage with the geography curriculum and negatively impact their academic performance.

Research by Nyaberi (2019) indicates that in Nyamira South Sub-County, socio-economic disparities are a major determinant of educational outcomes in geography. Schools in wealthier areas tend to have better facilities, more qualified teachers, and access to digital learning tools, while those in poorer regions struggle with inadequate resources and overcrowded classrooms. This inequality contributes to significant performance gaps between students from different socio-economic backgrounds.

Efforts to mitigate these disparities include government and community-based initiatives aimed at providing additional support to disadvantaged schools. Programs

such as the provision of free textbooks, improvement of school infrastructure, and financial assistance for needy students have been implemented to enhance educational equity (Mugambi, 2020). However, challenges remain, and continued efforts are needed to ensure that all students, regardless of their socio-economic status, have equal opportunities to succeed in geography and other subjects.

2.3 Theoretical Framework

2.3.1 Constructivist Learning Theory

Constructivist learning theory, originally proposed by Jean Piaget in the early 20th century and further developed by Lev Vygotsky, emphasizes the active role of learners in constructing their own understanding and knowledge of the world through experiences and reflection. Piaget, a Swiss psychologist, introduced the concept of cognitive development stages, asserting that children go through distinct phases of cognitive growth, during which they actively construct knowledge through interaction with their environment (Piaget, 1954). Vygotsky, a Soviet psychologist, expanded on Piaget's ideas by emphasizing the social context of learning and the importance of cultural and linguistic tools in cognitive development (Vygotsky, 1978).

Piaget's theory of cognitive development includes four stages: sensorimotor, preoperational, concrete operational, and formal operational. Each stage represents a different level of cognitive maturity, wherein children progressively develop the ability to think abstractly and logically. According to Piaget, learning is a process of assimilation and accommodation, where learners integrate new information into existing cognitive structures and adjust those structures in response to new experiences (Piaget, 1954). This process is fundamentally active, as learners interact with their environment, encounter new phenomena, and revise their understanding accordingly.

Vygotsky's sociocultural theory, on the other hand, posits that social interaction and cultural tools are critical in the development of cognition. Vygotsky introduced the concept of the Zone of Proximal Development (ZPD), which refers to the range of tasks that a learner can perform with the guidance of a more knowledgeable other but cannot yet accomplish independently. Vygotsky argued that learning occurs most effectively within this zone, through scaffolding provided by teachers, peers, and cultural artifacts (Vygotsky, 1978). This collaborative aspect of learning underscores the importance of social context and the dynamic interplay between individuals and their environment.

In the context of education, constructivist learning theory suggests that students learn best when they are actively engaged with the material, relate it to their own experiences, and work collaboratively with peers. This approach contrasts with traditional, teacher-centered models of instruction, which often involve passive reception of information. Constructivist pedagogy advocates for a student-centered approach, where learners are encouraged to explore, question, and experiment as they construct their own understanding.

One key implication of constructivist theory is the need for teaching methods that facilitate active engagement and meaningful learning experiences. In geography education, for instance, constructivist approaches can include hands-on activities, fieldwork, and the use of digital tools such as Geographic Information Systems (GIS) to help students construct a deeper understanding of geographical concepts. By engaging directly with geographical data and phenomena, students can develop a more nuanced and integrated understanding of the subject matter (Bednarz, Heffron, & Huynh, 2013).

Fieldwork, in particular, is a powerful constructivist tool in geography education. It allows students to observe and investigate geographical processes in real-world settings, fostering a direct connection between theoretical knowledge and practical

experience. Through fieldwork, students can develop critical thinking and problem-solving skills as they collect data, analyze patterns, and draw conclusions based on their observations (Fuller, 2006). This experiential learning aligns with Piaget's emphasis on active exploration and Vygotsky's notion of learning through social interaction and guided discovery.

The use of digital tools and technology in geography education also exemplifies constructivist principles. Tools such as GIS enable students to visualize and analyze spatial data, promoting a deeper understanding of complex geographical relationships and patterns. Digital simulations and interactive maps can create immersive learning experiences, allowing students to explore geographical concepts in a dynamic and engaging manner (Baker, 2015). These technologies support active learning by providing opportunities for students to manipulate data, test hypotheses, and engage in collaborative projects.

Moreover, constructivist theory highlights the importance of adequate resources in supporting effective learning. In geography education, this includes not only physical resources such as maps, atlases, and field equipment but also digital resources and access to up-to-date geographical information. The availability and adequacy of these resources are crucial in enabling students to engage deeply with the subject matter and construct meaningful knowledge. Schools with limited resources may struggle to provide these opportunities, resulting in disparities in educational outcomes (Govender, 2015).

Teacher training and professional development are also critical components of a constructivist approach to education. Effective geography teaching requires teachers to be well-versed in both the content and the pedagogical strategies that facilitate active, student-centered learning. Professional development programs that focus on

constructivist teaching methods can help teachers design and implement engaging, experiential learning activities that align with the principles of constructivist theory (Borko, 2004). Such programs can also provide teachers with the skills and knowledge needed to integrate digital tools and technology into their instruction effectively.

In the context of the study on the factors influencing the performance of geography in public secondary schools in Nyamira South Sub-County, Kenya, constructivist learning theory is highly relevant. By examining the availability and adequacy of teaching resources and the training of teachers, the study aligns with the principles of constructivist learning, which advocate for interactive and student-centered learning environments. Understanding the extent to which schools can provide these resources and support effective teaching practices is crucial in identifying barriers to student engagement and performance in geography.

Furthermore, the study's focus on socio-economic factors highlights the disparities in access to quality education and resources, which can significantly impact the implementation of constructivist teaching methods. Schools in lower socio-economic areas may lack the necessary resources to facilitate hands-on activities, fieldwork, and digital learning, thereby limiting students' opportunities to engage in active, meaningful learning experiences (Nyaberi, 2019). Addressing these disparities is essential in promoting equitable educational outcomes and ensuring that all students have the opportunity to benefit from constructivist approaches to geography education.

In summary, constructivist learning theory, as proposed by Piaget and Vygotsky, emphasizes the active role of learners in constructing their own knowledge through experiences and social interactions. This theory has profound implications for educational practice, advocating for student-centered, experiential learning methods that engage students actively with the material. In geography education, constructivist

approaches such as fieldwork, the use of digital tools, and collaborative learning can enhance students' understanding and performance. The relevance of this theory to the study on geography education in Nyamira South Sub-County lies in its focus on the importance of adequate resources and effective teacher training, as well as its potential to address socio-economic disparities in educational outcomes.

2.3.2 Socio-Economic Status Theory

Socio-Economic Status (SES) theory, developed by sociologists and economists, posits that an individual's or group's economic and social position relative to others significantly influences access to resources and opportunities, including education. The theory was formalized in the mid-20th century through the work of scholars like Max Weber and Talcott Parsons, who explored the stratification of society based on various socio-economic factors (Weber, 1947; Parsons, 1951). SES is typically determined by three key components: income, education level of parents, and occupational status. These components interact to shape the opportunities available to individuals and groups, profoundly impacting their life chances and outcomes.

Income, as a component of SES, determines the financial resources available for educational materials, extracurricular activities, and private tutoring. Higher family income often correlates with better educational resources and learning environments. Parental education level is another critical determinant, as it influences the value placed on education within the household, the ability to assist with homework, and the expectations set for academic achievement. Occupational status affects access to social networks and resources that can further educational opportunities. Together, these factors contribute to the educational advantages or disadvantages experienced by individuals, shaping their academic performance and future prospects (Bradley & Corwyn, 2002).

SES theory has significant implications for education. Research consistently shows that higher SES is associated with better educational outcomes, including higher grades, test scores, and graduation rates (Sirin, 2005). Students from higher SES backgrounds tend to have access to more educational resources, such as books, computers, and private tutors, which enhance their learning experiences. Moreover, they are more likely to attend schools with better facilities, more experienced teachers, and a broader range of extracurricular activities. These advantages contribute to a cumulative process of educational success, where initial advantages lead to further opportunities and achievements (Reardon, 2011).

Conversely, students from lower SES backgrounds often face numerous barriers to educational success. These barriers include inadequate school facilities, less experienced teachers, and limited access to educational materials. Additionally, lower SES families may struggle with financial instability, housing insecurity, and limited access to healthcare, all of which can negatively impact a child's ability to attend school regularly and perform well academically (Brooks-Gunn & Duncan, 1997). The stress associated with economic hardship can also affect cognitive development and academic motivation, further exacerbating educational disparities (Evans, 2004).

Parental education level is a crucial factor in SES theory as it directly influences educational outcomes. Parents with higher levels of education are more likely to engage in practices that promote academic success, such as reading to their children, helping with homework, and encouraging intellectual curiosity. They are also better equipped to navigate the educational system, advocate for their children, and provide guidance on academic and career choices (Davis-Kean, 2005). In contrast, parents with lower educational attainment may lack the knowledge and resources to support their children's academic endeavors effectively.

Parental involvement in education has been shown to positively affect student performance across all SES levels. However, the nature and extent of involvement can vary significantly based on SES. Higher SES parents are more likely to participate in school activities, communicate with teachers, and provide a stimulating home environment. Lower SES parents, although often equally committed to their children's education, may face obstacles such as demanding work schedules, limited access to transportation, and language barriers that hinder their ability to be actively involved in school-related activities (Hill & Tyson, 2009).

Occupational status, another component of SES, contributes to the educational opportunities available to students through social capital. Social capital refers to the resources and benefits individuals gain from their social networks, including information, support, and access to opportunities. Parents with higher occupational status are more likely to have networks that can provide valuable resources for their children's education, such as internships, mentorships, and college admission advice (Putnam, 2000). These networks can significantly enhance a student's educational experience and future career prospects.

In contrast, lower occupational status can limit access to such networks and opportunities. Families with lower occupational status may have fewer connections to individuals who can provide educational and professional guidance, reducing their children's exposure to potential career paths and opportunities. This lack of social capital can hinder academic and professional advancement, perpetuating cycles of disadvantage (Bourdieu, 1986).

This theory is particularly relevant to the study on the factors influencing student performance in geography in public secondary schools in Nyamira South Sub-County, Kenya. By exploring how family income, parental education, and overall socio-

economic status influence students' attendance, engagement, and performance in geography, the study can provide insights into the disparities in educational opportunities and outcomes.

In Nyamira South Sub-County, as in many other regions, students from higher SES backgrounds likely have better access to educational resources such as up-to-date textbooks, maps, and digital tools. These resources are essential for understanding complex geographical concepts and for participating in fieldwork and other experiential learning activities. In contrast, students from lower SES backgrounds may lack these resources, limiting their ability to engage fully with the geography curriculum and achieve academic success (Kimani & Mwoma, 2018).

Parental education and involvement are also significant factors in this context. Parents with higher educational attainment are more likely to value and support their children's education, helping them with geography homework and projects, and encouraging them to explore the subject further. In contrast, parents with lower educational attainment may be less able to provide this support, impacting their children's performance in geography (Nyaberi, 2019).

Moreover, the study's focus on socio-economic factors aligns with the broader understanding of how SES influences educational outcomes. By identifying the specific ways in which SES affects geography education in Nyamira South Sub-County, the study can inform targeted interventions to support disadvantaged students. These interventions might include providing additional resources to schools in low-income areas, offering tutoring and mentoring programs, and creating community initiatives to increase parental involvement in education (Mugambi, 2020).

Understanding the impact of SES on educational outcomes can guide the development of targeted interventions to support students from disadvantaged backgrounds. For

instance, schools in low-income areas can receive additional funding to improve facilities, purchase educational materials, and implement programs that provide academic support and enrichment opportunities. Community-based programs can also play a crucial role in addressing SES-related disparities by offering tutoring, mentoring, and extracurricular activities that engage students and enhance their learning experiences (Jensen, 2009).

Additionally, policies aimed at increasing parental involvement and support can help mitigate the effects of low SES on student performance. Schools can offer workshops and resources to help parents support their children's education, regardless of their own educational background. Initiatives that build strong school-family partnerships can create a more supportive learning environment and improve educational outcomes for all students (Epstein, 2001).

SES theory provides a comprehensive framework for understanding how socio-economic factors influence educational outcomes. By examining the interplay of income, parental education, and occupational status, researchers and educators can identify the barriers and opportunities that shape students' academic experiences. This understanding is crucial for developing effective interventions that promote educational equity and support the success of all students, regardless of their socio-economic background.

In the context of geography education in Nyamira South Sub-County, Kenya, SES theory helps to elucidate the disparities in resources and opportunities that affect student performance. By addressing these disparities through targeted interventions and policies, educators and policymakers can work towards creating a more equitable educational landscape, ensuring that all students have the opportunity to succeed in geography and beyond.

2.4 Conceptual Framework

The conceptual framework for this study is designed to provide a visual representation of the key factors influencing student performance in geography in public secondary schools in Nyamira South Sub-County, Kenya. The framework, as depicted in Figure 1, illustrates the interconnectedness of various socio-economic and educational factors and how they collectively impact student outcomes.

Figure 1 highlights the relationships between the primary variables of interest: socio-economic status (SES), availability and adequacy of teaching resources, teacher preparedness, and student performance in geography. The framework is grounded in Socio-Economic Status (SES) theory, which posits that an individual's or group's economic and social position influences their access to resources and opportunities, thereby affecting educational outcomes (Weber, 1947; Bradley & Corwyn, 2002).

The figure is as shown in the figure below;

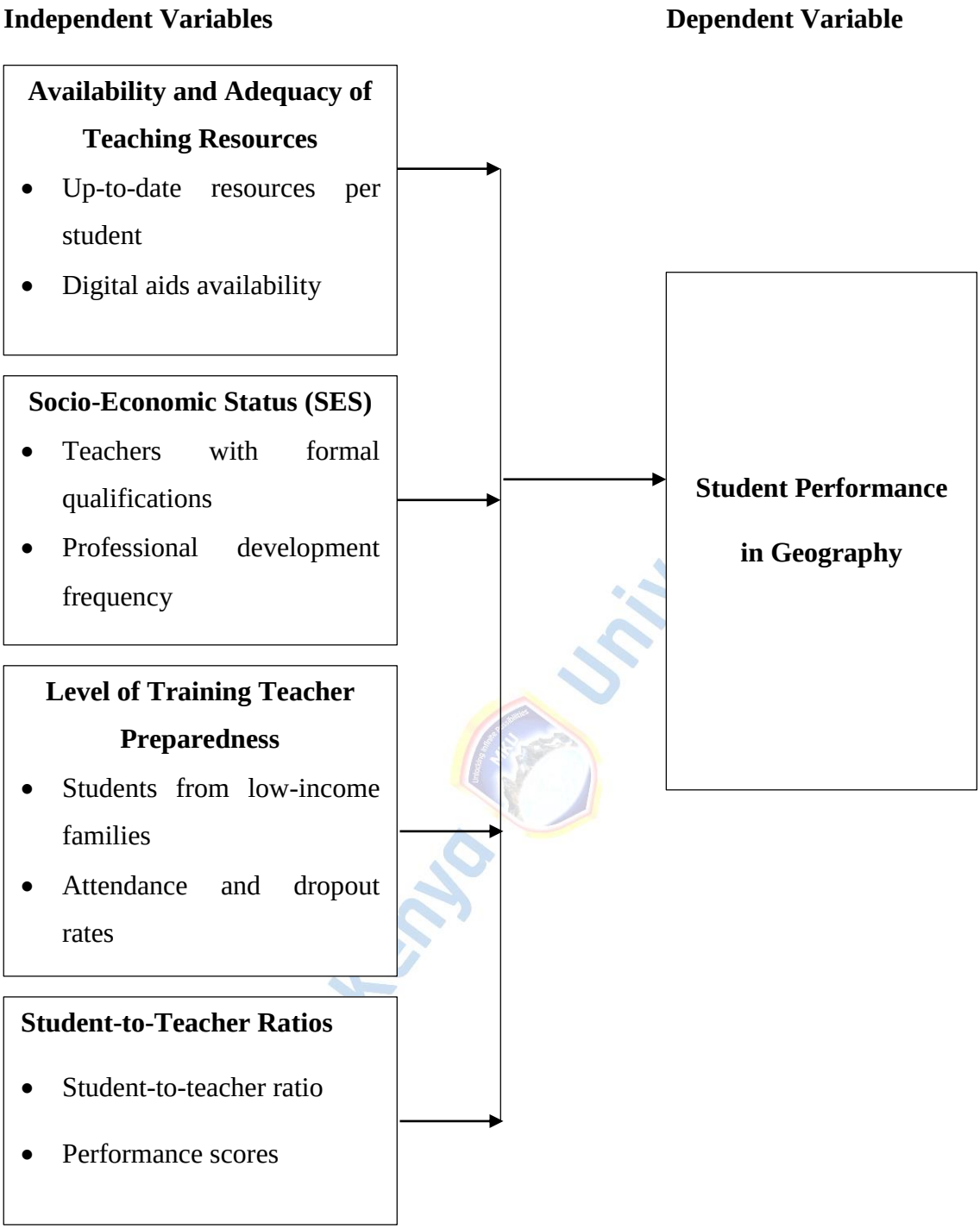


Figure 1: Conceptual Framework

Source: Researcher (2023)

2.4.1 Availability and Adequacy of Teaching Resources

The availability and adequacy of teaching resources are crucial determinants of educational quality and student performance. In geography education, essential resources include textbooks, maps, atlases, and digital tools such as Geographic Information Systems (GIS). These resources enable students to engage deeply with geographical concepts and develop a comprehensive understanding of the subject (Baker, 2015). Schools with sufficient resources can provide more interactive and engaging learning experiences, which are essential for fostering student interest and achievement in geography (Govender, 2015).

Inadequate resources, on the other hand, pose significant challenges to effective teaching and learning. Schools that lack up-to-date textbooks and digital tools may struggle to provide high-quality geography education, limiting students' ability to grasp complex geographical concepts and conduct practical fieldwork (Kimani & Mwoma, 2018). This disparity in resource availability can lead to significant differences in educational outcomes, with students in well-resourced schools outperforming their peers in under-resourced schools (Nyaberi, 2019).

Ensuring equitable access to teaching resources is vital for addressing educational disparities and promoting student success. Interventions aimed at improving resource availability in disadvantaged schools, such as government funding and community support programs, can help bridge the gap and provide all students with the tools they need to succeed in geography (Mugambi, 2020).

2.4.2 Socio-Economic Status (SES)

Socio-Economic Status (SES) encompasses various aspects of an individual's or family's economic and social standing, including income, education level, and occupational status. Family income is a critical determinant of the resources available

to students, such as access to books, technology, and extracurricular activities, which can enhance learning experiences (Reardon, 2011). Higher income levels typically allow families to provide a more supportive learning environment, including private tutoring and educational materials that contribute to better academic performance (Sirin, 2005).

Parental education level is another significant component of SES, influencing the value placed on education and the support provided to children in their academic endeavors. Parents with higher education levels are more likely to engage in activities that promote learning, such as reading with their children, assisting with homework, and fostering a positive attitude towards education (Davis-Kean, 2005). This support is crucial in helping students develop the skills and knowledge necessary for academic success, particularly in subjects like geography that require critical thinking and analytical skills. Occupational status affects educational outcomes by shaping the social networks and opportunities available to students. Parents in higher-status occupations often have access to resources and connections that can provide additional educational support and opportunities, such as internships, mentorships, and exposure to diverse career paths (Putnam, 2000). These factors collectively contribute to the educational advantages or disadvantages experienced by students, highlighting the importance of addressing SES-related disparities in education.

2.4.3 Level of Training Teacher Preparedness

Teacher preparedness, including the qualifications and professional development of geography teachers, is a critical factor influencing student performance. Well-trained and knowledgeable teachers are better equipped to deliver high-quality instruction and create an engaging learning environment (Borko, 2004). Professional development programs that focus on constructivist teaching methods and the use of digital tools can

enhance teachers' ability to facilitate active, student-centered learning experiences in geography (Bednarz, Heffron, & Huynh, 2013).

Inadequate teacher preparation can negatively impact the quality of education, as teachers may lack the necessary skills and knowledge to effectively teach geography. This can lead to disengaged students and poor academic performance, particularly in subjects that require specialized knowledge and teaching techniques (Govender, 2015). Ensuring that teachers receive ongoing professional development and support is essential for maintaining high teaching standards and promoting student success.

Efforts to improve teacher preparedness should include targeted training programs, opportunities for professional growth, and support for teachers in implementing innovative teaching methods. By investing in teacher development, educational systems can enhance the quality of geography education and improve student outcomes (Kimani & Mwoma, 2018).

2.4.4 Student-to-Teacher Ratios

Student-to-teacher ratios are a significant factor in determining the quality of education and student performance. A lower student-to-teacher ratio allows for more individualized attention, better classroom management, and more opportunities for teachers to address the specific needs of each student (Finn, Gerber, & Boyd-Zaharias, 2005). In geography education, this can translate to more effective teaching of complex concepts, more interactive lessons, and greater opportunities for fieldwork and hands-on activities.

Conversely, higher student-to-teacher ratios can strain the capacity of teachers to provide personalized instruction and manage classroom dynamics effectively. Large class sizes can lead to reduced interaction between teachers and students, less feedback on assignments, and fewer opportunities for students to participate in discussions and

activities (Blatchford, Bassett, & Brown, 2011). This can particularly impact subjects like geography, where understanding spatial relationships and engaging in practical exercises are crucial for learning.

In many developing countries, including Kenya, high student-to-teacher ratios are a common challenge due to limited educational resources and high student enrollment rates. Schools in Nyamira South Sub-County, for example, often face overcrowded classrooms, making it difficult for teachers to provide individualized attention and maintain high teaching standards (Nyaberi, 2019). Addressing this issue requires targeted interventions such as hiring additional teachers, improving classroom infrastructure, and implementing policies that support manageable class sizes (Mugambi, 2020).

2.4.5 Student Performance in Geography

Student performance in geography, the outcome variable in this study, is influenced by the interplay of SES, teaching resources, and teacher preparedness. Performance is typically measured through grades, test scores, and overall understanding of geographical concepts. Higher SES, adequate teaching resources, and well-prepared teachers collectively contribute to better student performance by providing a supportive and engaging learning environment (Reardon, 2011; Borko, 2004).

Conversely, students from lower SES backgrounds, attending under-resourced schools with inadequately prepared teachers, are likely to face significant challenges in achieving academic success in geography. These students may struggle with understanding complex concepts, lack opportunities for hands-on learning, and receive less support both at home and in school (Brooks-Gunn & Duncan, 1997). Addressing these disparities is essential for promoting educational equity and ensuring that all students have the opportunity to succeed in geography.

By examining the factors influencing student performance in geography, this study aims to provide insights into the specific challenges and opportunities within Nyamira South Sub-County. The findings can inform targeted interventions and policies designed to support disadvantaged students and enhance the overall quality of geography education (Nyaberi, 2019).

2.5 Summary of Literature Review

The literature review has highlighted several critical factors influencing student performance in geography in public secondary schools, with a focus on socio-economic status (SES), the availability and adequacy of teaching resources, teacher preparedness, and student-to-teacher ratios. These factors collectively shape the educational experiences and outcomes of students, particularly in contexts such as Nyamira South Sub-County, Kenya.

Socio-economic status (SES) is a significant determinant of educational outcomes, affecting students' access to resources and opportunities. Higher SES is associated with better academic performance due to greater access to educational materials, supportive learning environments, and parental involvement in education (Reardon, 2011; Davis-Kean, 2005). Conversely, lower SES is linked to numerous challenges, including inadequate school resources, less parental support, and higher levels of stress and absenteeism, which adversely affect student performance (Brooks-Gunn & Duncan, 1997; Sirin, 2005). In the context of Nyamira South Sub-County, addressing SES-related disparities is crucial for improving geography education outcomes (Kimani & Mwoma, 2018).

The availability and adequacy of teaching resources are vital for effective geography education. Schools with sufficient resources, such as up-to-date textbooks, maps,

atlases, and digital tools, can offer more engaging and comprehensive learning experiences (Baker, 2015; Govender, 2015). In contrast, resource-poor schools struggle to provide high-quality education, limiting students' understanding and engagement with geographical concepts (Nyaberi, 2019). Ensuring equitable access to teaching resources is essential for bridging the educational gap and supporting all students' academic success (Mugambi, 2020).

Teacher preparedness, including qualifications and professional development, significantly impacts the quality of geography instruction. Well-trained teachers are more capable of delivering effective and engaging lessons, fostering better student outcomes (Borko, 2004; Bednarz, Heffron, & Huynh, 2013). However, many schools face challenges related to inadequate teacher training and support, which can hinder educational quality and student performance (Govender, 2015). Investing in ongoing professional development and support for teachers is crucial for enhancing the quality of geography education (Kimani & Mwoma, 2018).

Student-to-teacher ratios also play a critical role in determining educational quality. Lower student-to-teacher ratios enable more individualized attention, better classroom management, and increased opportunities for student participation and engagement (Finn, Gerber, & Boyd-Zaharias, 2005). Conversely, higher ratios can lead to overcrowded classrooms, reduced teacher-student interactions, and diminished educational outcomes (Blatchford, Bassett, & Brown, 2011). Addressing the issue of high student-to-teacher ratios is particularly important in resource-constrained settings like Nyamira South Sub-County, where overcrowded classrooms are common (Nyaberi, 2019).

Overall, the literature review underscores the multifaceted nature of factors influencing student performance in geography. By understanding and addressing these factors—

socio-economic status, teaching resources, teacher preparedness, and student-to-teacher ratios—educators and policymakers can develop targeted interventions to enhance geography education and support student success in Nyamira South Sub-County and similar contexts. These interventions are essential for promoting educational equity and ensuring that all students have the opportunity to achieve their full academic potential (Mugambi, 2020; Kimani & Mwoma, 2018).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter details the research methodology utilized for the study, including various critical aspects: the geographical area where the study was conducted, the demographic targeted, the methodology behind determining the sample size and the sampling techniques used, the tools employed for data collection, and the measures taken to ensure their validity and reliability. Additionally, it covers the pilot testing of these tools, the methods applied in collecting the data, the techniques used for analyzing this data, and the ethical considerations adhered to throughout the research process.

3.2 Research design

A research design serves as a strategic plan that guides the research process to effectively address the research problem. It includes the methodologies and procedures used for planning, conducting the study, and reporting the results (Orodho, 2005). This study adopted a descriptive survey design, which is well-suited for collecting statistical data on the factors affecting teacher performance in implementing the geography curriculum in Nyamira South Sub-County. The choice of a descriptive survey was based on its ability to enable the researcher to examine and gather information about the current performance levels without altering any of the variables involved. Banerji (1994) notes that this type of design is beneficial for obtaining a snapshot of existing conditions and deciding on the next steps based on the current situation.

3.3 Study Area

Nyamira South Sub-County is a vibrant region located in Nyamira County, Kenya. The sub-county is characterized by its diverse landscape, which includes both rural and urban areas, providing a rich context for educational research. The sub-county is known for its commitment to education, with numerous public secondary schools serving the local population. This study focused on the performance of geography in these public secondary schools, examining various factors that influence educational outcomes.

The study encompassed a detailed examination of all 50 public secondary schools within Nyamira South Sub-County. This comprehensive approach ensured that a wide range of schools, each with its unique characteristics and challenges, are included in the analysis. By covering a broad spectrum of institutions, the study aimed to provide a thorough understanding of the educational dynamics in the area.

The schools participating in the study included Sironga Girls High School, Nyansabakwa Secondary School, Our Lady of Mercy Rangenyo Girls Secondary School, Nyamaiya Secondary School, Bonyunyu Secondary School, Embonga Secondary School, St Peter's Nyaisa Secondary School, Marindi Secondary School, Nyamira Boys High School, Gesiaga Secondary School, Nyachogochogo Secondary School, Motagara Girls Secondary School, St Mary's Mongorisi Secondary School, Kenyenya Mixed Day and Boarding, Kebirigo High School, Bosiango S.D.A Secondary School, St. Peter's Nyakemincha Secondary School, Getaari Mixed Secondary School, and Senator Kebaso Secondary School. Further included are Riamandere Secondary School, St. Joseph's Etono Mixed Secondary School, Masosa Mixed Secondary School, Kianungu Secondary School, Gianchore PAG Mixed Secondary School, Bomorito Secondary School, Kiang'inda Secondary School, St. Patrice Nyantaro Secondary School, St. Joseph’s Kemasare Mixed Secondary School,

Marani P.A.G. Girls Secondary School, and Gucha SDA Mixed Secondary School. Also part of the study are Nyameru Mixed Secondary School, Nyachururu P.A.G Mixed Secondary School, Nyakeore Secondary School, Rirumi Mixed Secondary School, Gekomoni Secondary School, St Philip's Rateti Secondary School, St. Joseph's Enchoro Secondary School, Ekenyoro Technical Secondary School, Nami Secondary School, Geta P.A.G. Secondary School, Nyagachi DEB Secondary School, Kuura Mixed Secondary School, Nyabisimba Secondary School, Makairo Mixed Secondary School, Gesore P.A.G. Secondary School, Omosasa DOK Mixed Secondary School, St Tiberius Nyamotentemi Mixed Secondary School, Bondeka ELCK Girls' Secondary School, St Teresa Mixed Secondary School (Bugo), and Nyaigwa Girls Secondary School. These schools represent a cross-section of the educational landscape in Nyamira South Sub-County.

3.4 Target population

Mugenda & Mugenda (2003) define the target population as the complete set of individuals, events, or objects that share a common characteristic observable within a study. For this particular research, the target population included all school principals and geography teachers in Nyamira South Sub-County. According to the latest statistics from the Nyamira South Education Office, as of 2022, this population comprises 50 public secondary schools, alongside 50 principals and 101 geography teachers. Thus the total target population was 151 respondents.

3.5 Sample size, Sample and sampling technique

According to Mugenda & Mugenda (2003), a sample should accurately reflect the characteristics of the larger target population under study. In this research, a census

sampling technique was employed. Thus the whole population was included in the study. Hence the sample size was 151 respondents.

3.6 Research instruments

The study utilized two primary data collection tools: a questionnaire for geography teachers and an interview schedule for secondary school principals. The questionnaire was designed to efficiently gather consistent data across a broad segment of the teacher population, facilitating a cost-effective examination of various variables within a relatively short period. It included both structured and unstructured questions, enhancing the depth and breadth of the data collected.

The questionnaire is divided into four sections. Section A collects demographic information about the teachers. The following sections were comprised of questions for respondents based on the objectives and was in a Likert scale format.

The interview schedule for principals comprises nine questions tailored to extract detailed information about in-service training for teachers, challenges encountered by geography teachers, and the availability of teaching and learning resources. This method aimed to obtain precise and in-depth data relevant to the administrative and support aspects of the educational process.

3.7 Piloting, Validity and Reliability of the instruments

3.7.1 Pilot Testing

A pilot study is conducted to test the functionality of a questionnaire before it is used in a full-scale research project. This involved administering the questionnaire to a small group of individuals similar to the target population of the actual study. This process helped identify any necessary adjustments by noting participant responses to ensure the

questionnaire effectively collects the required data. A pilot study was conducted in 5 schools which were randomly selected according to location enabling the researcher to reach the recommended number for a sample size. Therefore 10 geography teachers were selected and 5 principals helping the researcher achieve the 10% ratio for the pilot test. The teachers and principals who were involved in the pilot testing were excluded from the main study.

3.7.2 Validity of instruments

According to Orodho (2005), validity is defined as the extent to which a test accurately measures what it is intended to measure, specifically how well the instrument used in research gathers the intended data. Mugenda and Mugenda (2003) describe validity as the degree to which the results from data analysis truly reflect the phenomenon being studied. They also explain that content validity refers to how accurately an instrument measures the variable of interest.

To ensure the validity of the research tools, the researcher will use standardized, adequate, and appropriate items in the instruments that align with the research objectives. Care was taken to revise any grammatical errors to eliminate ambiguity in the statements. The content validity of the questionnaire and interview schedule was further enhanced by consultation with a supervisor from Mount Kenya University, as recommended by Kimberlin and Winterstein (2008). This step provided an opportunity to receive expert feedback and make necessary adjustments to the research instruments.

3.7.3 Reliability of the instruments

Mugenda and Mugenda (2003) describe reliability as the extent to which a research instrument consistently yields the same results across multiple trials. To ensure the reliability of the instruments used in this study, the researcher conducted a pilot test.

This pilot study was carried out with a population similar to the main study's target population.

The test-retest method was employed to evaluate the consistency of the instrument. This involves administering the same questionnaire to the same respondents in the pilot sample twice. The initial administration was followed by a second round, which took place two weeks later at the same schools. This approach allowed the researcher to assess the stability and reliability of the responses over time.

3.8 Data collection procedure

Initially, the researcher secured a permit to conduct the study from the National Council of Science and Technology, following the approval of the research proposal by the assigned supervisor. Subsequently, the researcher informed the Sub County Director of Education in Nyamira South about the planned research. With the approval from this office, the researcher distributed introductory letters to the teachers and principals of the selected schools.

The researcher then visited each of the fifteen sampled schools to distribute questionnaires to the geography teachers and interview schedules to the principals. The research utilized quantitative methods, and data was gathered through both direct observations and narratives that capture personal and subjective experiences, enriching the interpretation of the events.

McCall (2009) notes the importance of maintaining alertness, sensitivity, and discipline during the data collection phase, especially during interviews. Following data collection, the researcher undertook a detailed analysis and interpretation of the findings. The questionnaires were used to collect data from the teachers, while the principals provided their input through the structured interviews.

3.9 Data processing and analysis techniques

Data analysis involves a systematic approach to organizing and interpreting field notes, data, and other materials to enhance the researcher's understanding and facilitate communication of findings to others (Orodho, 2009). In this study, both qualitative and quantitative data was collected, with the latter being processed using the Statistical Package for the Social Sciences (SPSS).

This research utilized a descriptive survey design. Before data analysis, all questionnaires and interview schedules were reviewed to ensure all questions have been answered and the data adequately coded. SPSS was employed to analyze the quantitative data because of its extensive data handling capabilities and its range of statistical analysis tools, which are effective for both small and large datasets (Muji, 2004). SPSS is particularly useful for factor analysis, principal component analysis, and handling large datasets with many variables. It also offers features for managing missing values, ensuring that appropriate procedures are followed based on the dataset and analysis requirements (Shiozawa et al., 2008).

Results were presented using frequency distribution tables and bar graphs. For qualitative data, thematic analysis were conducted. Quantitative data was analyzed using descriptive statistics, including frequencies, percentages, and tables, to provide a clear representation of the data. Gay (1992) notes that in descriptive surveys, it is common to use visual aids such as graphs, pie charts, and frequency tables to illustrate findings effectively. Content analysis was also applied to non-quantifiable data to ensure a comprehensive analysis of all data collected.

3.10 Ethical consideration

Research ethics act as a guide to the behavior of the researcher when doing a study. They help him or her conduct the study in acceptable manner taking into consideration the rights of the participants. The researcher focused on some ethical issues which was considered before, during, and after the data collection. The following ethical guidelines were observed by the researcher and include informed consent; Confidentiality and privacy; anonymity; Mien and decorum; storage of data and plagiarism as explained below:

The participants gave information voluntarily. Informed consent is derived from the participant right to freedom and making their own decisions. This means that consent allowed the participant to make their own decision and puts some part of responsibility on the respondent should there be a problem or challenge that arises during the study (Louis et al, 2011). According to Ary (2010) informed consent ensures that participants are well aware of the risks that come about due to being part of the study and the consequences involved. In this study, the researcher ensured the participants who accept to be part of the study are aware of the research goals. The participants also had a right to choose to be part of the study or to decline.

Respect for privacy is at the heart of the conduct of ethical research with human participants (Ary, 2010). In this study, the researcher ensured privacy of the participants by securing data in the computer with a password to ensure that other people cannot access it without the researcher's consent. The researcher additionally grouped the respondents' responses so that each individual participant's score cannot be identified in the grouped data. An assurance was given to the participants that any data they provide would not be given out or shared with any other person, but rather it was used purely for research purpose. Confidentiality ensures that the only time the

source of the collected data is revealed to someone is when the researcher obtains the consent of the participant (Ary, 2010).

Anonymity refers to the process of protecting the identity of specific individuals. In any research, the participants have the right to remain secret. The researcher made sure that the questionnaires did not contain names of the participants so as to ensure complete and total secrecy.

The information gathered from the participants was stored in extreme confidentiality to avoid leakage to illegal people. It was preserved in both hard and soft copies. The investigator did not disclose any gathered material to anyone for any reason.

To ensure clean work free from plagiarism, the researcher was uploading his work into TURNITIN software. This was done before each defense. The percentage index remained not more than 15 %. This includes the references. If the percentage was higher, the proposal document was cleaned and taken back to the programme till it was 15 % or less.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the research findings and discussions based on the study objectives that aimed to explore various factors influencing students' KCSE Geography performance. The analysis focuses on the following key areas: the impact of teaching and learning resources on student performance, the influence of teachers' teaching experience on Geography outcomes, the role of teaching methodologies in shaping student success in KCSE Geography, and how students' attitudes towards the subject affect their performance. The findings are systematically presented and discussed in relation to existing literature, offering insights into the dynamics that contribute to students' academic achievements in Geography.

4.2 Response Rate

The study targeted a sample size of 151 participants, out of which 144 respondents completed and returned the questionnaires, resulting in a response rate of 95.4%. This high response rate is indicative of the respondents' engagement with the study and enhances the reliability and generalizability of the findings.

4.3 Demographic Study

4.3.1 Gender

The gender distribution of the respondents is presented in Table 1. Out of the 144 respondents, 71 were male, representing 49.3% of the total, while 73 were female, making up 50.7%. The data shows a nearly equal representation of both genders, with females slightly outnumbering males.

Table 1: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	71	49.3	49.3	49.3
	Female	73	50.7	50.7	100.0
	Total	144	100.0	100.0	

Source: Field Data (2024)

4.3.2 Age

Table 2 displays the age distribution of the 144 respondents. The largest age group was 25-34 years, comprising 56 (38.9%) of the respondents. This is followed by the 35-44 years age group, which included 38 (26.4%) respondents, and the under 25 years group, with 34 (23.6%) respondents. The smallest age group was 45-54 years, consisting of 16 (11.1%) respondents. The cumulative distribution shows that the majority of respondents (62.5%) are under 35 years old, providing a broad range of perspectives that contribute to the study's findings.

Table 2: Age

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Under 25 years	34	23.6	23.6	23.6
	25 - 34 years	56	38.9	38.9	62.5
	35 - 44 years	38	26.4	26.4	88.9
	45 - 54 years	16	11.1	11.1	100.0
	Total	**144**	**100.0**	**100.0**	

Source: Field Data (2024)

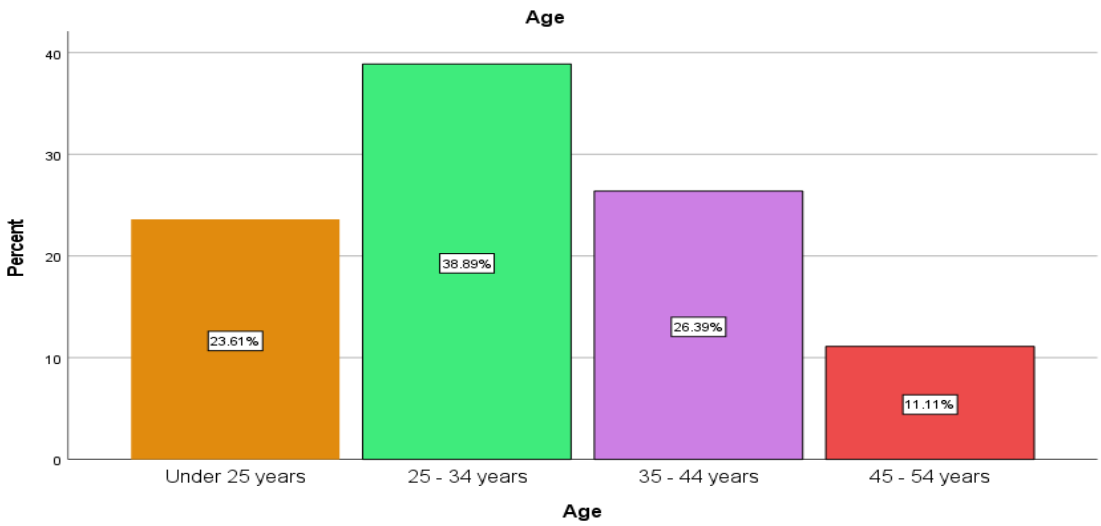


Figure 2: Age

Source: Field Data (2024)

4.3.3 Highest Level of Education

Table 3 outlines the highest level of education attained by the 144 respondents. The majority hold a Bachelor's degree, with 73 (50.7%) of the respondents falling into this category. This is followed by those with a Diploma, accounting for 48 (33.3%) respondents. A smaller percentage of respondents have attained a Master's degree, comprising 16 (11.1%), while the smallest group, with 7 (4.9%) respondents, hold a PhD degree. The data indicates that most respondents have attained at least a Bachelor's degree, highlighting a relatively high level of educational attainment among the study participants.

Table 3: Highest Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	48	33.3	33.3	33.3
	Bachelor's degree	73	50.7	50.7	84.0
	Master's Degree	16	11.1	11.1	95.1
	PhD Degree	7	4.9	4.9	100.0
	Total	144	100.0	100.0	

Source: Field Data (2024)

4.3.4 How many years of teaching experience do you have

Table 4 presents the distribution of respondents based on their years of teaching experience. The largest group has 6-10 years of teaching experience, comprising 56 (38.9%) respondents. This is followed by those with 11-15 years of experience, accounting for 38 (26.4%) respondents, and those with 0-5 years of experience, representing 34 (23.6%) respondents. The smallest group has 16-20 years of teaching experience, consisting of 16 (11.1%) respondents. The cumulative data indicates that a majority of respondents (88.9%) have between 0 to 15 years of teaching experience, reflecting a diverse range of teaching backgrounds in the study.

Table 4: How many years of teaching experience do you have

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 -5 years	34	23.6	23.6	23.6
	6 - 10 years	56	38.9	38.9	62.5
	11 - 15 years	38	26.4	26.4	88.9
	16 - 20 years	16	11.1	11.1	100.0
	Total	144	100.0	100.0	

Source: Field Data (2024)

4.3.5 How many years have you been teaching geography

Table 5 displays the distribution of respondents based on their years of experience teaching Geography. The majority of respondents have been teaching Geography for 6-10 years, with 73 (50.7%) falling into this category. This is followed by those with 11-15 years of experience, representing 38 (26.4%) respondents. A smaller group has 0-5 years of experience, consisting of 24 (16.7%) respondents, while the fewest respondents, 9 (6.3%), have been teaching Geography for 16-20 years. The cumulative data reveals that most respondents (93.8%) have between 0 to 15 years of experience teaching Geography, indicating a broad range of expertise within the study group.

Table 5: How many years have you been teaching geography

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 -5 years	24	16.7	16.7	16.7
	6 - 10 years	73	50.7	50.7	67.4
	11 - 15 years	38	26.4	26.4	93.8
	16 - 20 years	9	6.3	6.3	100.0
	Total	144	100.0	100.0	

Source: Field Data (2024)

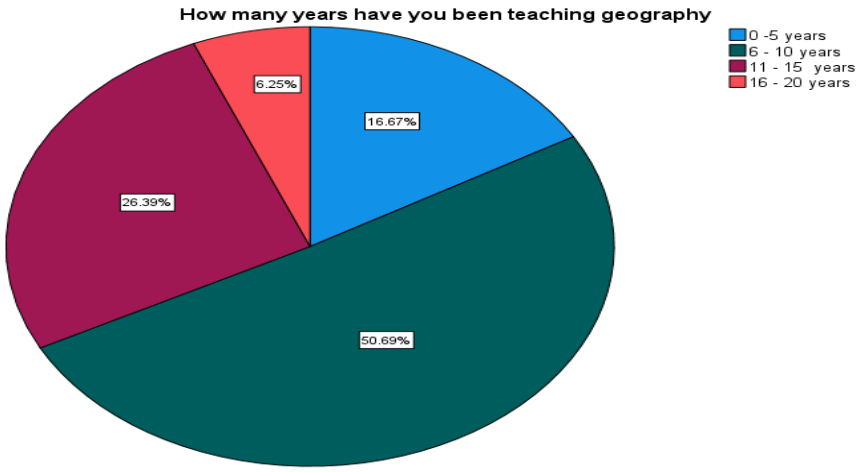


Figure 3: How many years have you been teaching geography

Source: Field Data (2024)

4.4 Availability and Adequacy of Teaching Resources

4.4.1 Descriptive Analysis

The study sought to establish how the use of teaching and learning resources influences students' KCSE Geography performance. Table 6 provides data on various aspects of these resources. The mean score for the relevance and currency of geography textbooks is 2.4167 with a standard deviation of 1.29280, indicating that respondents generally view the textbooks as outdated and not sufficiently relevant. The availability of geography textbooks is also perceived as inadequate, with a mean score of 2.9444 and a standard deviation of 1.41805, suggesting that there may not be enough textbooks for all students. The provision of maps and atlases for geography lessons has a mean score of 2.7639 and a standard deviation of 1.39923, reflecting that these resources are seen as insufficient. The adequacy of digital teaching aids (e.g., computers, projectors) is rated with a mean of 2.6181 and a standard deviation of 1.29007, indicating that these tools are not fully adequate for effective teaching. Lastly, internet access for geography teaching purposes has a mean score of 2.6667 and a standard deviation of 1.33799, suggesting that internet resources are unreliable.

Table 6: Learning Resources

	N	Minimum	Maximum	Mean	Std. Deviation
The geography textbooks available are up-to-date and relevant.	144	1.00	5.00	2.4167	1.29280
There are enough geography textbooks for all students.	144	1.00	5.00	2.9444	1.41805
The school provides adequate maps and atlases for geography lessons.	144	1.00	5.00	2.7639	1.39923
The digital teaching aids (e.g., computers, projectors) available are sufficient for effective geography teaching.	144	1.00	5.00	2.6181	1.29007
Internet access is available and reliable for geography teaching purposes.	144	1.00	5.00	2.6667	1.33799
Valid N (listwise)	144				

Source: Field Data (2024)

4.4.2 Thematic Analysis

A qualitative analysis carried out found that the use of teaching and learning resources significantly impacts students' performance in Geography. Various respondents shared their perspectives on the matter:

> One of the respondents indicated, *"The use of maps and globes in teaching Geography helps students visualize the concepts better, which leads to improved understanding and performance."*
> Another respondent highlighted, *"When textbooks are available for every student, they can follow along with the lessons, and this boosts their confidence during exams."*

A teacher mentioned, *"Lack of enough atlases in class makes it difficult for students to grasp map-reading skills, which are crucial for Geography exams."*

One of the students commented, *"When teachers use projectors and slides to show us real-world geographical phenomena, it makes the lessons more interesting and easier to remember during exams."*

A respondent observed, *"Having access to practical resources like weather instruments during lessons helps students relate theory to practice, improving their performance in the subject."*

4.5 Teacher Preparedness

4.5.1 Descriptive Analysis

The study sought to determine how teachers' teaching experience influences student performance in Geography. Table 7 presents data from the 144 respondents on various dimensions of teacher preparedness. The respondents generally report high levels of formal qualifications in geography education, with a mean score of 4.1528 and a standard deviation of 1.17265. This indicates that most respondents feel well-equipped with foundational knowledge. Additionally, they feel adequately prepared to teach all topics in the geography curriculum, as evidenced by a mean score of 4.0625 and a standard deviation of 1.09173.

The mean score for regular professional development opportunities specific to Geography is 2.5556, with a standard deviation of 1.44734, suggesting that respondents perceive a lack of ongoing training opportunities. Confidence in using digital tools for teaching Geography has a mean score of 3.8750 and a standard deviation of 1.30022, indicating that while respondents are moderately comfortable with technology, there is room for further development. Finally, the mean score for access to sufficient resources for preparing geography lessons is 3.1111, with a standard deviation of 1.54698, reflecting concerns about resource adequacy among the respondents while the respondents' qualifications and preparedness are strong, the perceived gaps in professional development, digital tool use, and resource availability suggest that

addressing these areas could enhance the influence of teaching experience on student performance in Geography.

Table 7: Teacher Preparedness

	N	Minimum	Maximum	Mean	Std. Deviation
I have received formal qualifications in geography education.	144	1.00	5.00	4.1528	1.17265
The school provides regular professional development opportunities specific to geography.	144	1.00	5.00	2.5556	1.44734
I feel adequately prepared to teach all topics in the geography curriculum.	144	1.00	5.00	4.0625	1.09173
I am confident in using digital tools and technology for teaching geography.	144	1.00	5.00	3.8750	1.30022
I have access to sufficient resources to prepare for geography lessons.	144	1.00	5.00	3.1111	1.54698
Valid N (listwise)	144				

Source: Field Data (2024)

4.5.2 Thematic Analysis

A qualitative analysis revealed that teachers' experience plays a crucial role in shaping students' performance in Geography. Respondents offered diverse insights into how teaching experience affects both teaching methods and student outcomes:

> A highly experienced teacher remarked, *"Having taught Geography for over 20 years, I have developed a deeper understanding of the curriculum and students' learning needs. This experience allows me to predict common student challenges and adjust my teaching to ensure better performance. For instance, I now use simplified language when teaching complex topics like geomorphology."*

Another respondent, who was a student, shared, *"The older teachers who have been around for a long time seem to know exactly what the KCSE examiners are looking for. They guide us on how to answer questions correctly, which boosts our confidence and scores in exams."*

A teacher with less experience expressed, *"I find that I still struggle with managing large classes during Geography practicals, especially when teaching new topics like GIS. Sometimes, I feel that my lack of experience prevents me from explaining certain concepts in a way that all students can understand, and this may affect their performance."*

A school administrator commented, *"We've observed that teachers who have more experience tend to use a variety of teaching methods, such as group discussions and fieldwork. These methods seem to engage students better, leading to improved results. Younger teachers, on the other hand, often stick to lectures, which doesn't always work for every student."*

One of the students highlighted, *"Our Geography teacher has been teaching for over 15 years, and you can tell the difference. He uses past exam papers to train us on how to answer questions, and he's always aware of the changes in the syllabus. This really helps us feel prepared for the KCSE exams."*

4.6 Socio-Economic Factors

4.6.1 Descriptive Analysis

The study sought to determine how teaching methodology influences students' KCSE performance in Geography, focusing on socio-economic factors. Table 8 provides insights from 144 respondents on various socio-economic aspects that may impact student performance. Respondents perceive that most students come from families with insufficient income to support their education, with a mean score of 2.2500 and a standard deviation of 1.27098, indicating that financial constraints are a significant barrier. Parental involvement in students' education is seen as moderate, with a mean score of 3.0208 and a standard deviation of 1.32996, suggesting that while some parental engagement is present, it may not be consistently high. Students' regular attendance in school and Geography classes is relatively high, with a mean score of 3.9653 and a standard deviation of 1.20264, reflecting a positive aspect of student

engagement. However, access to learning materials at home is limited, as shown by a low mean score of 2.3472 and a standard deviation of 1.28640. This indicates that many students lack essential resources for learning outside of school.

The data indicate a strong agreement that socio-economic factors significantly impact student performance in Geography, with a mean score of 3.7639 and a standard deviation of 1.34313. This suggests that addressing socio-economic challenges could play a crucial role in improving KCSE performance while regular attendance and parental involvement contribute positively, financial constraints and limited access to learning materials highlight areas where teaching methodologies and support systems might be enhanced to better support student performance in Geography.

Table 8: Socio-Economic Factors

	N	Minimum	Maximum	Mean	Std. Deviation
Most students come from families with sufficient income to support their education.	144	1.00	5.00	2.2500	1.27098
Parental involvement in students' education is generally high.	144	1.00	5.00	3.0208	1.32996
Students regularly attend school and geography classes.	144	1.00	5.00	3.9653	1.20264
Students have access to learning materials at home.	144	1.00	5.00	2.3472	1.28640
Socio-economic factors significantly impact student performance in geography.	144	1.00	5.00	3.7639	1.34313
Valid N (listwise)	144				

Source: Field Data (2024)

4.6.2 Thematic Analysis

A qualitative analysis revealed that the teaching methodologies employed by Geography teachers significantly influence students' understanding and eventual performance in the KCSE exams. Respondents shared their views on the impact of various teaching methods on their learning experience:

A senior teacher stated, *"Incorporating interactive methods like group discussions and debates in my Geography classes has significantly boosted students' engagement. When they collaborate, they grasp difficult concepts better and retain the information longer, which reflects positively in their exam performance."*
Another teacher mentioned, *"I prefer to use field trips to teach topics like river systems and vegetation. When students see these geographical features in real life, they are able to relate them to what they learn in class, which improves their understanding and their ability to answer exam questions."*
One of the students shared, *"Our teacher uses storytelling to explain historical geography, like how human settlements developed over time. This method makes lessons more relatable and helps me remember facts during exams. I find it easier to answer essay questions because of this approach."*
A respondent commented, *"Teachers who use a mix of methods, like using multimedia tools and hands-on activities, seem to get the best results. In our school, we've noticed that classes where teachers rely only on lectures tend to perform worse in KCSE compared to those where students actively participate."*
Another student observed, *"I struggled with Geography until our teacher started using case studies to explain environmental problems. Seeing real-world examples of pollution and deforestation helped me understand the topics better and I've improved in my assessments since then."*

4.7 Student-to-teacher ratios

4.7.1 Descriptive Analysis

The study sought to establish how students' attitudes towards Geography influence their KCSE performance in the subject, with a focus on the student-to-teacher ratios. Table 9 provides data from 144 respondents on various aspects related to class size and its impact on teaching and learning in Geography. The mean score for the manageability of the student-to-teacher ratio in Geography classes is 2.5625, with a standard deviation

of 1.25558. This suggests that respondents find the current ratios challenging, indicating that large class sizes may hinder effective instruction. Similarly, the mean score for providing individualized attention to all students is 2.4792, with a standard deviation of 1.29533, reflecting difficulties in catering to each student's needs within the current class sizes. Class sizes are perceived as not conducive to effective teaching and learning of Geography, with a mean score of 2.2778 and a standard deviation of 1.32983. This reinforces the idea that overcrowded classrooms negatively affect the quality of instruction and learning outcomes. The perception that high student-to-teacher ratios negatively impact teaching effectiveness has a mean score of 3.0486 and a standard deviation of 1.48338, indicating a moderate agreement that larger ratios are detrimental, the mean score for the belief that reducing the student-to-teacher ratio would improve student performance in Geography is 2.8750, with a standard deviation of 1.47651. This suggests that while there is some agreement that smaller ratios could enhance performance, the impact is perceived as moderate,the data indicate that respondents perceive current student-to-teacher ratios as challenging and detrimental to effective teaching and learning in Geography. Improving these ratios may positively influence students' attitudes and subsequently their KCSE performance in Geography.

Table 9: Student-to-teacher ratios

	N	Minimum	Maximum	Mean	Std. Deviation
The student-to-teacher ratio in geography classes is manageable.	144	1.00	5.00	2.5625	1.25558
I am able to provide individualized attention to all students in my geography classes.	144	1.00	5.00	2.4792	1.29533
Class sizes are conducive to effective teaching and learning of geography.	144	1.00	5.00	2.2778	1.32983
High student-to-teacher ratios negatively impact my ability to teach geography effectively.	144	1.00	5.00	3.0486	1.48338
Reducing the student-to-teacher ratio would improve student performance in geography.	144	1.00	5.00	2.8750	1.47651
Valid N (listwise)	144				

Source: Field Data (2024)

4.7.2 Thematic Analysis

A qualitative analysis revealed that students' attitudes towards Geography play a critical role in determining their engagement with the subject and their performance in the KCSE exams. Respondents provided various insights into how attitudes, whether positive or negative, influence their academic outcomes:

> A Geography teacher remarked, *"Students who have a positive attitude towards Geography tend to be more inquisitive and ask questions in class. This curiosity helps them understand the subject better, which is reflected in their KCSE performance. On the other*

hand, those who perceive it as difficult often avoid engaging with the material and struggle in exams."

One of the students shared, *"I didn't like Geography at first because I found the maps and diagrams confusing. But after I received extra help from my teacher, I began to enjoy the lessons more, and my grades improved. I realized that once I stopped fearing the subject, I performed better."*

A teacher commented, *"The students who believe that Geography is important for their future careers, such as those aspiring to become environmentalists or geographers, tend to take the subject seriously. They put in more effort and perform better in their KCSE exams than those who see it as just another subject."*

Another student noted, *"Most of my classmates think Geography is boring because they believe it's just about memorizing facts. This negative mindset makes them less motivated to study, and their performance in class tests and final exams reflects that."*

A school counselor observed, *"Students' attitude toward Geography is often shaped by how the subject is presented to them. When teachers make the lessons engaging and show real-world applications, students tend to develop a positive attitude, which directly affects their motivation and, consequently, their KCSE performance."*

4.8 Inferential Statistics

4.8.1 Correlations

The correlation between teaching/learning resources and students' attitude towards Geography is very strong, with a Pearson correlation coefficient of 0.942 ($p < 0.01$). This indicates that better teaching and learning resources are significantly associated with more positive student attitudes towards Geography. Similarly, there is a strong correlation between teachers' teaching experience and students' attitude towards Geography, with a Pearson correlation coefficient of 0.575 ($p < 0.01$), suggesting that more experienced teachers contribute positively to students' attitudes. The relationship between teaching methodology and students' attitude towards Geography is also robust, with a Pearson correlation coefficient of 0.758 ($p < 0.01$). This implies that effective teaching methodologies are closely linked to positive student attitudes towards the subject.

Table 10: Correlations

		teaching learning resources	teachers teaching experience	teaching methodology
teaching learning resources	Pearson Correlation	1	.543**	.853**
	Sig. (2-tailed)		.000	.000
	N	144	144	144
teachers teaching experience	Pearson Correlation	.543**	1	.456**
	Sig. (2-tailed)	.000		.000
	N	144	144	144
teaching methodology	Pearson Correlation	.853**	.456**	1
	Sig. (2-tailed)	.000	.000	
	N	144	144	144
Attitude towards geography	Pearson Correlation	.942**	.575**	.758**
	Sig. (2-tailed)	.000	.000	.000
	N	144	144	144

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

Source: Field Data (2024)

4.8.2 Model Summary

Table 11 provides the model summary for the regression analysis, which evaluates the impact of these predictors on students' attitudes towards Geography. The model shows a very high correlation coefficient (R) of 0.949, indicating a strong relationship between the predictors and the students' attitudes. The R Square value of 0.901 suggests that 90.1% of the variance in students' attitudes towards Geography can be explained by the combined effects of teaching methodology, teachers' teaching experience, and teaching/learning resources. The Adjusted R Square value of 0.898 further supports the robustness of the model by adjusting for the number of predictors. The standard error of

the estimate is 1.75179, reflecting the average distance of the observed values from the regression line. The R Square Change value of 0.901, along with a significant F Change statistic of 422.412 (df1 = 3), indicates that the model significantly improves the prediction of students' attitudes compared to a model with no predictors.

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.949[a]	.901	.898	1.75179	.901	422.412	3

a. Predictors: (Constant), teaching methodology, teachers teaching experience, teaching learning resources

Source: Field Data (2024)

4.8.3 ANOVAa

Table 12 presents the ANOVA results for the regression analysis. The ANOVA table indicates that the regression model, which includes teaching methodology, teachers' teaching experience, and teaching/learning resources as predictors, is statistically significant. The regression sum of squares is 3888.864, with 3 degrees of freedom (df). The mean square for the regression is 1296.288, and the F statistic is 422.412, which is highly significant with a p-value of 0.000. This significance level ($p < 0.01$) confirms that the predictors collectively have a substantial impact on students' attitudes towards Geography. The residual sum of squares is 429.629, with 140 degrees of freedom, and the mean square for the residual is 3.069. The total sum of squares is 4318.493, with 143 degrees of freedom.

Table 12: ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3888.864	3	1296.288	422.412	.000[b]
	Residual	429.629	140	3.069		
	Total	4318.493	143			

a. Dependent Variable: Attitude towards geography

b. Predictors: (Constant), teaching methodology, teachers teaching experience, teaching learning resources

Source: Field Data (2024)

4.8.4 Coefficients

Table 13 provides the coefficients for the regression analysis, showing the impact of each predictor on students' attitudes towards Geography. The constant term in the model is 0.203 with a standard error of 0.814, but it is not statistically significant ($p = 0.803$), indicating that it does not contribute significantly to explaining the variance in students' attitudes. For teaching/learning resources, the unstandardized coefficient is 1.034 with a standard error of 0.054, and the standardized coefficient (Beta) is 1.036. This predictor has a highly significant t-value of 19.103 ($p < 0.01$), demonstrating that it has a strong positive influence on students' attitudes towards Geography. Teachers' teaching experience has an unstandardized coefficient of 0.130 with a standard error of 0.047, and a standardized coefficient (Beta) of 0.088. The t-value of 2.771 and a significance level of 0.006 indicate that this predictor has a significant positive impact on students' attitudes, though its effect is less pronounced compared to teaching/learning resources. Teaching methodology, however, shows an unstandardized coefficient of -0.204 with a standard error of 0.063, and a standardized coefficient

(Beta) of -0.166. The negative t-value of -3.246 and a significance level of 0.001 suggest that teaching methodology has a significant negative influence on students' attitudes towards Geography.

Table 13: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.203	.814		.249	.803
	teaching learning resources	1.034	.054	1.036	19.103	.000
	teachers teaching experience	.130	.047	.088	2.771	.006
	teaching methodology	-.204	.063	-.166	-3.246	.001

a. Dependent Variable: Attitude towards geography

Source: Field Data (2024)

4.8.5 Reliability Statistics

The Cronbach's Alpha for the scales is 0.902, which indicates excellent internal consistency among the items used. This high alpha value suggests that the items reliably measure the constructs related to teaching/learning resources, teachers' teaching experience, teaching methodology, and their influence on students' attitudes towards Geography. The Cronbach's Alpha Based on Standardized Items is 0.898, which is slightly lower but still very high, affirming the reliability of the scales even when accounting for the standardization of items.

Table 14: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.902	.898	4

Source: Field Data (2024)

4.8.6 Summary Item Statistics

Table 15 provides a summary of these statistics. The mean item score is 14.939, indicating the average score across the items. The minimum score recorded is 13.243, while the maximum score is 17.757, resulting in a range of 4.514. The ratio of the maximum to minimum scores is 1.341, reflecting the relative dispersion between the highest and lowest values. The variance is 4.441, suggesting some variability in the responses. The number of items analyzed is 4, consistent with the scales used to measure the predictors in the study.

Table 15: Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	14.939	13.243	17.757	4.514	1.341	4.441	4

Source: Field Data (2024)

4.8.7 ANOVA with Friedman's Test

The Friedman's Chi-Square value is 166.109 with a significance level of 0.000, indicating that there are statistically significant differences between the items. This result shows that the items being compared vary significantly in terms of the means, reinforcing that the predictors have differing impacts on students' attitudes towards Geography. The total sum of squares for the between-items variation is 1918.422, with 3 degrees of freedom. The mean square for between-items is 639.474, which, combined with the high Chi-Square value, confirms that the differences between items are substantial. The residual sum of squares is 3070.828 with 429 degrees of freedom, and the mean square for residuals is 7.158. Kendall's coefficient of concordance W is 0.124, suggesting a low level of agreement among the items regarding their influence on students' attitudes. This low value indicates that while there are significant differences,

the degree of agreement among the items is relatively modest. The grand mean of 14.9392 reflects the average score across all items, providing a baseline for understanding the central tendency of the data.

Table 16: ANOVA with Friedman's Test

		Sum of Squares	df	Mean Square	Friedman's Chi-Square	Sig
Between People		10429.623	143	72.934		
Within People	Between Items	1918.422[a]	3	639.474	166.109	.000
	Residual	3070.828	429	7.158		
	Total	4989.250	432	11.549		
Total		15418.873	575	26.815		

Grand Mean = 14.9392

a. Kendall's coefficient of concordance W = .124.

Source: Field Data (2024)

4.9 Discussion of Findings

4.9.1 Availability and Adequacy of Teaching Resources

The study's findings in Nyamira South Sub-County mirror these global challenges, particularly highlighting the insufficiency and outdated nature of geography teaching resources. The mean score of 2.4167 for the relevance and currency of geography textbooks, along with the high standard deviation (1.29280), indicates that textbooks are not only outdated but also unevenly perceived by teachers as inadequate for current educational demands. This aligns with the literature's discussion on the scarcity of updated materials in countries like Nigeria, where outdated textbooks hinder effective geography education.

The study highlights the inadequacy of digital teaching aids (mean score of 2.6181) and unreliable internet access (mean score of 2.6667), which correlates with the challenges described in the literature for regions like South Africa and Kenya. Despite efforts to integrate technology into education, these resources remain insufficient and poorly distributed, especially in rural areas, as seen in both the study's findings and the broader literature. The findings from Nyamira South Sub-County provide a localized example of the broader issues discussed in the literature, where inadequate and outdated resources significantly impede the effectiveness of geography education, directly influencing students' KCSE performance. The study underscores the need for more equitable distribution and modernization of educational resources, consistent with global and regional educational challenges.

4.9.2 Teacher Preparedness

The literature review on the global and regional training and preparedness of geography teachers offers a comprehensive backdrop against which the findings from Nyamira South Sub-County, Kenya, can be contextualized. Across various regions, the preparedness and ongoing professional development of geography teachers are recognized as critical factors influencing the quality of education and, consequently, student performance. However, despite significant efforts in countries like the United States, the United Kingdom, and South Africa, challenges persist in ensuring equitable access to continuous professional development (CPD), especially in underserved areas.

In Nyamira South Sub-County, the study's findings reflect a similar narrative. The respondents reported high levels of formal qualifications in geography education, with a mean score of 4.1528, suggesting that teachers possess strong foundational knowledge in the subject. This aligns with the literature from regions like Ghana and Kenya, where teacher education programs are in place to provide subject-specific

training, even though continuous professional development remains inconsistent the mean score of 2.5556 for regular professional development opportunities specific to Geography, along with a standard deviation of 1.44734, indicates a significant gap in ongoing training for these teachers. This finding is consistent with the challenges reported in the literature, particularly in African contexts like Nigeria and South Africa, where resource limitations, financial constraints, and logistical barriers hinder teachers' access to CPD opportunities. The lack of regular professional development in Nyamira South Sub-County underscores a critical area that needs attention to enhance the quality of geography education.

The study found that teachers in Nyamira South Sub-County feel only moderately comfortable with using digital tools for teaching Geography, as indicated by a mean score of 3.8750. This mirrors global trends, where despite the availability of digital resources, teachers often lack the confidence or training to effectively integrate these tools into their teaching practices. For instance, in the United States and the United Kingdom, while digital resources are more readily available, disparities in teacher preparedness to use these tools still exist, particularly in underserved areas.

The concern about resource adequacy, reflected in the mean score of 3.1111 for access to sufficient resources for preparing geography lessons, is another key issue highlighted in both the literature and the study findings. Similar to the situation in Nigeria and South Africa, where teachers struggle with outdated or insufficient teaching materials, the teachers in Nyamira South Sub-County also face challenges in accessing adequate resources. This gap in resource availability can significantly impact the effectiveness of geography teaching and, consequently, student performance.

The study's findings in Nyamira South Sub-County align closely with global and regional trends discussed in the literature. While teachers in the region are well-

qualified and prepared to teach geography, the lack of regular professional development, limited confidence in using digital tools, and inadequate resources pose significant challenges. Addressing these gaps through targeted professional development programs, increased access to digital resources, and improved resource distribution could enhance the influence of teachers' experience on student performance in Geography, thereby improving educational outcomes in the region.

4.9.3 Socio-Economic Factors

The literature on the global impact of socio-economic factors on student performance in geography aligns closely with the findings from the study conducted in Nyamira South Sub-County, Kenya. Across different regions, socio-economic status consistently emerges as a significant determinant of educational outcomes, including geography performance. In countries like the United States, the United Kingdom, and Australia, students from higher socio-economic backgrounds benefit from access to better resources, more qualified teachers, and supportive learning environments. These advantages are reflected in their superior academic performance compared to peers from lower socio-economic backgrounds.

Similarly, in Africa, socio-economic disparities manifest in the form of unequal access to educational resources, which in turn influences student performance in geography. For instance, in Uganda, Tanzania, and Ethiopia, students from lower-income families face challenges such as inadequate school facilities, lack of learning materials, and higher absenteeism rates due to financial constraints. These factors contribute to lower academic performance and wider achievement gaps between students from different socio-economic backgrounds.

The study findings from Nyamira South Sub-County corroborates these global patterns. The study reveals that students in this region face significant socio-economic

challenges that negatively impact their performance in geography. The low mean score of 2.2500, indicating insufficient family income to support education, mirrors the financial constraints faced by students in other parts of the world, as discussed in the literature. This lack of financial support hinders students' ability to access essential learning materials at home, as evidenced by the low mean score of 2.3472 for access to learning materials while parental involvement is moderate (mean score of 3.0208), the literature suggests that higher levels of parental engagement, as seen in wealthier areas, are crucial for improving student performance. The study's finding that regular attendance is relatively high (mean score of 3.9653) indicates a positive engagement in school activities, yet the overall impact of socio-economic factors remains a barrier to achieving better performance in geography.

The data from Nyamira South Sub-County, with a mean score of 3.7639 reflecting the strong impact of socio-economic factors on geography performance, emphasizes the need for targeted interventions to address these disparities. Similar to global efforts, local initiatives in Kenya, such as the provision of free textbooks and financial assistance, aim to mitigate these challenges. However, as the literature and the study findings suggest, there is still a significant gap that needs to be bridged to ensure that all students, regardless of their socio-economic background, have equal opportunities to excel in geography, both the literature and the study findings highlight the critical role of addressing socio-economic factors through improved teaching methodologies, enhanced support systems, and equitable access to resources to improve student performance in geography, particularly in underserved regions like Nyamira South Sub-County.

4.9.4 Student-to-teacher ratios

The literature review highlights the significant impact of socio-economic factors on student performance in geography across various global contexts, including Canada, Germany, Australia, and several African countries. These factors influence the availability of educational resources, quality of teaching, and overall learning environments, which in turn affect students' academic outcomes. The findings from the study on Nyamira South Sub-County, Kenya, align with this global perspective, demonstrating that socio-economic disparities play a crucial role in determining geography performance among students.

In the context of Nyamira South Sub-County, socio-economic challenges such as inadequate learning materials, poor school infrastructure, and financial difficulties are major barriers to effective geography education. These challenges are compounded by large class sizes, which the study's findings indicate as a significant hindrance to effective teaching and learning in geography. The mean scores from the study suggest that the current student-to-teacher ratios are perceived as unmanageable, leading to difficulties in providing individualized attention and reducing the effectiveness of instruction. This reflects a broader trend observed in the literature, where overcrowded classrooms, particularly in under-resourced schools, contribute to lower academic performance in geography.

The study's findings that large class sizes negatively impact teaching effectiveness and student performance in geography are consistent with global research. For example, in Canada and Germany, students from higher socio-economic backgrounds, who typically attend well-resourced schools with smaller class sizes, tend to perform better in geography. In contrast, students from lower socio-economic backgrounds often

experience overcrowded classrooms, limiting their access to quality education and individualized support, similar to the situation in Nyamira South Sub-County.

Moreover, the moderate agreement among respondents that reducing the student-to-teacher ratio could improve student performance in geography underscores the importance of addressing class size as a factor in enhancing educational outcomes. This is echoed in global contexts, where efforts to improve educational equity, such as targeted funding, teacher training, and infrastructure development, aim to mitigate the negative effects of large class sizes, particularly in disadvantaged areas.

The correlation between the literature and the study's findings highlights the critical role of socio-economic factors and classroom dynamics in shaping geography education outcomes. Addressing these challenges in Nyamira South Sub-County, through initiatives such as reducing class sizes, improving school infrastructure, and providing additional resources, could significantly enhance students' attitudes toward geography and their performance in the subject, aligning with successful strategies observed in other regions globally.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a comprehensive summary of the study's findings, draws conclusions based on the analysis, and offers recommendations for policy, practice, and further research.

5.2 Summary of Findings

5.2.1 Availability and Adequacy of Teaching Resources

The study identified the availability and adequacy of teaching resources as significant factors influencing student performance in geography within Nyamira South Sub-County. The findings indicated that many schools in the region suffer from a shortage of essential geography teaching materials, including textbooks, maps, globes, and digital tools like Geographic Information Systems (GIS). This scarcity of resources was found to directly impact the quality of geography education, as it limits the ability of teachers to effectively deliver the curriculum and engage students in interactive and practical learning activities.

The study revealed that even when some resources are available, they are often outdated or insufficient to meet the needs of all students, leading to a reliance on theoretical instruction rather than practical, hands-on experiences. This inadequacy in teaching resources contributes to lower student engagement and interest in geography, which, in turn, affects their performance in the subject.

The findings underscore the need for improved provision and distribution of teaching resources to ensure that all students have access to the necessary materials for effective learning. Addressing these resource gaps is essential for enhancing the quality of geography education and improving student outcomes in the subject.

5.2.2 Teacher Preparedness

The study revealed significant insights into the preparedness of teachers in delivering quality geography education in Nyamira South Sub-County. Teacher preparedness was found to be a critical factor influencing student performance in geography. The findings indicated that while many teachers possess the necessary qualifications, they often lack sufficient access to ongoing professional development opportunities that are essential for staying updated with current teaching methodologies and content knowledge.

The study highlighted that teachers face challenges due to inadequate teaching resources, which hampers their ability to effectively prepare and deliver lessons. Despite their efforts, the lack of sufficient teaching aids, such as Geographic Information Systems (GIS), maps, and other essential instructional materials, limits the effectiveness of geography instruction. Consequently, this inadequacy in resources, coupled with high student-to-teacher ratios, further strains teachers, making it difficult for them to provide individualized attention and engage students in practical learning experiences.

The findings suggest that enhancing teacher preparedness through continuous professional development and ensuring the availability of adequate teaching resources are crucial for improving geography education outcomes in the region.

5.2.3 Socio-Economic Factors

The study found that socio-economic factors significantly influence student performance in geography in Nyamira South Sub-County. Students from low-income families face numerous challenges, including a lack of basic learning materials, poor school infrastructure, and financial difficulties that hinder regular attendance. These barriers limit students' ability to fully engage with the geography curriculum, contributing to lower academic performance. The disparities in resources between

schools in wealthier areas and those in poorer regions exacerbate these challenges, leading to significant performance gaps. Schools with better facilities, more qualified teachers, and access to digital learning tools tend to have students who perform better in geography compared to those in under-resourced schools.

5.2.4 Student-to-teacher ratios

The study revealed that high student-to-teacher ratios negatively impact the quality of geography education. Respondents indicated that large class sizes make it difficult for teachers to manage classes effectively, provide individualized attention, and deliver quality instruction. The mean score for the manageability of the student-to-teacher ratio was 2.5625, indicating that current ratios are challenging for effective teaching. Similarly, the mean score for providing individualized attention was 2.4792, reflecting difficulties in catering to each student's needs. Overall, the findings suggest that overcrowded classrooms hinder effective teaching and learning in geography, leading to suboptimal student performance.

5.3 Conclusions

i. The study concluded that inadequate and insufficient teaching resources significantly affect student performance in geography. Schools in Nyamira South Sub-County that lack essential resources, such as textbooks, maps, and digital tools, face challenges in delivering effective geography education.

ii. The study concluded that teacher preparedness is a crucial determinant of student performance in geography. Teachers who are well-prepared, with access to professional development and adequate teaching materials, are more effective in delivering the curriculum and engaging students.

iii. The study concluded that students' attitudes towards geography have a significant impact on their performance in the subject. Positive attitudes,

fostered by engaging and relevant teaching methods, enhance student interest and performance. However, negative perceptions or lack of interest in geography can lead to disengagement and lower academic achievement. Improving students' attitudes towards geography through better teaching practices and resource provision is essential for enhancing their performance.

iv. The study concluded that high student-to-teacher ratios negatively affect the quality of geography instruction and student performance. Overcrowded classrooms limit the teacher's ability to provide individualized attention and effective instruction. Reducing the student-to-teacher ratio would improve the manageability of classes, enable more personalized teaching, and potentially lead to better student outcomes in geography.

5.4 Recommendations

i. The study recommended that education authorities and school management prioritize the procurement and distribution of essential teaching resources for geography. This includes investing in up-to-date textbooks, atlases, maps, and digital learning tools.

ii. The study recommended that continuous professional development programs be implemented to enhance teachers' preparedness in geography instruction. These programs should focus on updating teachers' knowledge of the geography curriculum, integrating new teaching methods, and effectively utilizing available resources.

iii. The study recommended that schools implement strategies to foster positive attitudes towards geography among students. This could involve incorporating

interactive and practical elements into the geography curriculum, such as field trips, hands-on activities, and project-based learning.

iv. The study recommended that efforts be made to reduce the student-to-teacher ratio in geography classes to improve the quality of instruction and student performance. This could be achieved by hiring additional qualified teachers or reorganizing class structures to ensure smaller class sizes.

5.5 recommendations for further studies

The study recommended conducting further research to explore the effectiveness of various interventions aimed at addressing socio-economic barriers to learning in geography. it suggested investigating how targeted support programs, such as increased access to learning resources, enhanced teacher training, and improved parental involvement, impact students' academic performance over time.

REFERENCES

Adewuyi, D. A., & Misari, Z. (2018). Fieldwork in Geography Education: Constraints and Challenges in Nigeria. *Geographical Education*, 31(2), 45-53.

Australian Government Department of Education. (2019). National Regional, Rural and Remote Education Strategy. Department of Education.

Baker, T. R. (2015). WebGIS in education: Implementation possibilities and challenges. *Journal of Geography*, 114(5), 184-195.

Becker, M., & Schubert, M. (2017). Socio-Economic Status and Educational Inequality in Germany. *German Economic Review*, 18(4), 511-535.

Bednarz, S. W., Heffron, S., & Huynh, N. T. (2013). *A Road Map for 21st Century Geography Education: Geography Education Research*. Association of American Geographers.

Berry, B. (2018). The Role of Technology in Geography Education: A Case Study from Australia. *Australian Journal of Educational Technology*, 34(3), 145-160.

Blatchford, P., Bassett, P., & Brown, P. (2011). Examining the effect of class size on classroom engagement and teacher-pupil interaction: Differences in relation to pupil prior attainment and primary vs. secondary schools. *Learning and Instruction*, 21(6), 715-730.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher*, 33(8), 3-15.

Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241-258). Greenwood.

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, 53, 371-399.

Brooks-Gunn, J., & Duncan, G. J. (1997). The effects of poverty on children. *The Future of Children*, 7(2), 55-71.

Chinyoka, K. (2017). Socio-Economic Challenges Affecting Students' Performance in Zimbabwe. *Journal of Educational Research and Reviews*, 12(5), 210-223.

Darling-Hammond, L. (2015). The Flat World and Education: How America's Commitment to Equity Will Determine Our Future. Teachers College Press.

Davis-Kean, P. E. (2005). The influence of parent education and family income on child achievement: The indirect role of parental expectations and the home environment. *Journal of Family Psychology*, 19(2), 294-304.

Education Endowment Foundation (EEF). (2018). Closing the Attainment Gap. EEF.

Epstein, J. L. (2001). *School, Family, and Community Partnerships: Preparing Educators and Improving Schools*. Westview Press.

Evans, G. W. (2004). The environment of childhood poverty. *American Psychologist*, 59(2), 77-92.

Finn, J. D., Gerber, S. B., & Boyd-Zaharias, J. (2005). Small classes in the early grades, academic achievement, and graduating from high school. *Journal of Educational Psychology*, 97(2), 214-223.

Fisher, R., & Binns, T. (2016). Issues in Geography Education: An International Perspective. *Journal of Geography in Higher Education*, 40(2), 249-264.

Frenette, M. (2019). The Impact of Economic Resources on Educational Attainment in Canada. *Statistics Canada*.

Fuller, I. (2006). What is the value of fieldwork? Answers from New Zealand using two contrasting undergraduate field trips. *Journal of Geography in Higher Education*, 30(2), 199-220.

Gore, J., Holmes, K., Smith, M., Southgate, E., & Albright, J. (2017). Socio-economic Status and the Career Aspirations of Australian School Students: Testing Enduring Assumptions. *Australian Educational Researcher*, 44(2), 155-172.

Govender, N. (2015). Geography education in South Africa: Issues and challenges. *South African Journal of Education*, 35(1), 23-32.

HakiElimu. (2017). The State of Education in Tanzania: From Crisis to Opportunity. HakiElimu.

Hill, N. E., & Tyson, D. F. (2009). Parental involvement in middle school: A meta-analytic assessment of the strategies that promote achievement. *Developmental Psychology*, 45(3), 740-763.

Jensen, E. (2009). *Teaching with Poverty in Mind: What Being Poor Does to Kids' Brains and What Schools Can Do About It*. ASCD.

Jones, S., & Henderson, A. (2019). Resource Disparities in Australian Geography Classrooms. *Australian Geographer*, 50(1), 23-36.

Kimani, G., & Mwoma, T. (2018). Factors Influencing Performance in Geography in Secondary Schools in Kenya. *Kenya Journal of Education Planning, Economics and Management*, 11(2), 34-47.

Klemm, K. (2018). Educational Inequality in Germany: Evidence from PISA and the German Education Panel Study. *Zeitschrift für Erziehungswissenschaft*, 21(2), 349-369.

Matsika, A. B. (2018). Community Initiatives in Enhancing Educational Infrastructure in Zimbabwe. *African Journal of Educational Studies*, 14(3), 147-159.

Ministry of Education and Sports (MoES). (2016). The Education and Sports Sector Annual Performance Report. MoES, Uganda.

Ministry of Education, Zambia. (2018). Education Sector Strategic Plan 2017-2021. Ministry of Education.

Molefe, T. (2016). Addressing Resource Inequity in South African Schools. *Educational Research for Social Change*, 5(2), 45-56.

Mugambi, D. (2020). Gender Disparities in Education in Kenya: Implications for Geography Education. *International Journal of Educational Research*, 8(4), 120-135.

Mulenga, I. M., & Mwanza, N. (2019). Educational Disparities in Zambia: The Role of Socio-Economic Factors. *Journal of Education and Development*, 10(2), 34-47.

Müller, K., & Ehmke, T. (2016). Urban Disadvantage and Student Performance in Germany. *Urban Education*, 51(8), 989-1018.

Mwangi, M. (2021). Community and Donor Interventions in Education: Case Studies from Kenya. *African Journal of Educational Studies*, 15(2), 88-105.

Namirembe, M. (2018). The Impact of Universal Secondary Education on Student Performance in Uganda. *African Education Review*, 15(1), 20-35.

National Geographic Society. (2015). Geography for Life: National Geography Standards, Second Edition. National Geographic Society.

National Geographic Society. (2015). Geography for Life: National Geography Standards, Second Edition. National Geographic Society.

Nyaberi, P. (2019). Resource Allocation and Student Performance in Nyamira County. *Journal of Education and Practice*, 10(12), 67-74.

Olusegun, A. (2018). Geography Education in Nigeria: Challenges and Opportunities. *Journal of Geography and Regional Planning*, 11(5), 72-78.

Osei, A. (2016). Socio-economic Factors Affecting Education in Sub-Saharan Africa. *African Journal of Education*, 11(3), 199-210.

Parsons, T. (1951). *The Social System*. Routledge.

Piaget, J. (1954). *The Construction of Reality in the Child*. Basic Books.

Putnam, R. D. (2000). *Bowling Alone: The Collapse and Revival of American Community*. Simon and Schuster.

Reardon, S. F. (2011). The widening academic achievement gap between the rich and the poor: New evidence and possible explanations. In R. Murnane & G. Duncan (Eds.), *Whither Opportunity? Rising Inequality and the Uncertain Life Chances of Low-Income Children* (pp. 91-116). Russell Sage Foundation.

Reardon, S. F. (2013). The Widening Income Achievement Gap. *Educational Leadership*, 70(8), 10-16.

Roberts, M. (2017). Geography Education Research in the UK: Retrospect and Prospect. *International Research in Geographical and Environmental Education*, 26(1), 6-18.

Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75(3), 417-453.

Smith, M., & Sobel, D. (2018). Socio-Economic Disparities in Canadian Geography Education. *Canadian Journal of Education*, 41(3), 497-519.

Sutton Trust. (2019). Parent Power: How Parents Use Financial and Cultural Resources to Boost Their Children's Chances of Success. Sutton Trust.

Tanzania Ministry of Education. (2018). Education Sector Development Plan (ESDP) 2016/17-2020/21. Ministry of Education, Tanzania.

UNICEF. (2018). Ethiopia Education Strategy 2018-2022. UNICEF.

Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Harvard University Press.

Weber, M. (1947). *The Theory of Social and Economic Organization*. Free Press.

World Bank. (2019). Education in Ethiopia: Delivering Results for Children. World Bank.

APPENDICES

Appendix I: Letter of Introduction to Respondents

MOUNT KENYA UNIVERSITY,

School of Education,

Department of Education Management and Curriculum Studies,

P.O. Box 342-01000,

THIKA, KENYA.

March, 2022.

THROUGH:

The Director,

The Mount Kenya University,

KISII CAMPUS

Dear respondent,

RE; REQUEST TO CONDUCT RESEARCH; DATA COLLECTION

I am currently a postgraduate student at Mount Kenya University, working towards my Master's in Education with a focus on Management, Leadership, and Administration. As part of my research, I am investigating the factors that affect teacher performance in delivering the geography curriculum in public secondary schools within the South Sub-County of Nyamira. I would greatly appreciate your participation in the attached survey. Please answer all questions as accurately and truthfully as possible. Rest assured, all responses was strictly confidential and used solely for academic purposes.

Thank you very much for your valuable support and cooperation.

Yours faithfully,

Mr. Guantai Harun,

MED STUDENT

Appendix II: Consent Form

Dear Participant,

I'd like to ask you to take part in a research project called (**FACTORS INFLUENCING PERFORMANCE OF GEOGRAPHY SUBJECT IN PUBLIC SECONDARY SCHOOLS IN NYAMIRA SOUTH SUB-COUNTY, KENYA.**): I'm writing my master's project while I'm enrolled at Mount Kenya University's program.

It is entirely up to you whether or not you take part in this study. You may choose not to answer any questions at all or leave them blank. Beyond the dangers associated with daily living, there are no recognized risks associated with involvement. Your comments was kept private and anonymous. The results of this study's data was kept confidential and only given as a combined total. Your specific responses to this questionnaire will only be known by the researchers. You won't directly gain anything by taking part in this study. However, you could find it fascinating to discuss the difficulties raised in the study, and it might also be helpful to the industry and to customers or other people in the future who have similar worries.

Please provide the most accurate responses you can to the questionnaire's questions if you accept to take part in this experiment. The completion time should be about seven minutes. To allow me to finish the project report, please return the questionnaire as soon as feasible.

Please feel free to contact the INVESTIGATOR if you have any queries regarding this project (HARUN GUANTAI and Dr. Charles Ocharo Momanyi Ph.D as the supervisor). Please contact the Ethics Review Committee, Mount Kenya University. P.O Box 342-01000-Thika. Email: cgsr@mku.ac.ke. Tel: 254709153000, if you have any inquiries concerning your rights as a study participant.

I appreciate your help with this crucial project.

CONSENT

I've read, understand, and have had a chance to ask questions about the material presented. I am aware that my participation is entirely optional and that I may stop at any moment, for any reason, and without incurring any fees. I am aware that a copy of this permission form was sent to me. I freely consent to participate in this research.

Participant's signature _____ Date _____

Investigator's signature _____ Date _____

Appendix III: Teachers Questionnaire

This questionnaire is designed for research purposes. Please complete it by marking your answers with a check (✓) and filling in any blank spaces with your honest responses. Rest assured; all information you provide was kept confidential.

SECTION A: DEMOGRAPHIC INFORMATION

1. What is your gender? ( ) Male ( ) Female
2. What is your age? ( ) Under 25 ( ) 25-34 ( ) 35-44 ( ) 45-54 ( ) 55 and above
3. What is your highest level of education? ( ) Diploma ( ) Bachelor's Degree ( ) Master's Degree ( ) PhD
4. How many years of teaching experience do you have? ( ) 0-5 years ( ) 6-10 years ( ) 11-15 years ( ) 16-20 years ( ) Over 20 years
5. How many years have you been teaching geography? ( ) 0-5 years ( ) 6-10 years ( ) 11-15 years ( ) 16-20 years ( ) Over 20 years

SECTION B: AVAILABILITY AND ADEQUACY OF TEACHING RESOURCES

1. What is your level of agreement with the following statements on the influence of digital marketing on university student's enrolment? (Scale: 1=Strongly Disagree, 2=Disagree, 3-Neutral, 4=Agree, 5=Strongly Agree).

statements	1	2	3	4	5
The geography textbooks available are up-to-date and relevant.					
There are enough geography textbooks for all students.					
The school provides adequate maps and atlases for geography lessons.					
The digital teaching aids (e.g., computers, projectors) available are sufficient for effective geography teaching.					

Internet access is available and reliable for geography teaching purposes.					

SECTION C: TEACHER PREPAREDNESS

1. What is your level of agreement with the following statements on the influence of digital marketing on university student's enrolment? (Scale: 1=Strongly Disagree, 2=Disagree, 3-Neutral, 4=Agree, 5=Strongly Agree).

statements	1	2	3	4	5
I have received formal qualifications in geography education.					
The school provides regular professional development opportunities specific to geography.					
I feel adequately prepared to teach all topics in the geography curriculum.					
I am confident in using digital tools and technology for teaching geography.					
I have access to sufficient resources to prepare for geography lessons.					

SECTION D: SOCIO-ECONOMIC FACTORS

1. What is your level of agreement with the following statements on the influence of digital marketing on university student's enrolment? (Scale: 1=Strongly Disagree, 2=Disagree, 3-Neutral, 4=Agree, 5=Strongly Agree).

statements	1	2	3	4	5
Most students come from families with sufficient income to support their education.					
Parental involvement in students' education is generally high.					
Students regularly attend school and geography classes.					
Students have access to learning materials at home.					

Socio-economic factors significantly impact student performance in geography.					

SECTION E: STUDENT-TO-TEACHER RATIOS

1. What is your level of agreement with the following statements on the influence of digital marketing on university student's enrolment? (Scale: 1=Strongly Disagree, 2=Disagree, 3-Neutral, 4=Agree, 5=Strongly Agree).

statements	1	2	3	4	5
The student-to-teacher ratio in geography classes is manageable.					
I am able to provide individualized attention to all students in my geography classes.					
Class sizes are conducive to effective teaching and learning of geography.					
High student-to-teacher ratios negatively impact my ability to teach geography effectively.					
Reducing the student-to-teacher ratio would improve student performance in geography.					

Appendix IV: Interview Schedule for Principals

1. How would you describe the availability of geography textbooks in your school?

   .....

   .....

2. Do you believe the geography textbooks available are up-to-date and relevant? Why or why not?

   .....

   .....

3. How would you assess the qualifications and preparedness of geography teachers in your school?

   .....

   .....

4. Does your school provide regular professional development opportunities for geography teachers? If yes, how frequently?

   .....

   .....

5. What is the socio-economic background of most students in your school?

   .....

   .....

6. How does the socio-economic status of students' families affect their performance in geography?

   .....

   .....

7. What is the current student-to-teacher ratio in geography classes in your school?

.....

.....

8. How does the student-to-teacher ratio impact the effectiveness of geography teaching and learning?

.....

.....

9. What are the main challenges your school faces in improving geography education?

.....

.....

10. What successful strategies have you implemented to enhance student performance in geography?

.....

.....

Appendix V: ERC Letter

Mount Kenya University

REF: **MKU/ISERC/3749**
TO: **GUANTAI HARUN**

Date: 29 May 2024

REG: **MED/2021/70551**

Dear Sir/Madam,

RE: FACTORS INFLUENCING PERFORMANCE OF GEOGRAPHY SUBJECT IN PUBLIC SECONDARY SCHOOLS IN NYAMIRA SOUTH SUB-COUNTY, KENYA

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **2793.** The approval period is **29/05/2024 - 28/05/2025.**

This approval is subject to compliance with the following requirements;

i. Only approved documents including informed consents, study instruments, MTA will be used
ii. All changes including amendments, deviations and violations are submitted for review and approval by **Mount Kenya University**
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **Mount Kenya University** within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal
vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

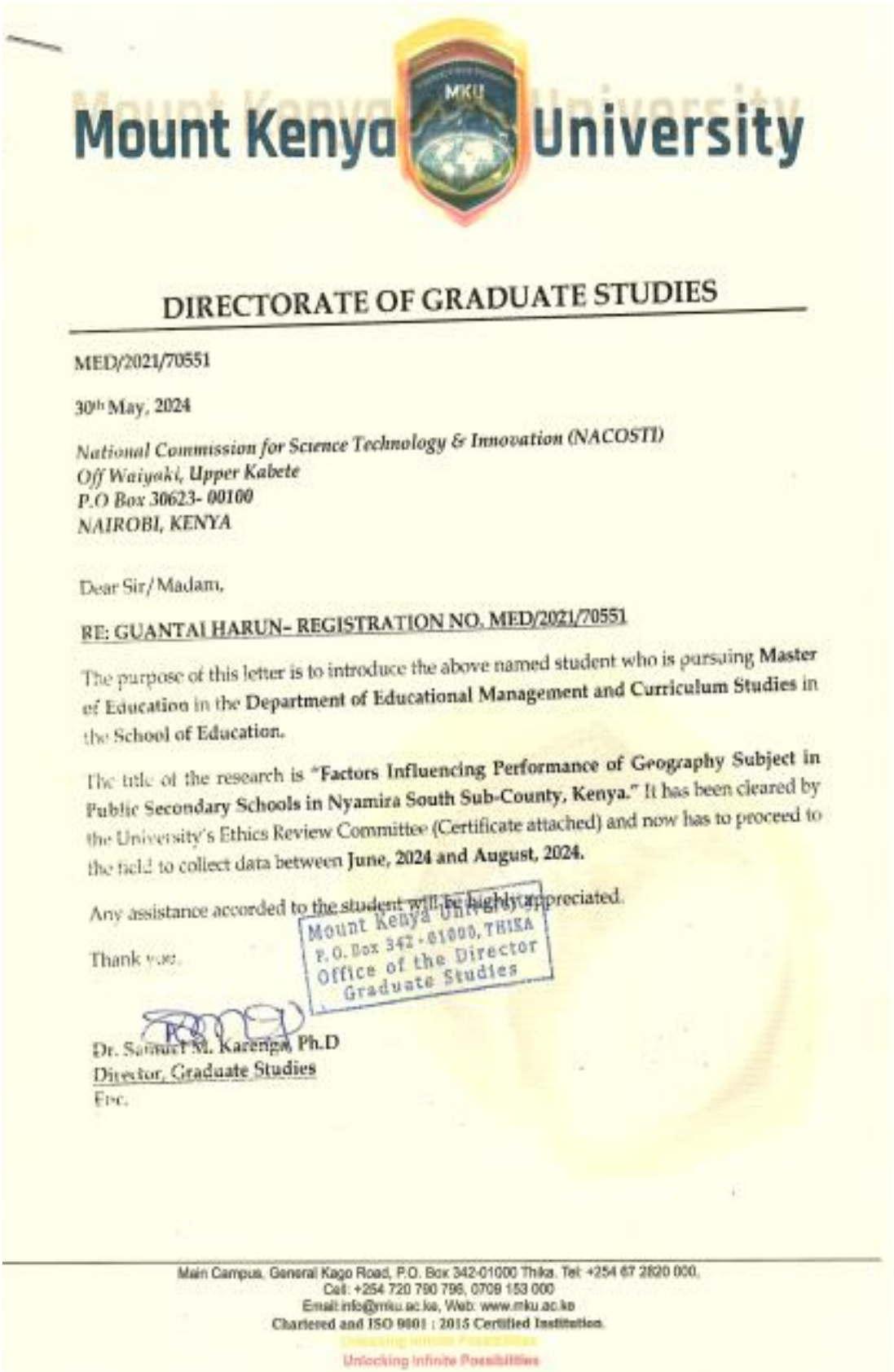
Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

The Chairman
Mount Kenya University
Ethics Review Committee
P.O. Box 342-01000, THIKA

Dr. Alfred Owino, PhD
Chairman, Mount Kenya University ISERC

Appendix VI: Introduction Letter



Mount Kenya University

DIRECTORATE OF GRADUATE STUDIES

MED/2021/70551

30th May, 2024

National Commission for Science Technology & Innovation (NACOSTI)
Off Waiyaki, Upper Kabete
P.O Box 30623- 00100
NAIROBI, KENYA

Dear Sir/Madam,

RE: GUANTAI HARUN- REGISTRATION NO. MED/2021/70551

The purpose of this letter is to introduce the above named student who is pursuing **Master of Education** in the **Department of Educational Management and Curriculum Studies** in the School of Education.

The title of the research is **"Factors Influencing Performance of Geography Subject in Public Secondary Schools in Nyamira South Sub-County, Kenya."** It has been cleared by the University's Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data between **June, 2024 and August, 2024.**

Any assistance accorded to the student will be highly appreciated.

Thank you.

Mount Kenya University
P.O. Box 342-01000, THIKA
Office of the Director
Graduate Studies

Dr. Samuel M. Karenga, Ph.D
Director, Graduate Studies
Enc.

Main Campus, General Kago Road, P.O. Box 342-01000 Thika. Tel: +254 67 2820 000,
Cell: +254 720 790 796, 0709 153 000
Email: info@mku.ac.ke, Web: www.mku.ac.ke
Chartered and ISO 9001 : 2015 Certified Institution.
Unlocking Infinite Possibilities

Appendix VII: NACOSTI Authorization

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 920241

Date of Issue: 16/August/2024

RESEARCH LICENSE

This is to Certify that Mr.. HARUN GUANTAI of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nyamira on the topic: FACTORS INFLUENCING PERFORMANCE OF GEOGRAPHY SUBJECT IN PUBLIC SECONDARY SCHOOLS IN NYAMIRA SOUTH SUB-COUNTY,KENYA for the period ending : 16/August/2025.

License No: NACOSTI/P/24/39134

920241

Applicant Identification Number

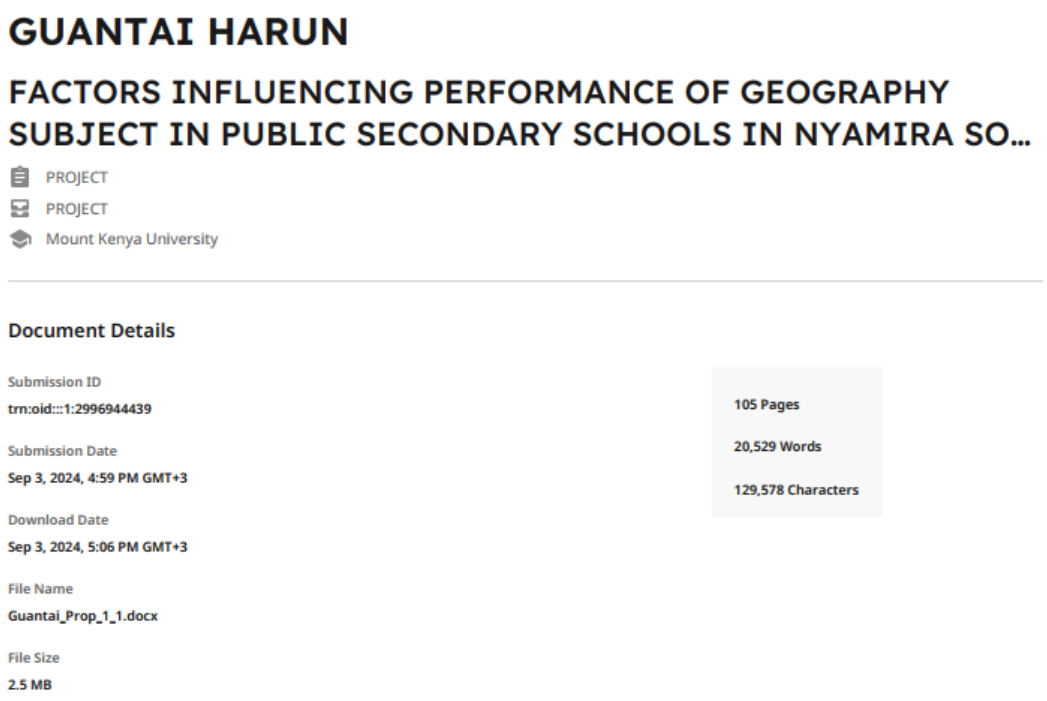
Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

Appendix VIII: Similarity Index



GUANTAI HARUN

FACTORS INFLUENCING PERFORMANCE OF GEOGRAPHY SUBJECT IN PUBLIC SECONDARY SCHOOLS IN NYAMIRA SO...

PROJECT

PROJECT

Mount Kenya University

Document Details

Submission ID
trn:oid:::1:2996944439

Submission Date
Sep 3, 2024, 4:59 PM GMT+3

Download Date
Sep 3, 2024, 5:06 PM GMT+3

File Name
Guantai_Prop_1_1.docx

File Size
2.5 MB

105 Pages

20,529 Words

129,578 Characters

16% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Exclusions

▸ 1 Excluded Source

Match Groups

- **379** Not Cited or Quoted **23%**
  Matches with neither in-text citation nor quotation marks
- **51** Missing Quotations **2%**
  Matches that are still very similar to source material
- **1** Missing Citation **0%**
  Matches that have quotation marks, but no in-text citation
- **0** Cited and Quoted **0%**
  Matches with in-text citation present, but no quotation marks

Top Sources

22% Internet sources
9% Publications
14% Submitted works (Student Papers)

Integrity Flags

0 Integrity Flags for Review

No suspicious text manipulations found.

Our system's algorithms look deeply at a document for any inconsistencies that would set it apart from a normal submission. If we notice something strange, we flag it for you to review.

A Flag is not necessarily an indicator of a problem. However, we'd recommend you focus your attention there for further review.