ASSESSMENT OF SELECTED SECONDARY SCHOOLS’ LEARNING ENVIRONMENT FOR INCLUSION OF LEARNERS WITH PHYSICAL DISABILITIES IN KISAUNI SUB COUNTY, MOMBASA COUNTY, KENYA

CHRISTINE CHEMUTAI AIYABEI

A thesis submitted in partial fulfillment of the requirements for the Degree of Master of Education (Special Needs) of Pwani University

November, 2016
Declaration and Approval

This thesis is my Original Work and has not been presented for a degree or any other award in any other university or college for examination.

Signature: [Signature] Date: 5th April 2017

Name: AIYABEI, CHRISTINE CHEMUTAI
E55/IB/2163/13

Approval:

I/We confirm that this thesis has been submitted for examination with my/our approval as University supervisor(s).

Signature: [Signature] Date: 05/04/17

1. Name: Professor (Dr.). Richard Zigler

Department of Education Psychology and Special Needs Education,

Pwani University,

KILIFI.

2. Name: Dr. Robert J. Maneno Date: 05/04/2017

Department of Education Psychology and Special Needs Education

Pwani University,

KILIFI.
Dedication

I dedicate this work to my mother Jane Aiyabei, my beloved children, Beverly, Betsy and Teddy for their steadfast love, patience and encouragement during my studies.
Acknowledgements

First, I thank the Almighty God, the source of all wisdom and knowledge, who gave me good health and strength throughout the course of my studies.

I am grateful to my supervisors, Prof. Richard Zigler and Dr. Robert J. Maneno for their professional guidance and encouragement to the end. I appreciate all my lecturers in the School of Education for imparting scholarly knowledge in me.

Many thanks go to my colleagues Manoah Musa, Joy and Luvanga, for their support, insightful thoughts and encouragement.

I am indebted to my sister’s family, Mr. and Mrs. Barnabas Kipruto Sawe (UK), for their technical support and advice.

I cannot forget to appreciate all the relevant authorities and the participants of this research for their input in making this thesis a success.

This study would not have been possible however without the love, patience and continuous encouragement of my loving children Beverly, Betsy and Teddy.
Table of Contents

Declaration and Approval…………………………………………………………………… ii
Dedication……………………………………………………………………………………… iii
Acknowledgements…………………………………………………………………………… iv
Table of Contents……………………………………………………………………………… v
List of Tables…………………………………………………………………………………… ix
List of Figures…………………………………………………………………………………… x
Abstract………………………………………………………………………………………… xi
Abbreviations and Acronyms………………………………………………………………... xiii

CHAPTER ONE: INTRODUCTION

1.0 Introduction………………………………………………………………………………… 1
1.1 Background of the Study……………………………………………………………… 1
1.2 Statement of the Problem……………………………………………………………… 7
1.3 Purpose of the Study…………………………………………………………………… 8
1.4 Objectives of the Study………………………………………………………………… 8
1.5 Research Questions……………………………………………………………………… 9
1.6 Significance of the study……………………………………………………………… 9
1.7 Delimitation and Limitation of the Study……………………………………………… 10
1.8 Assumptions of the Study……………………………………………………………… 10
1.9 Theoretical and Conceptual Framework……………………………………………… 11
   1.9.1 Theoretical Framework………………………………………………………… 11
   1.9.2 Conceptual Framework………………………………………………………… 12
1.10 Operational Definition of Terms……………………………………………………… 14

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.0 Introduction………………………………………………………………………………… 16
2.1 Adaptation of Physical Facilities……………………………………………………… 17
   2.1.1 Adaptation of Classrooms and Dormitories ……………………………… 18
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.2 Adaptation of Pathways and Pavement</td>
<td>19</td>
</tr>
<tr>
<td>2.1.3 Design for Ramps</td>
<td>20</td>
</tr>
<tr>
<td>2.2 Adaptation of Teaching Learning Resource</td>
<td>22</td>
</tr>
<tr>
<td>2.3 Professional Training of Teachers for Learners with Special Needs</td>
<td>24</td>
</tr>
<tr>
<td>2.4 Support Services for Learners with Physical Disabilities</td>
<td>25</td>
</tr>
<tr>
<td>2.4.1 Collaborative Teaming</td>
<td>26</td>
</tr>
<tr>
<td>CHAPTER THREE: RESEARCH DESIGN METHODOLOGY</td>
<td></td>
</tr>
<tr>
<td>3.0 Introduction</td>
<td>31</td>
</tr>
<tr>
<td>3.1 Research Design</td>
<td>31</td>
</tr>
<tr>
<td>3.2 Study Locale</td>
<td>31</td>
</tr>
<tr>
<td>3.3 Variables</td>
<td>32</td>
</tr>
<tr>
<td>3.4 Target Population</td>
<td>32</td>
</tr>
<tr>
<td>3.5 Sampling Techniques and Sample Size</td>
<td>33</td>
</tr>
<tr>
<td>3.5.1 Sample Technique</td>
<td>33</td>
</tr>
<tr>
<td>3.5.2 Sample Size</td>
<td>34</td>
</tr>
<tr>
<td>3.6 Instrumentation</td>
<td>35</td>
</tr>
<tr>
<td>3.6.1 Research Instruments</td>
<td>35</td>
</tr>
<tr>
<td>3.6.2 Pilot Study</td>
<td>35</td>
</tr>
<tr>
<td>3.6.3 Validity of Research Instruments</td>
<td>36</td>
</tr>
<tr>
<td>3.6.4 Reliability of Research Instruments</td>
<td>36</td>
</tr>
<tr>
<td>3.7 Data Collection Procedure</td>
<td>37</td>
</tr>
<tr>
<td>3.8 Data Analysis and Presentation</td>
<td>37</td>
</tr>
<tr>
<td>3.9 Logical and Ethical Considerations</td>
<td>38</td>
</tr>
<tr>
<td>CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND DISCUSSION</td>
<td></td>
</tr>
<tr>
<td>4.0 Introduction</td>
<td>40</td>
</tr>
<tr>
<td>4.1 Demographic Characteristics of Respondents</td>
<td>40</td>
</tr>
<tr>
<td>4.1.1 Gender of Respondents</td>
<td>40</td>
</tr>
</tbody>
</table>
4.1.2 Age Brackets of Respondents ................................................................. 41
4.1.3 Academic Qualification of Head Teachers & Teachers ........................... 42
4.1.4 Professional Experience of Respondents ............................................. 43
4.1.5 Professional Preparedness ................................................................. 45
4.1.6 Level of Understanding of Ministry of Education ............................... 45
4.2 Modification and Adaptation of Facilities .............................................. 46
4.2.1 Head Teachers’ Responses ............................................................... 46
4.2.2 Teachers’ Responses ...................................................................... 49
4.3 Adequacy of Teaching / Learning Resources ......................................... 52
4.3.1 Head teachers’ Responses on Teaching / Learning Resources ............ 52
4.3.2 Teachers’ Responses on Teaching / Learning resources .................... 54
4.4 Teacher Professional Training .............................................................. 56
4.5 Support Staff and Additional Support .................................................... 59
4.5.1 Head teachers’ Response on Support Staff ....................................... 59
4.5.2 Classroom Teachers’ Responses on Support Staff ............................. 62
4.6 Relationship between Performance and Factors .................................... 64
4.6.1 Rating Various Factors and Performance ......................................... 64
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS
5.0 Introduction ......................................................................................... 66
5.1 Summary ............................................................................................. 66
5.1.1 Modification and Infrastructural Adaptation .................................... 67
5.1.2 Teaching / Learning Resources ....................................................... 68
5.1.3 Training Classroom Teachers ......................................................... 68
5.1.4 Additional Support Provided to Physically Challenged Students ...... 69
5.2 Conclusions ....................................................................................... 70
5.3 Recommendations of the Study .......................................................... 71
5.4 Suggestions for Further Research ....................................................... 71
List of Tables

Table 3.1 Secondary Schools’ Enrolment in Kisauni Sub-County……………………….. 33
Table 4.1 Academic Qualification of Respondents………………………………………………. 43
Table 4.2 Professional Preparedness to Teach Learners with Physical Disability……………. 45
Table 4.3 Head Teachers’ Responses on Modification and Infrastructural
Adaptation of School Facilities…………………………………………………………………. 47
Table 4.4 Teachers Responses on Modification and Adaptation……………………………….. 50
Table 4.5 Head Teachers’ Responses on Teaching / Learning Resources…………………... 52
Table 4.6 Head Teachers’ Responses on the Support Given to Learners’
with Physical Disability……………………………………………………………………... 53
Table 4.7 Teachers’ Responses on Teaching / Learning Resources …………………….. 55
Table 4.8 Teacher Professional Training……………………………………………………… 57
Table 4.9 Head Teachers’ Responses on Support Staff……………………………………… 60
Table 4.10 Teachers’ Responses on Additional Support Staff……………………………… 63
Table 4.11 Rating of Various Factors in Regard to Performance of the
Physically Challenged Learners…………………………………………………………….. 65
List of Figures

Figure 1.1 Adapted learning environments for learners with physical disabilities........ 12
Figure 4.1 Gender of the Teacher Respondents.................................................... 41
Figure 4.2 Ages of Respondents........................................................................... 42
Figure 4.3 Head Teachers Experience................................................................. 44
Figure 4.4 Teachers Experience......................................................................... 44
Figure 4.5 Level of Understanding of Ministry of Education Policy on Special Needs Education.............................................................................................................. 46
Abstract

In line with international trends in education, Kenya has embraced inclusive education as the means by which learners that experience barriers to learning will be educated. As inclusion is beginning to be realized in Kenya, concerns have arisen about attitudes of various stakeholders toward inclusive education over the past few years and subsequent research carried out mainly at primary level of education. However, a gap in the emerging research on inclusive education is that of the trend in secondary schools. The Purpose of this study was to assess the secondary schools’ learning environment for inclusion of learners with Physical disabilities in Secondary Schools in Kisauni sub County in Mombasa County, Kenya. The study was guided by the following objectives: To determine the modification and infrastructural adaptation of physical facilities for learners with physical disabilities, to establish the adequacy of teaching/learning resources available to support learners with physical disabilities, establish the preparedness of teachers to teach learners with physical disabilities and determine the physical and academic support provided to learners with physical disabilities. The study adopted a descriptive survey design, hence guided data collection and analysis. The study involved 60 classroom teachers and 12 head teachers. Purposive, simple random and stratified sampling techniques were employed to select sampled schools. 12 out of 25 schools were sampled. Pilot study was carried out and the results used to test validity and reliability of the research instruments. The study adopted Banduras' social learning theory in the theoretical framework. Data was collected through questionnaires for classroom teachers and head teachers. Quantitative data was coded then analyzed with the aid of SPSS. The results were presented using percentages and frequency distribution tables, bar graphs and pie-charts. The analysis showed that less than a half of the secondary schools under study had not modified the physical facilities such as bathrooms, toilets, recreational facilities, classrooms and chairs/desks to suit the use of learners with physical disability. More than half of the schools investigated do not have the required teaching/learning devices, Individualised Educational Programmes and adapted syllabus.
Thus, over half of the schools do not have adequate resources. On training of classroom teachers, the results showed that nearly in all schools, there are no adequately trained teachers in special education. Lastly, results indicated that few of the schools can afford to hire specialised support personnel for the learners with special needs. Based on the results of the study, the researcher recommended that education stakeholders especially Teachers Service Commission (TSC) should consider employing more trained teachers in special needs education. The schools’ Boards of Management to prioritize modification of physical facilities in schools that have not done so and also seek to employ more support staff. The boards should also make teaching and learning resources such as assistive devices, head pointers among others in schools that do not have. The stake holders such as Ministry of Education through Special Education programmes should come up with strategic plans of training teachers in special needs education.
### Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>APDK</td>
<td>Association for the Physically Disabled of Kenya</td>
</tr>
<tr>
<td>CBO</td>
<td>Community Based Organization</td>
</tr>
<tr>
<td>EARC</td>
<td>Education Assessment and Resource Centre</td>
</tr>
<tr>
<td>EFA</td>
<td>Education for All</td>
</tr>
<tr>
<td>FBO</td>
<td>Faith Based Organization</td>
</tr>
<tr>
<td>FPE</td>
<td>Free Primary Education</td>
</tr>
<tr>
<td>KISE</td>
<td>Kenya Institute of Special Education</td>
</tr>
<tr>
<td>MDGs</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organizations</td>
</tr>
<tr>
<td>OT</td>
<td>Occupational Therapist</td>
</tr>
<tr>
<td>PH</td>
<td>Physically Handicapped</td>
</tr>
<tr>
<td>PPP</td>
<td>Public Private Partnership</td>
</tr>
<tr>
<td>PWDs</td>
<td>Persons with Disabilities</td>
</tr>
<tr>
<td>SAGA</td>
<td>Semi-Autonomous Government Agency</td>
</tr>
<tr>
<td>SEN</td>
<td>Special Education Needs</td>
</tr>
<tr>
<td>SNE</td>
<td>Special Needs Education</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United National Educational Scientific and Cultural Organization</td>
</tr>
<tr>
<td>IEP</td>
<td>Individualized Education Program</td>
</tr>
</tbody>
</table>
CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter contains information concerning the background of the study, statement of the problem, purpose of the study, special objectives of the study, research questions, significance of the study, delimitations and limitations, assumptions of the study and definition of operational terms respectively.

1.1 Background of the Study

Physical disabilities according to The Individuals with Disabilities Education Act (IDEA) and the United States-based special education legislation that guides and protects the education of learners with disabilities in the country is an orthopaedic impairments and defines the term as a severe physical condition that adversely affects a child’s education. Physical impairments include a range of conditions affecting individuals of all age ranges. Among these are cerebral palsy, multiple sclerosis, muscular dystrophy, polio, seizure disorders, spinal cord disorders, juvenile arthritis, limb deficiency, and skeletal disorders (Berge, 2006; Felix & Hunter, 2010; Smith, 2005; Taylor, English, & Barnes, 2010). Physical disorders are usually classified into the two categories of neuromotor impairments and muscular skeletal conditions (Au, Ashley-Koch & Northrup, 2010; Drew, Egan, & Hardman, 2005 & Smith 2005).

Neuromata impairments result from a damaged central nervous system, the brain and the spinal cord, and individuals so affected have difficulty controlling their muscles and movement (Liptak, 2007). While individuals with muscular/skeletal impairments also have difficulty with muscular and movement control, the cause of these impairments may not be neurological. Individuals with either neuro-motor or muscular/skeletal conditions may need the same educational, therapeutic, and recreational services to realize their potential (Drew,
Egan, & Hardman, 2005). In cases where the physical disabilities are very significant and necessitate it, some individuals may need to use special devices and technology to accomplish such tasks as walking, eating, or writing, that most people take for granted (Smith, 2005). Learners, especially those with lower limb paralysis and other forms of lower limb mobility limitation may also require assistive devices such as wheel chairs, canes, crutches, and artificial limbs for mobility (Hallahan& Kauffman, 2006).

IDEA defines Other Health Impairments as conditions in which those affected exhibit limited strength, vitality or alertness including a heightened alertness to environmental stimuli that result in limited alertness with respect to the educational environment. These conditions adversely affect educational performance of the learners and are due to chronic or acute health problems such as asthma, attention deficit disorder or attention deficit hyperactivity disorder, diabetes, epilepsy, a heart condition, haemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, and sickle cell anaemia (Robb & Brunner, 2010; Weinstein & Gaillard, 2007). Sometimes conditions under Other Heath Impairments are included under physical disabilities. Mwaura (2010) described physical disabilities as a broad range of disabilities which include pulmonary, cardiovascular, orthopaedic, and neuromuscular conditions that significantly limit learners’ functional capabilities. They are external, visible, physical conditions that affect individuals’ motor functioning and include cerebral palsy, polio, club foot, spina bifida, and loss of limb among others. Ndurumo (1993) divided the physical disabilities as orthopaedic, neurological, and health disabilities. Under orthopaedic disabilities are such conditions as polio, amputations, and arthrogryposis multiplex congenital, clubfoot, and osteogenesis imperfecta, congenital dislocation of the hips, leg-calves, perthes, and leprosy. In Ndurumo’s classification, neurological disabilities include cerebral palsy, spina bifida, spinal cord injury, and childhood muscular atrophy while health disabilities include juvenile rheumatoid arthritis, heart disease, tuberculosis, schistosomiasis, and guinea worms, among others.
Children born with physical disabilities however, can perform more or less the same tasks engaged in by non-disabled peers. All they need is support and inclusion into the society. According to Booth, R., Ainscow, M., Black, K., Vaughen, M. and Shaw, L. (2000), define inclusion as a philosophy that focuses on the process of adjusting the home, school and larger society to accommodate persons with special needs including disability. The philosophy advocates that all individuals regardless of their differences be accorded the opportunity to socialize, play, learn, work and experience the feeling of belonging. According to Ainscow (2005) defines Inclusive setting as an environment where all learners, including those with special needs and disabilities, participate in all activities in a school.

Inclusive education involves ensuring that meaningful learning opportunities are made available to all learners within the regular educational environment. The ‘World Conference on Special Needs Education: Access and Quality’ held in 1994 in Salamanca, Spain provided decisive support for inclusive approaches to education. It unanimously adopted the Statement and a Framework for Action on Special Needs Education providing guidelines for action at the national level as well as regional and international cooperation in the promotion of inclusive education. Ideally, inclusive education means attending the age appropriate class of the child’s local school, with individually tailored support. Inclusive education means that schools must change to accommodate a much wider range of children. For example, the curriculum needs to be differentiated to ensure access to a wide range of children – not just children with disabilities - and should reflect the needs and interests of children in the local community. Children are taught in small groups and are helped to support one another rather than to compete. Inclusive schools pay particular attention to developing appropriate methods of assessment and avoid all unnecessary segregation of children within the ordinary classroom.

A variety of special education services for learners with physical disabilities are available in the United States. There are laws and acts that protect the rights of special education learners in the classroom and ensure that they are provided a quality education. The Individuals with
Disabilities Education Act of 1975 (IDEA) ensures that all children are offered a free education through their local public schools. The policy of integrating learners with disabilities into mainstream education in Ireland reflects policy recommendations in other countries as well. In 1990, the Council of Ministers of the European Union agreed to encourage the integration of pupils and learners with disabilities, in all appropriate cases, into the ordinary education system.

A number of European organizations focusing on disability and special education have been established, for example, the European Disability Forum and the European Agency for Development in Special Needs Education. Its mission is to ensure disabled citizens' full access to fundamental and human rights through their active involvement in policy development and implementation in the European Union. The main aim is to improve educational policy and practice for learners with special educational needs. In support of the integration educational paradigm of special education, Hallahan and Kaufman (2003) argue that SNE individuals share similar needs and aspirations with their non-exceptional counterparts suggesting further that they are more alike than they are different, hence the need for them to integrate such learners with SNE to participate in all activities in a community. In this regard, inclusive education is neither concerned with remediating perceived defects among learners nor concerned with the assimilation of diverse learners into regular schools. Rather, inclusive education is concerned with overcoming the barriers to participate and learn that may be experienced by learners, particularly those that have long been marginalized (Mittler, 2002).

The implementation of inclusive education in South Africa since 1994 underwent critical changes instituted by the government under the African National Congress Party. The schooling system before then was based on racial and special needs education approach. The Government implemented the new practices in 2005 which underpinned Outcome Based Education (OBE) which sought to bring about an inclusive culture of teaching and learning.
The plan to introduce inclusive education is highlighted in the white paper 6 (2001) culminating into vision 2021 when inclusive education will be implemented at all levels of schooling (Makoelle, 2006). As one of the signatories of Education for All (EFA), Botswana is committed to enhancing access to education to all her citizens, and inclusive education is perceived to be the most effective approach in reaching this goal (Mukhopadhyay, 2009). Educating learners with disabilities began about 40 years ago in Botswana. She developed her first policy on education in 1977 which is commonly known as Education for ‘Kgahisano.’ (Government of Botswana, 1993)

The government of Kenya has ratified and domesticated various global frameworks in special education. The government signed article 26 of the Universal Declaration of Human Rights (1948) consequently recognizing and committing itself to the rights of every child to access education. Other international policy frameworks ratified and signed by the government include (but are not limited to) the 1989 United Nations Convention on the Rights of the child (CRC) the 1990 African charter on the rights and welfare of the child. Salamanca Statement (1994), the framework of Action on special Needs Education (1999), the millennium Development Goals (MDGS) and Education for all (EFA). Special Needs Education has been provided on the basis of circulars and general Education policy and statements which have not been translated into comprehensive policy. The government is aware of these challenges and has recommended in various policy documents the need for developing a comprehensive SNE policy that covers all aspects and levels of education.

In an attempt to provide quality special needs education, the government of Kenya has committed itself towards inclusive education and has set out to re-examine the provision of education to all through review of existing physical facilities, curriculum, instruction materials and teacher preparation to ensure that all learners have equal access to quality and relevant education (Ministry of Education, 2010). Despite this measure and many others that the government is implementing, access to special education for those with special needs
remains limited. Comprehensive SNE policy framework is essential to guide the work of all actors involved in provision of special needs education to ensure consistency and a coordinated implementation. The policy is important in the elimination of disparities and enhancement of equity and equality for all learners especially inclusion of learners with special needs and disabilities in education system. Some of the objectives of the National SNE policy framework implementation are to put in place measures to promote barrier free environment for learners with special needs in all learning institutions so as to provide and promote the use of specialized facilities, services, assistive devices and technology, equipment and teaching/learning materials. Achieving the Education For All targets and Millennium Development Goals will be impossible without improving access to and quality of education for children with disabilities.

With the introduction of FPE in 2003 the ministry of education the Kenyan Government has undertaken several measures to enable children with special needs access education. Amongst the key milestones of the ministry efforts is the setting up of a task force (Kochung Taskforce 2003) whose objective was to appraise the status of special needs education. The Kochung report recommended that schools be made barrier free to enhance access and training and in service of teachers for children with special needs. The implementation of free primary Education (FPE) led to an influx and inclusion of learners with special needs in public schools right from nursery up to the primary levels. Most of these SNE learners were learners with physical disabilities who needed an environment that could accommodate their diverse needs. Another milestone was the Section 18 of the Persons with Disabilities Act (2003) which makes a broad statement on the rights of persons with disabilities relating to education. It forbids discrimination of children with disabilities in access to education by virtue of their disability. The concerned institutions are therefore required to adjust their environment in order to accommodate learners with special needs.
According to the Kenyan Constitution promulgated on 27th August 2010, persons with disabilities are entitled to enjoy all the rights and fundamental freedom set out in the Bill of Rights. They have the right to access education, institutions and facilities for persons with disabilities that are as integrated into society as a whole as is compatible with the interests of those persons. Learners with physical disabilities will however not enjoy this right if the learning environments are restrictive due to lack of adjustment for accommodation depending on individual’s needs.

It is on this view that the researcher chose to assess learning environment in secondary schools to accommodate learners with physical disabilities in Kisauni Sub County to establish the extent to which their environments have been modified to allow inclusion of learners with physical disabilities in their schools to facilitate and actualize education for all policy.

1.2 Statement of the Problem

According to Kenya National Survey for Persons with Disabilities (2008), the prevalence of disability in Kenya is 4.6%. Out of this 1.6% have physical disabilities. 67% of PWDs attain a primary level of education and only a small proportion attains secondary level (19%). Very few reach university (2%). Approximately 7% of PWDs are denied enrolment in school because of their disability, 6% of PWDs drop out of school because of their disabilities, 9% because of illness and 9% because of lack of interest. A number of studies pertaining inclusive education and integration of learners with special needs have been done by a scholars like Ndinda (2005) who analyzed the causes of marginalization in integration of physically challenged learners in Machakos District, Konza (2008) did a study on social-cultural factors affecting inclusion of learners with disabilities in new times. Obadiah (2009) on the other hand researched on constraints facing inclusive education for children with special needs in public primary schools in Embu County, Kenya while Muigai (2012), and Lelan, J. K., Chumba, S. K. and Ague, D.K. (2014) researched on challenges facing inclusion of learners with disabilities in regular primary schools, in Rachuonyo District, Nyanza
Province and challenges faced by school administrators in Keiyo Market County in the process of implementing inclusive practices respectively.

From the studies previously done little literature is available in Kenya showing the current state of the secondary schools’ learning environment that have been made barrier free to accommodate learners living with physical disabilities. The afore mentioned studies; Konza (2008), Obadiah (2009), Ndinda (2005), Muigai (2012) and Lelan et al (2014) present scanty information on the secondary schools’ learning environment for learners with physical disabilities. It is in this line that the researcher of this study examined secondary schools’ learning environment for inclusion of learners with physical disabilities in Kisauni Sub County, Mombasa County which has not been explored by the earlier mentioned studies.

1.3 Purpose of the Study

The purpose of this study was to assess the learning environment in both regular public and private secondary schools to accommodate learners with physical disabilities in secondary schools in Kisauni Sub County, Mombasa County.

1.4 Objectives of the Study

The study sought to:

1. Determine the modification and infrastructural adaptation of physical facilities for learners with physical disabilities in selected regular secondary schools

2. Establish the adequacy of teaching/learning resources available to support learners with physical disabilities in selected regular secondary schools

3. Establish the preparedness of teachers to handle learners with physical disabilities in selected regular secondary schools

4. Determine the physical and academic support provided to learners with physical disabilities in the selected regular secondary schools.
1.5 Research Questions

The study sought to answer the following questions:

1. What modification and infrastructural adaptations have been made on the physical facilities for learners with physical disabilities?

2. To what extent are teaching learning resources adequate for the support of learners with physical disabilities?

3. How are teachers prepared to handle learners with physical disabilities in the selected Secondary schools in Kisauni Sub County, Mombasa County, Kenya?

4. What physical and academic support is provided for learners with Physical disabilities in the selected secondary schools in Kisauni Sub County, Mombasa County, Kenya?

1.6 Significance of the Study

This study sought to establish the preparedness of the secondary schools to accommodate learners with physical disabilities in line with the philosophy of inclusion. The findings of this study are expected to help policy makers in the Ministry of Education in the formulation of guidelines for effective adaptations of the school environment for learners with physical disabilities in secondary schools in Kenya. Secondly, the study is expected to delineate the appropriate modifications and adaptations necessary in schools to facilitate inclusion of learners with physical disabilities. Thirdly, the findings of the study has generated knowledge to keep teachers and school administrators abreast with requisite modifications and adaptations skills to facilitate mobility and learning amongst learners with physical disabilities. Fourthly, the study findings are expected to inform parents and donors regarding challenges encountered by learners with physical disabilities. Finally, the study may contribute knowledge to the existing pool of knowledge on the discipline of inclusive secondary education by providing data which may act as baseline for further related research.
1.7 Delimitation of the Study and Limitation of the Study

Delimiting a study involves a purposive and conscious action in order to make the research manageable. Therefore, this study focused on public and private secondary schools in Kisauni Sub-County - Mombasa County. Although inclusive education involves participation of various parties such as children, parents, teachers, education officers, NGOs among others, the study confined itself to the teaching staff namely head teachers and teachers.

The study limited itself to Kisauni Sub County, Mombasa County, due to time factor and other logistics hence covered all secondary schools both public and private. The findings were applicable to the Sub County and were only generalized with caution to other sub counties and even other counties because Kisauni Sub County may be having unique constraints that may not be applicable to the rest of Kenya. Therefore, generalization cannot be drawn from this single case and applied to all the other areas. The study limited itself to teachers and their respective head teachers and twelve sampled schools which were considered for the study. Special schools were excluded because the researcher assumed that these schools have already adjusted their environment and employed adapted learning strategies to support learners with special needs.

1.8 Assumptions of the Study

The study was based on the assumption that secondary schools in Kisauni Sub-County practice inclusive learning with physical disable learners in line with the Government policy. The researcher assumed that there are learners with special needs in the secondary schools in Kisauni Sub-County.
1.9 Theoretical and Conceptual Framework

1.9.1 Theoretical Framework

The theoretical framework of a study is the basis of conceptualizing and investigating the problem, formulating of specific objectives, research questions and assumption of this study against which the research instrument, the questionnaire, was formulated. For this study, the theory is derived from Social Learning Theory of Bandura (1998) Which states that, learning comes from the surroundings and the environment and that experiences shape the person’s behaviors, attitudes and beliefs and hence his/her personality.

The social learning theory emphasizes the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others. It encompasses attention, memory and motivation, hence spans both cognitive and behavioral frameworks. Bandura further asserts that we learn through imitation and modeling and that as much as we learn through vicarious reinforcement from observing others and imitating them. He further asserts that individuals are developed through learning and socialization as they interact together. In the context of this study, it is evident from this theory that it is the enabling environment which allows the learner to move about and interact with the wider society. The learners with SNE are usually empowered through the creation of enabling environment in ordinary schools respectively. Bandura’s social learning paradigm was adopted as a theoretical framework to the present study because of its advocacy for socialization and environment as crucial to learning. It is expected that if the learners with SNE can be placed in an inclusive setting, socialization which facilitates learning can be achieved. Consequently, inclusion is therefore imperative as opposed to categorical placement in special schools which promotes exclusion and discrimination of the child with SNE. The essence of the present study was to investigated how teaching and learning environments in secondary schools in Kisauni Sub-county have had been adapted for inclusion of learners with physical disabilities in line to Government policy.
1.9.2 Conceptual Framework

![Conceptual Framework Diagram]

**Dependent Variable**
Inclusion of learners with physical disabilities into the school learning environment

**Intervening Variables**
- Environmental adaptation
- Teaching/learning resources
- Pedagogy
- Technical support

**Independent Variables**
- Physical factors
- Learning resources
- Pedagogical practice and strategy
- Collaborative planning

**Source:** Author (2016)

**Figure 1.1: Adapted Learning Environment for Learners with Physical Disabilities**

Figure 1, Shows a conceptual framework between dependent and independent variables. Dependent variable in this scheme is inclusion of learners with physical disabilities into the school learning environment. The independent variables comprise of physical factors, learning resources, pedagogical practice and strategy and collaborative planning. The intervening variables were environmental adaptation, teaching/learning resources, pedagogy and technical support as factors that may influence inclusion of learners with physical disabilities. Effective learning for learners with physical disabilities is realized when learning environment is made conducive for all learners through adaptation and making it barrier free to allow free movement of learners on wheelchair and crutches. The teaching/learning resources need to be adapted to cater for individual needs and enhance learning of all the learners in class. The training of the teachers in handling learners with special needs is
crucial since curriculum implementation is central to the teaching and learning that occurs in inclusive schools. The technical support from the multi-disciplinary team cannot be ignored for the learners with physical disabilities. Absence of this important group of specialists hinders realization of the full potential of the learners. Therefore, the present study aimed to assess how well the learning environment has been adapted and modified to suit learners with physical disabilities and how the classroom teachers are prepared in the implementation of inclusive practices in secondary schools.
1.10 Operational Definition of Terms

**Accessibility** - refers to an environment that has been adapted or modified to allow freedom of persons with disabilities to reach all areas with assistance of their mobility aids.

**Assessment** - refers to the process of checking the availability of the support service adaptation of the learning environment that allows learners with physical disabilities to access all the facilities in the school and be able to function normally with minimal support.

**Assistive Aids:** These are teaching/learning aids and assistive support learning and disabilities.

**Adaptation:** The process of changing classrooms or environments so as to suit learners with physical disabilities/special needs.

**Collaborative planning** - refers to team work by different professionals working together to support learners with physical disabilities.

**Environmental adaptations** – are attractions done to the physical environment in order to allow accessibility, mobility and orientation of the physically handicapped learner.

**Inclusion** - refers to a system where every learner with Special need education goes to school near to his/her home where adjustment has been provided to cater for his/her unique needs rather than go to special schools.

**Inclusive Education** - is an approach in which learners with disabilities and special need regardless of age and disability are provided with appropriate education within regular schools.

**Inclusive Environment** - is the environment that has been modified to accommodate learners with physical disabilities.

**Individualized Education Program (IEP)** - refers to a written statement of the educational program designed to meet a learners individual needs.
Integration—is to the participation of learners with special educational needs in education without demanding changes in the practices provision.

Itinerant teachers—is a teacher who is trained in special education and move from School to school where children with special needs are included and to advice the regular teacher and give technical support where need arises.

Learning environment—refers to the physical facilities, teaching /learning methods, attitudes and culture of all those people within the school that interact with the learners.

Physical disability—is any condition that permanently prevents normal body movement and/or control.

Support services—Refer to extra assistance provided to the learners with special needs in education to adjust to the environment and activities in order to overcome barriers to learning and development.

Trained teacher—refers to a teacher who has undergone a formal professional training to acquire skills and knowledge to teach learners with special needs.

Rehabilitation – a process aimed at enabling people with disabilities to reach and maintain their optimal, physical, sensory, intellectual and social functioning.

Untrained teacher—refers to a teacher who has no additional training on special skills and knowledge to handle learners with special needs.
CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

The chapter contains a description of physical disabilities, followed by the review of related literature done by other scholars. The review has been organized thematically from a broad or global perspective to the specific or local perspective as well as historical to present development of special education guided by research objectives. The main themes are adapted physical facilities, teaching and learning resources for learners with physical disabilities, adequacy of teacher’s professional training and the available support services provided to learners with physical disabilities.

The term physical disability is broad and covers a range of disabilities and health issues, including both congenital and acquired disabilities. People with physical disabilities, also known as disabled people or physically disabled people, have a physical impairment which has a substantial and long term effect on their ability to carry out day-today activities. Someone with a moderate physical disability would have mobility problems, for example, unable to manage stairs, and need aids or assistance to walk. Someone with a severe physical disability would be unable to walk and dependent on a care for mobility. Siebers (2008) argued that many causes and conditions can impair mobility and movement. The inability to use legs, arms, or the body trunk effectively because of paralysis, stiffness, pain, or other impairments is common. It may be the result of birth defects, disease, age, or accidents. These disabilities may change from day to day. They may also contribute to other disabilities such as impaired speech, memory loss, short stature, and hearing loss. People with mobility and movement impairments may find it difficult to participate when facing social and physical barriers. Physical disabled learners encounters a couple of challenges not only in terms of gaining physical access to buildings, but also in relation to much wider access issues concerning the curriculum, teaching, learning and assessment.
2.1 Adaptation of Physical Facilities

According to the Kenyan Constitution, persons with disabilities are entitled to enjoy all the rights and fundamental freedom set out in the Bill of Rights. The Persons with Disabilities Act (2003), requires learning institutions to take into consideration the special needs of persons with disabilities with respect to entry requirements, pass marks, curricula, examinations, school facilities and class scheduling, among others. Dean (1996) observes that schools which take in children who are physically handicapped and not mobile should have some modification to buildings to make integration possible. He adds that there will be need too for special toilets facilities and, space for therapies of variables kinds and other specialist visits. According to Koech report (1991), the quality of the service for children with special needs in Kenya is adversely affected by acute shortage of specialized aids and equipment, specialist personnel, inappropriate curriculum and absence of clear policy guidelines. The school building must be accessible in its entirety to ensure maximum normalization.

Learners with orthopedic impairments need lowered shelves and hooks for easy storage and retrieval of instructional materials and personal belongings. Lowered water fountains and handrails in bathrooms facilitate the acquisition of personal hygiene and self-help skills. Lowered doorknobs and ramps allow the student to achieve independence in mobility. Learners who are technology-dependent have additional environmental restraints: Adequacy of electrical outlets and power sources, space for equipment and supplies, appropriate lighting and availability of water need to be considered. Whenever possible, learners with physical disabilities should use the same types of desks as other learners; this will foster uniformity and self-esteem.

Infrastructures and Learners with Physical Disabilities In the study done by National Council on Disabilities (2002) suggested that learning environment for people with disabilities requires buildings and facilities designed, constructed or altered with federal funds to meet
federal physical accessibility standards such as reserved parking spaces and passenger-loading zones for vehicles carrying disabled 25 homeless clients are ample and well-marked. Also entrances are protected from the weather by a canopy or roof overhang, buildings with stairwells have elevators, ramps or lifts, automatic door openers, and lowered counters for non-ambulatory persons. Barriers to entrances, hallways, restrooms, waiting areas and examination rooms are removed. Rooms are large enough to accommodate persons in wheelchairs and other assistive devices. Corridors are at least 36 inches wide for wheelchair mobility. The above recommendation is a clear means of creating an accommodative environment for learners with physical disabilities in all educational institutions if inclusive education was to be made a practical means of achieving Education for All.

2.1.1 Adaptation of Classrooms and Dormitories

Classroom accommodations must take into account maneuverability, and a number of positioning, communication and social factors that make learning easier for learners in a classroom setting. It is important to arrange the room so that everyone can move around easily. Even if a student does not use a wheelchair or other medical equipment, he/she may need extra room to get around in class and avoid falling. According to Hiuhu and Nabea (2008) classrooms should be made spacious enough to cater for the recommended 25 learners per class. The chalkboard should be lowered to be accessible to the wheelchair learners/teachers. Portable chalkboard should be provided in every class. There should be sliding doors for cupboards and storage space. The low accessible shelves should be installed in the classroom to keep the book on. Classroom and laboratory aisles should be wide enough for a wheelchair to move around freely.

A minimum of one meter in width; open-backed, wheelchair accessible desks that allows learners to position themselves easily at their workspace should be provided for a learner on a wheelchair. The desks and workstations should be adapted to permit comfort and minimum physical effort for learners with physical disabilities. Graphs, charts, posters among others
should be provided at an appropriate height and angle to be viewed by learners using wheeled mobility. A larger desk may help a student with cerebral palsy to balance books, papers, and classroom supplies. This larger table can accommodate a paraprofessional, too, if she/he is in class with the student. The student can also be asked where he or she would prefer to sit in the classroom.

Classrooms should have portable reading racks, standing tables, adjustable seats, desks, typewriters, head pointers, book holders, and page turners, tape recorders, typing aids, adapted pencils and pens. Classrooms should also have facilities for rest such as sandbags and floor mats. The height of the window sills should be lowered to be between 0.6 and 0.7 m so that a seated physically challenged student can see outside. Window handles should not be more than 1.3m for wheelchair users and 1.6m for an ambulant student with physical disabilities. Doors should be at least 0.9 m wide to allow easy movement of wheelchair users. Door handles and preferably lever ones are ideal for learners on wheelchair. The classrooms in every school are the most important facilities since these are the places where the learners spend most of their time during the day. They should therefore be made conducive and as comfortable as possible for all learners.

The dormitories are recommended to have two way switches for bedrooms, stairway and passages while electric sockets and plugs should be 0.7 to 0.9m above the floor. The doors should be at least 0.90m to allow easy movement for wheelchair users. The beds in addition should have the same height as wheelchair seats and the spring beds be replaced with wooden orthopaedic beds. Mirrors on the other hand, should be fixed, tilted and lowered so as to accommodate the individual in a seated position as recommended by Hiuhu and Nabea (2008)

2.1.2 Accessibility: Adaptations of Pathways and Pavements

Learners with physical disabilities especially those with lower limbs paralysis of which some of them walk in crutches or on wheelchairs encounters challenges in moving about in uneven
ground. Pathways should be clear, obstruction free, level and wide for the convenience of all users especially people with mobility problems and the sightless. Pathways include street pavements, pedestrian passages in open and recreation area, pedestrian underpasses or overpasses. Curb ramps should be provided whenever there is a difference in level on pedestrian paths. Hiuhu and Nabea (2008) suggest the minimal width of a curb ramp to be 0.9m and a height of between 0.07m and 1.5m as well as a slope of 1.12m located away from where water accumulates. However, curbs should not obstruct the free passage of persons with mobility problems mainly the wheelchair users. The minimum width of unobstructed pathways should be 0.9m. For two ways wheelchair users’ traffic, the minimum recommended width is 1.50m but the preferable width is 1.80m unless there is limitation of space. The slope of an accessible path should not exceed 1.20m. Pathways with a slope of more than 1.26m should however, be designed as a ramp.

2.1.3 Design for Ramps

Ramps are design considerations provided whenever stairs obstruct the free passage of pedestrians mainly wheelchair users and other persons with mobility problems. Hiuhu and Nabea (2008) further recommended exterior location of ramps because of space. Ideally, the entrance to a ramp should be immediately adjacent to the stairs and that the minimum width should be 0.90m while the maximum slope should be 1.20m. If the ramp is to be used by a wheelchair-confined person, and then the slope should be 1:2. Ramps however should be provided with landing for rest, maneuvering and avoiding excessive speed. Landing should be provided every 10.0m and at every change of direction and it should have a minimum length of 1.20m and a minimum width equal to that of the ramp. A protective hand rail at least 0.40m high is important along a ramp. To avoid sliding, the surface of the ramp should be hard and non-slip and Carpets should be avoided. The slope of the ramp should not exceed 1.12m for wheelchair users. Adequate drainage should be provided to avoid accumulation of water.
Obadiah (2009) conducted a research on constraints facing inclusive education for children with special needs in public primary schools in Embu East Sub County, Embu County, Kenya. The purpose of this study was to establish constraints facing inclusive education for children with special needs in public primary schools in Embu East Sub County, Embu County; Kenya. The study adopted descriptive survey research design and targeted all heads and teachers in the 70 public primary schools in the Sub County. Interval sampling technique was adopted to select the 12 participating schools and purposive sampling to select the participants. Data were collected using questionnaires and observation checklist, validated through piloting and their reliability assessed, analyzed using descriptive statistics.

From the above findings, schools were not well equipped with physical and teaching/learning resources to support inclusive education; female SNE teachers were fewer than their counterparts; teachers who had undergone SNE training were few with the head teachers being the least. This denotes a shortage of manpower with requisite knowledge, skills and attitudes making it difficult to mainstream special education in regular primary schools; numerous support services that schools obtained from various stakeholders were noted; in spite of the Government of the Republic of Kenya being the main financier of inclusive education, its financial support was inadequate with delayed remittance; despite the head teachers being financial managers in their schools, majority had not undertaken school management courses. Other constraints faced by teachers in inclusive education were lack of motivation, irregular attendance by SNE learners, large class enrolment and lack of enough support from colleagues which compromised the quality of inclusive education.

From the empirical studies, it clearly stands out that, mobility is one of the major difficulties which physically challenged learners encounter hence should be facilitated. Therefore, pavements, classrooms, washrooms, dormitories and other structural environment should be made accessible to them. The area around the land within the school compound should be free from architectural barriers which can cause mobility and emotional disturbances.
Physically impaired learners should be able to move freely with their wheelchairs, crutches and prosthesis. According to Smith, et al (2005), the cure to the problem of disability lies in the restructuring of the society and not focusing on the individual impairment, it is the school’s responsibility to re-adjust to meet the learners’ needs but not the learner to adjust to meet the requirements.

The research by Obadiah (2009) reveals that a lot is yet to done to make inclusive education a practical reality in primary schools. The physical facilities in secondary schools as well ought to be in line with the recommendations on the literature review discussed. The above reviewed study investigated the constraints facing inclusive education for children with special needs in public primary schools. It does not address the challenges faced by learners with physical disabilities in secondary schools. Therefore; the current study seeks to assess the condition in selected Secondary Schools in Kisauni Sub County to determine the extent to which the learning environment has been adjusted to accommodate the needs of learners with physical disabilities.

2.2 Adaptation of Teaching Learning Resources

Teaching learners with physical disabilities presents some unique and distinctive challenges. Not only do these learners demand more of your time and patience but will also require specialized instructional strategies in a structured environment that supports and enhances their learning potential. It is important to remember that learners with special needs are not learners who are incapacitated or unable to learn; rather, they need differentiated instruction tailored to their distinctive learning abilities. Learners with disabilities who write illegibly may have problems with letter formation, letter and word spacing, or writing on or between lines. Problems may relate to the lack of postural control, fine motor impairments, visual impairments, visual perception issues or attention difficulties.
Teachers are encouraged to consult with the local assistive technology specialist (LATs) for guidance on selecting the appropriate tools or equipment. An occupational therapist can help in determining a student’s needs for specialized furniture or adapted tools. Pencils, markers or crayons of different diameters, pencils with softer lead and softer crayons make writing easier for learners who have difficulty in controlling writing implements. High contrast writing tools such as markers, felt-tipped pens or soft lead pencils make it easier for learners with visual problems to read their own writing.

Mechanical pencils and non-abrasive erasers may also be employed by learners who use excessive pressure when writing (Rein, 2001). Pencils or pen grips enlarge or change the shape of standard writing tools to correct improper pencil gaps and positioning fingers and hand correctly. Many types of grips are available including triangular or pear-shaped grips with indentations for fingers. Grips can also be made by wrapping a pencil with a rubber or foam tubing (Rein, 2001). A finger spacer helps learners with weak fingers to maintain spacing between letters and words. Spacers can be purchased or made out of cardboard.

Handwriting guides or templates help learners stay within a defined writing space. The student lays the guide on top of a regular sheet with cut-out areas to expose the space between the lines. Learners write within the given space for each line of writing. Paper stabilizers position the writing paper or worksheet at the appropriate place on the desk and prevent the paper from moving. Removable tape or glue also holds the paper in place. Non-slip mats or rubberized netting stabilizes a binder or clipboard. Slant boards hold paper at an optimum angle for writing. A slant board can be made with a three-ring binder physical support or positioning steady learners with motor impairments (Rein, 2001).

Learners with limited physical ability or mobility may also need assistance with the manipulation of instructional materials, objects, generic counter or rulers. Test responses can be monitored by a proctor to be sure that the student marks the items on the answer sheet that corresponds to the test. The student may respond directly on the worksheet or the booklet.
The above recommendations suggested by Hiuha and Nabea (2008) are very crucial in the creation of a barrier free environment in our schools to facilitate inclusion of learners with physical disabilities which may not be the case on the ground due to lack of clear guideline on the specific standards recommended. The present study therefore conducted an assessment to establish the availability and adequacy of the teaching learning resources to accommodate learners with physical disabilities as outlined in the literature review above.

2.3 Professional Training of Teachers for Learners with Physical Disabilities

Teachers, who are trained and have the skills to handle children with special needs, normally gain courage in their work. Awareness on various disabilities makes them have positive attitudes towards the learners (Moodley, 2002). Agbenyega (2007) suggests that qualified teachers know that classroom needs must be approached “from a curricular stand point”, in which difficulties are defined on each specific task, activity and classroom conditions.

According to the Kochung (2003), there is a serious shortage of trained SNE teachers in Kenya. About 80% of teachers working with learners with SNE are not trained. Consequently, some special needs educational programmes, special units, special schools, educational assessment and resource centers (EARCS) and small homes are manned by personnel who have no qualification in SNE, further disadvantaging learners with SNE.

Lelan, J. K., Chumba, S. K. and Agui, D.K. (2014), researched on challenges in inclusive education. The study sought to investigate the challenges faced by school administrators in Keiyo Market County in the process of implementing inclusive practices. The study found out that school administrators face a number of challenges and or barriers while implementing inclusive practices in schools. The challenges and barriers are related to policy issues, parent support, knowledge, perception/attitude, resources and awareness among others. The study population was drawn from all school administrators in schools that have
embraced inclusive practices in Keiyo Market County. The sample size of 32 respondents was drawn from the study population through purposive sampling.

The findings show that demographics like gender, class size, type of disability and training in special needs education did not relate significantly to teachers’ attitudes and self-efficacy towards inclusive education. The results further revealed that teachers face a lot of problems in the implementation of inclusive education, specifically in managing pupils with different disabilities, shortage of teaching and learning materials, and lack of training and poor working environments. Some of the challenges faced by the teachers from the above study in the implementation of inclusive education are due to lack of adequate trained teachers in special needs education. The secondary schools in Kisauni need an assessment in order to establish the readiness for inclusion of learners with physical disabilities, hence the need for this research.

2.4 Support services for Learners with Physical Disabilities

Because of health constraints, many physically disabled learners receive supplemental services from other educators and health care professionals. In many instances, it is both possible and desirable for the teacher to reinforce these learned skills in the regular classroom.

Activities promoting motor skill development (stamina and endurance, mobility, motor planning, range of motion) should be planned in conjunction with the physical therapist, occupational therapist and/or adaptive physical education teacher.

Augmentative communication techniques (signing, communication boards, and switches) may be necessary for learners with vocal cord paralysis, disease-affected musculature, spinal muscular atrophy or tracheotomy installation. The services of a speech/language therapist may be required.
2.4.1 Collaborative Teaming

Specialist personnel are critical requirement in the management of exceptional learners. These include physiotherapists, speech therapists, occupation therapists, braille transcribers, Sign language interpreters, orthopaedic surgeons and nutritionists among others. Besides these human resources, there are modifications like use of prosthetic devices and making the environment barrier free which helps in maximizing the functional potentials of learners with SNE as another critical consideration. This teaming approach prioritizes the collaboration between the families of individuals with severe disabilities and educators to better develop and implement intervention and support strategies (Janey and Snell 2008). Collaboration among team members includes shared assessments and development of instructional programs, co-teaching in age-appropriate classrooms by special and general educators, use of natural peer supports, and use of related service providers, such as speech-language therapists, who provide support within natural learning environments. A number of personnel play a very important role in supporting learners with physical disabilities in various ways. Some of them are discussed below.

Physical therapists work with younger and older children with physical disabilities to improve their large muscle skills to improve their ability to achieve developmental milestones. Occupational therapists also engage the children to facilitate execution of such fine motor skills as pen and pencil grip, buttoning clothing, and eating, among others. Learners placed in the “small homes” in the regular education schools receive itinerant teacher consultation services on an intermittent basis. As resources permit, renovations in the physical environment of the school are made to facilitate movement for the learners with physical disabilities.

Occupational therapists, often called OTs role, is to help a child become fully involved in all aspects of life - at home, at preschool or school and within the general community. The OTs
work with each child in different ways depending upon the child's needs, Interests and skills. For example, an OT may give advice on any physical changes needed in the home or the child's preschool or school. This advice can include information on the type of stairs, handrail or ramp that will be best for the child. An OT may suggest changes to toys, equipment or furniture and can also advise on ways to improve writing and other hand skills.

Speech pathologists are personnel with skill on how to train learners with speech difficulties. Children with a physical disability may need help with talking. Some will learn to use alternative methods of communication such as communication boards or charts, electronic devices and sign language. A speech pathologist will assess a child's ability to understand and express thoughts, feelings and ideas, and help to improve communication skills using speech or alternatives to speech. A speech pathologist can also help with eating and drinking problems.

With the availability of itinerant service to learners with SNE, implicitly, the child can be reached whether in most restrictive or least restrictive environment, including the regular classroom, closer home possibly in an inclusive setting. Beside the itinerant personnel, there are various special education support services that are very crucial for the learners with special needs.

A descriptive study was conducted by (Anati, 2012) on including learners with disabilities in UAE schools. The study targeted 26 teachers in 26 schools; this sample represents 30 % of the total number of inclusive schools in Abu Dhabi, UAE. The sample included 26 randomly selected governmental (public) and private schools (9 private and 17 governmental) across all cycles (elementary, preparatory, and secondary). The sample, unintentionally, included six female schools, ten male schools, and ten co-educational schools. Twenty-six schools were randomly selected from the seventy-five inclusive schools in Abu Dhabi-UAE. The participants were either general classroom teachers or special education teachers. This
A descriptive study was conducted to shed the light on the nature of inclusive education in UAE schools. The collected data were analyzed qualitatively.

One of the five major themes that emerged was to describe the nature of inclusive education in UAE public and private schools in relation to the types of teachers and school professionals available in the inclusive schools. To enhance reliability and internal validity, appropriate sampling techniques were used. In order to have error-free results, the data analysis procedure was repeated two times by the researcher.

The questionnaire also addressed the availability of other professionals who may work collaboratively with the school team to diagnose, plan, teach, and assess learners with disabilities. According to the teachers’ responses, none of the schools in this sample employed audiologists, occupational therapists, or recreational therapists; however, they might be available upon request. Eight schools indicated that itinerant speech-language pathologists may visit schools on a regular basis (once a week) or upon request. The same applies to counselors who may be consulted if needed. As for the following professionals: psychologists and social workers, they were usually available in each school in the UAE, and they had a share in the inclusion process.

According to Gross (2002) posits that these services may conveniently be provided on itinerant basis. Consequently, speech therapist or conventionalists, social workers, school psychologists, remedial reading teachers, learning disability specialists among special education personnel may deal with SNE children on itinerant basis, whereby a particular specialist may serve schools and travel over a considerable area and visiting children with SNE and their teachers at regular intervals or whenever necessary. With the availability of itinerant service to learners with SNE, implicitly, the child can be reached whether in most restrictive or least restrictive environment, including the regular classroom, closer home possibly in an inclusive setting, Beside the itinerant personnel, there are various special education support services that are very crucial for the learners with special needs.
It is clear from the above study that many schools do not engage the professionals to facilitate inclusion of learners with physical disabilities. The present study sought to establish the progress made by secondary schools in Kisauni Sub County in providing support services for learners with physical disabilities within their environments in line with the spirit of inclusion.

**Summary of Literature Review**

The fundamental principle of inclusive education is that all children should learn together, wherever possible, regardless of any differences they may have (UNESCO, 1994). Inclusive schools must recognize and respond to the diverse needs of these learners, accommodating both different learning styles and rates of learning and ensuring quality education to all through appropriate curricula, teaching strategies, change of attitude, use of resources and partnership with their communities (UNESCO, 2003). The physical facilities need to be adapted and modified to suit learners with physical disabilities in all schools to facilitate inclusive education.

Assistive technologies and teaching learning resources in all schools should be made available for learners with physical disabilities. They include simple pencil grips or ergonomically designed pens which make holding and manipulating instruments easier. Oversized art supplies and hand-made adaptations can allow learners with fine motor disabilities to create art. Those with severe impairments can access computers for learning and expressing themselves. Learners with physical disabilities are not learners who are incapacitated or unable to learn; rather, they need differentiated instruction tailored to their distinctive learning abilities. This would be achieved by the Kenyan Government investing more in training teachers on special needs education in both primary and secondary levels of education.

Teachers can significantly improve educational outcomes of learners with physical disabilities by implementing specific strategies such as classroom arrangement and working
with paraprofessionals who can also provide learners with necessary assistance to complete assignments. Each student differs in degrees of impairments and ability; therefore, modifications must be individualized according to needs. A multi-sectoral and interdisciplinary strategy is imperative for successful implementation of a comprehensive SNE policy receive support.

From the literature reviewed, it emerges that education of learners with disabilities is still a big challenge to the world. It has been noted that for a long time the learners with special needs had been learning in segregated institutions. Although so much has been done to enable them acquire basic education, at the same time it has been realized that segregation is alienating them from their families and communities. A collaborative effort between The Ministry of Education in Kenya and other line ministries SAGAs, private education institutions, development partners, NGOs, FBOs, CBOs, parents and other partners is necessary. However, the primary responsibility and accountability of implementing this policy remains with the Ministry of Education (MOE). Keitany (2012) in her study found out that the MOE views inclusion as a good idea whereas the parents are less concerned with integration as they are marginally involved. There is need for sensitization to be done in schools and community to eliminate negative attitudes towards inclusion. The greatest challenge to education for the learners with physical disabilities in Kenya however, is that there is no clear policy in regarding learners with special needs as at now.
CHAPTER THREE

RESEARCH DESIGN METHODOLOGY

3.0 Introduction
This chapter explores the research design, variables, study locale, target population, sampling procedures, sample size, research tools, pilot study, validity and reliability, data collection techniques, data analysis procedure, logistical and ethical considerations.

3.1 Research Design
The study adopted a descriptive survey design using an exploratory approach, to assess the learning environment in reference to adaptations and modifications of learning environment in secondary schools in Kisauni Sub County in Mombasa County. The study aimed at giving an accurate description on the situation of the secondary schools in readiness for inclusion of learners with physical disabilities. This design was appropriate since the researcher aims at collecting data on conditions that already exist or are ongoing. This involved collecting opinions held by different respondents on inclusion of learners with physical disabilities as well as collecting data on other variables of inclusion through observation. Descriptive research design allowed collection of pertinent and precise information concerning the current status of the phenomenon and wherever possible to draw a valid general conclusion from the facts discovered (Gay, 1992; Kombo and Tromp, 2006).

3.2 Study Locale
The study was conducted in Kisauni sub-county in Mombasa County. Mombasa County is one of the 47 counties in Kenya. Mombasa is the smallest county in Kenya covering an area of 229.7 sq. km. excluding 65sq. kms of water. Kisauni is one of the four districts that make up Mombasa County. Others include Likoni, Changamwe and Mvita. Kisauni is located in the far north of the county. It lies between4.0435°S and39.6682°E of green which meridian. The geographical area of Kisauni is 109.7 sq. km. Mugenda and Mugenda, 2003 observed
that the ideal setting for any study is one that is directly related to the researcher’s interest. The researcher chose Kisauni Sub County because it represents a semi – urban environment that support learners with physical disabilities and other special needs.

3.3 Variables

Research variables constitute the most critical centre piece of any research undertaking as it is the deliberate manipulation of the independent variable or spontaneous interplay between independent and dependent variables that research consummates Creswell (2002). In this study, the independent variables comprise of physical factors, learning resources, pedagogical practice and strategy and collaborative planning. Dependent variable is inclusion of learners with physical disabilities into the school learning environment. The intervening variables were environmental adaptation, teaching/learning resources, pedagogy and technical support as factors that may influence inclusion of learners with physical disabilities.

3.4 Target Population

The target population of this study consisted of head teachers and teachers in Kisauni Sub-County. The target population was 355 teachers and 25 head teachers from 25 secondary schools both public and private. The study was conducted in twelve schools with 60 teachers and 12 head teachers. The targeted population is supposedly both trained and untrained teachers in special needs education. The total enrolment in the 25 secondary schools in Kisauni Sub-county is contained in the table on the next page.
Table 3.1: Secondary School Enrolment Data in Kisauni Sub County.

<table>
<thead>
<tr>
<th>S/NO.</th>
<th>School codes</th>
<th>Learners</th>
<th>Teachers</th>
<th>Head teacher(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>National 001</td>
<td>765</td>
<td>44</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>Sub county 01</td>
<td>310</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>3.</td>
<td>Sub county 02</td>
<td>143</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>4.</td>
<td>Sub county 03</td>
<td>406</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>5.</td>
<td>Sub county 04</td>
<td>44</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>Sub county 05</td>
<td>180</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>7.</td>
<td>Private 61</td>
<td>132</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>8.</td>
<td>Private 62</td>
<td>52</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>9.</td>
<td>Private 63</td>
<td>97</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>10.</td>
<td>Private 64</td>
<td>138</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>11.</td>
<td>Private 65</td>
<td>124</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>12.</td>
<td>Private 66</td>
<td>310</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>13.</td>
<td>Private 67</td>
<td>85</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>14.</td>
<td>Private 68</td>
<td>87</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>15.</td>
<td>Private 69</td>
<td>283</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>16.</td>
<td>Private 70</td>
<td>505</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>17.</td>
<td>Private 72</td>
<td>103</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>18.</td>
<td>Private 73</td>
<td>150</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>19.</td>
<td>Private 74</td>
<td>709</td>
<td>53</td>
<td>1</td>
</tr>
<tr>
<td>20.</td>
<td>Private 75</td>
<td>346</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>21.</td>
<td>Private 76</td>
<td>304</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>22.</td>
<td>Private 77</td>
<td>473</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>23.</td>
<td>Private 78</td>
<td>253</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>24.</td>
<td>Private 79</td>
<td>127</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>25.</td>
<td>Private 80</td>
<td>311</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>355</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

Source: Sub County Director of Education Kisauni (2015)

3.5 Sampling Techniques and Sample Size

3.5.1 Sampling Techniques

Orodho (2009) refers a sample as a small representative portion of a target population. Sampling on the other hand is a procedure, process or technique of choosing a sub-group from a population to participate in the study (Ogula, 2005). It is the process of selecting a number of individuals for a study in such a way that the individuals selected represent the large group from which they were selected.
Purposive sampling technique was adopted to select all the 12 principals from the sampled schools. This is because they are all actively involved in managing and teaching learners in their schools and also to pick all five public schools remaining after one of them used for piloting. According to Mugenda and Mugenda (1999), purposive sampling technique allows a researcher to use cases that will require information with respect to the objectives of the study. Simple random sampling method was used to select seven private schools out of the total sixteen. The researcher assigned codes to each school in the list and used lottery method to select seven schools to participate in the study. The population of the teachers in selected schools was put in strata of trained and untrained teachers. Purposive sampling was then used to select trained teachers in special needs education because of their knowledge in inclusive policy. Where there were no adequate trained teachers, untrained teachers however were used for the study. Simple random sampling technique was then used to select the required number of teachers to participate in the study from the strata. This gave each teacher an equal opportunity to participate.

### 3.5.2 Sample Size

There are about 25 private and public schools in Kisauni Sub County with a total number of 355 teachers as at January 2015. The researcher sampled 12 (48%) of the schools out of the total number (25) schools as her desired sample size which is higher than the 10 per cent sample size of the population recommended for descriptive research in Mugenda and Mugenda (1999).

From every school, five teachers were involved in the study. This gave a total respondent of 60 teachers. The principals who participated in the study were 12. The entire sampling matrix yielded a total sample size of 72 respondents for the study.
3.6 Instrumentation

3.6.1 Research Instruments.

The researcher used questionnaires to elicit information from the respondents as well as observation check list. There were two sets of questionnaires, one for teachers and the other for head teachers. The two questionnaires had two sections each, A and B. Closed ended contingency questionnaire were used mainly in Section A, because they are easier to analyses and economical to use in terms of time. Open ended questions as well as matrix questions were used in Section B because of the ease in analyzing and comparing responses of different items. Matrix questions furthermore are efficient and economical in terms of time. Likert scale was used to collect information in section B. The choice of questions was informed by the research questions they sought to answer.

The main reason for using questionnaire as a tool is because the respondents are all literate and also gives the respondents some degree of freedom to express themselves as they do not have to write their identities. The questionnaires also allow for upholding to confidentiality hence no researcher bias since respondents work independently. Questionnaires are easy to tabulate and analyses. Observation tool was also employed. The researcher observed the extent to which physical facilities have been modified and adapted to suit learners with physical disabilities. Among the areas observed include accessibility, physical facilities and learning facilities. The specifications in the literature review guided the check list.

3.6.2 Pilot Study

A pilot study was carried two weeks prior to the actual study. The piloting was done with an identical population to that targeted for the study. The research instruments of this study were pre-tested at Mombasa secondary school for the physically disabled. Pilot study involved small sample of three respondents, two teachers and one principal. There searcher visited the school to administer the tools to the respondents and collect them immediately they are
completed. An observation checklist was also used to collect data from the selected schools. Piloting provided good opportunity for the researcher to identify any weakness in the instruments and determine if the anticipated data analysis techniques were appropriate. After piloting, the researcher modified the instruments accordingly before conducting the main study. The school that participated in the pilot study was excluded in the actual study.

3.6.3 Validity of Research Instruments

Validity of research instruments for this study was tested through piloting. The study used content validity to test its instruments. Content validity was tested to ascertain whether the items in the questionnaire were suitable for their task. Questions which could bring confusion or misunderstanding to the respondents were identified and modified to ensure clarity of the information in the questionnaires. Questions that were not answered well were also reframed using simpler language which could be easily understood by the respondents. (Orodho, 2009) adds that piloting helps in confirming if the collected data is analyzable and if all the concepts necessary have been covered. Consultations with the experts were done and the instruments modified and redesigned accordingly so as to ensure it was well refined to achieve the intended task during the main study.

3.6.4 Reliability of Measurement Instruments

Reliability refers to the consistency of assessment outcomes. To determine the reliability of the current studies instruments, the researcher used the test re-test method with each of the tools, during piloting stage. The developed questionnaires were given to two teachers and one principal in one of the secondary schools which were not be included in the actual research to be conducted in sampled schools. Completed questionnaire was scored or analyzed manually. The same questionnaires were given to the same respondents after a period of two weeks. The completed questionnaires were scored or analyzed manually after which a comparison of answers of the two tests were made and analyzed. From the two
responses, Spearman Rank order correlation (rho) were employed to compute the Correlation coefficient in order to establish the extent to which the items of the questionnaires are consistent in eliciting the same responses every time the instrument is administered. A correlation coefficient (r) technique was used to establish the degree/magnitude and direction of the relationship.

3.7 Data Collection Procedure.

First, the researcher obtained permission from Pwani University, and then applied for a research permit from the Ministry of Education to collect data from the schools. Thereafter the researcher visited the Education office in Kisauni Sub County and submitted copies of the research permit to the Director of Education in order to obtain permission to conduct the research in the selected schools. Thereafter, the researcher booked appointment with the School principals from the selected schools. After meeting the principals, copies of permit were given and permission sought to collect data from their institutions. The researcher booked the days for administering the questionnaires and conducting observations in the various schools. Each school had a different day but the time allocation was considered for in the afternoon. On the material day the researcher administered the research instruments to participants; questionnaires to the teachers and principals as she filled in the observation guide.

The questionnaires were collected immediately after filling in. The researcher emphasized on respondents’ anonymity and assured them of the confidentiality of the information.

3.8 Data Analysis and Presentation

The researcher collected both qualitative and quantitative data. Qualitative data was derived from open-ended questions in the questionnaires while the quantitative data was derived from closed ended questions. Demographic information for the respondents was collected using questionnaires. Professional survey data on adequacy of teaching/learning resources and
support team was collected using likert. Accessibility audit was done using observation checklist to collect information on the modifications and adaptations on the physical facilities. Photographs were taken to ascertain the responses.

The study employed essentially quantitative data analysis technique. Data collected were edited, coded and tabulated mainly using the computer software statistical packages for social studies (SPSS) according to themes which emanate from the research objectives and questions. Qualitative data was derived from open-ended questions in the questionnaires while the quantitative data was derived from closed ended questions. The quantitative data was analyzed and presented using descriptive statistics such as frequency distribution, tables and percentage and also in narrative form. Qualitative data was presented in narrative form. The responses from the Likert scale was sorted and coded according to the research objectives. Similar responses from the Likert scale were grouped together during presentation. For the items which required ranking, measures of central tendency were used to determine the most highly ranked contributing factor.

3.9 Logical and Ethical Considerations

The execution of the study took cognition of the fact that logistical and ethical as well as human relations are legal issues that must be addressed for successful completion of research project. The researcher sought clearance from Pwani University Research Board to conduct research. Similarly, a permit from Kisauni sub county director of education was sought to collect data in the targeted schools. The principals of the selected schools were also approached for permission to conduct research in their schools. The researcher ensured and assured the respondents of strict confidentiality and anonymity of responses and identities respectively. As such, personal names were not indicated on the research documents. The researcher also guaranteed honesty in collecting data and reporting of the findings.
Summary

This chapter sought to outline in detail the research methods utilized to carry out this study. The research adopted descriptive survey design to carry out assessment of secondary schools learning environment in Kisauni Sub County. Purposive, simple random and stratified sampling methods were used to select 12 schools out of 25 schools in the sub county. Questionnaires and observation checklists instruments were used to collect quantitative data. Pilot study was carried out where validity and reliability of research tools were tested. The collected data was edited, coded and tabulated mainly using SPSS, analyzed and presented using descriptive statistics. Ethical issues were adhered to in seeking for permission and collection of data.
CHAPTER FOUR
DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.0 Introduction

This chapter focuses on qualitative and quantitative presentations and analyses of data collected from sampled teachers and head teachers. Analyses were guided by the set objectives and guided by Social theory developed by Bandura, (1998). The analysis mainly focused on the data collected on the variables of the study; namely physical factors, learning/teaching resources, teacher professional training, accessibility, student achievement, training opportunities and individual support. Data was collected using questionnaires: one for head teachers and another for the teachers. The data was analyzed using SPSS and the information presented in form of pie charts, bar graphs and tables. Data gathered by the study was integrated, presented and analyzed under the following headings based on the specific objectives of the study:, Modification and infrastructural adaptation of physical facilities, adequacy of teaching/learning resources, training of classroom teacher and additional support for learners with physical disabilities.

4.1 Demographic Characteristics of the Respondents

This sub-section presents the demographic characteristics of the respondents that the present study captured which included gender of respondents, academic/professional qualifications, age and experience of both teachers and head teachers.

4.1.1 Gender of the Respondents.

The teachers and head teachers were asked to state their gender in their respective questionnaires and the following were the results as indicated in figure 4.1
From figure 4.1 it can be observed that (61.1%) of the teacher respondents were males while (38.9%) were females. All headmasters who took part in the research were males (100%). Thus, these results indicate that there is imbalanced staffing in terms of gender whereby male gender more in the selected schools as compared to females. The finding is in consistent with the research findings of Obadiah (2009) who found out that female SNE teachers were fewer than their counterparts.

4.1.2 Age Brackets of the Respondents.

The respondents provided data on their age brackets and the results are presented in figure 4.2 below.
The results show that most of the head teachers (45.5%) were in the 41-50 years’ age bracket and (9.1%) were below 30 years and greater than 51 years. The researcher deduced from these results that majority of the head teachers of secondary schools are middle aged.

4.1.3 Academic Qualifications of Teachers and Head Teachers’ Respondents

The respondents were asked to state their academic qualifications in their respective questionnaires. The results are as shown in table 4.1 below;
Table 4.1 Academic qualifications of respondents.

<table>
<thead>
<tr>
<th>Academic qualifications</th>
<th>Teachers percentage</th>
<th>Head teachers percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>KCE/KCSE</td>
<td>1.9</td>
<td>-</td>
</tr>
<tr>
<td>EAACE/KACE</td>
<td>1.9</td>
<td>-</td>
</tr>
<tr>
<td>B.ED</td>
<td>64.8</td>
<td>58.3</td>
</tr>
<tr>
<td>B.Sc</td>
<td>13.0</td>
<td>-</td>
</tr>
<tr>
<td>MED</td>
<td>7.4</td>
<td>25</td>
</tr>
<tr>
<td>DIP</td>
<td>9.3</td>
<td>8.3</td>
</tr>
<tr>
<td>PGDE</td>
<td>1.9</td>
<td>-</td>
</tr>
</tbody>
</table>

The results in table 4.1 showed that majority of the teachers’ respondents had acquired a bachelor’s degree in education (64.8%) B.Ed. and (58.3%) of head teachers had B.Ed. thus, results indicate that most of the teacher respondents have high academic qualifications in education discipline except few (13.%) possess a degree in Bachelor of Science with (9.3%) in possession of Master’s Degree. On the other hand, results indicate that over half of the head teacher respondents had higher qualifications (B.Ed.) with a considerable number with Masters in education. Therefore, the study concluded that the majority of the head teachers of secondary schools in Kisauni Sub-county possess higher academic qualifications up to Masters in education level.

4.1.4 Professional Experience of the Respondents

The respondents were asked to state their experience in terms of the years they have been in service in their current positions. The analysis of the data is indicated in figure 4.3
Figures 4.3 and 4.4 showed that (45.5%) of the head teachers had 4-9 years of experience as head teachers while for teachers’ majority (62.75%) had 2-5 years respectively in the teaching profession within the school.
4.1.5 Professional Preparedness to Teach Learners with Physical Disabilities.

Table 4.2 Professional Preparedness to Teach Learners with Physical Disabilities

<table>
<thead>
<tr>
<th>Rating (degree of preparedness)</th>
<th>Teachers percentage</th>
<th>Head teacher percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very adequately</td>
<td>9.3</td>
<td>25</td>
</tr>
<tr>
<td>Adequately</td>
<td>27.8</td>
<td>-</td>
</tr>
<tr>
<td>Fairly adequately</td>
<td>27.8</td>
<td>41.7</td>
</tr>
<tr>
<td>Not adequately</td>
<td>35.2</td>
<td>33.3</td>
</tr>
<tr>
<td>Chi-square</td>
<td>7.926</td>
<td>0.500</td>
</tr>
<tr>
<td>P-value</td>
<td>0.048</td>
<td>0.779</td>
</tr>
</tbody>
</table>

The analysis in table 4.2 showed that a significant percentage (35.2%) of the teachers did not feel that the professional training prepared them to teach learners with physical disabilities \( p = 0.048, \text{Chi-square} = 7.926, \text{d.f} = 3 \). On the other hand, the level of rating on professional preparedness to teach learners with physical disability did not vary significantly across the rating scale. \( p = 0.779, \text{chi-square} = 0.500, \text{d.f} = 2 \). This finding is consistent with previous research results by Keitany (2012), who found out that majority of the teachers felt that the training received doesn’t prepare them adequately enough to meet education needs of learners with special needs.

4.1.6 Level of Understanding of Ministry of Education Policy on Special Education

The head teachers provided information on their level of understanding of policy of the Ministry of education on Special Education and the results were presented in figure 4.5 below.
The results indicate that a significant percentage of the head teachers moderately understood ministry of education policy on Special Needs Education (p = 0.009) with 1 (8.3 %) having minimal understanding. Therefore, the researcher concluded that at least most of the head teachers understood the MOE’s policy on the Special Needs Education hence possessing the capacity of executing policies on the education of learners with disability.

4.2 Modification and Infrastructural Adaptation on Physical Facilities

Objective 1: The study sought to determine the modification and infrastructural adaptation on physical facilities for learners with physical disabilities in selected regular secondary schools.

4.2.1 Head Teachers’ Responses

The head teachers were asked to provide information on the following specific aspects of modification of physical facilities presented in table 4.3 (section on physical facilities). The data on Likert scale (SD =1, D=2, N=3, A=4 and SA =5) was analyzed using descriptive
statistics by the aid of SPSS version 21, and the results are as shown in table 4.3. It should be noted that the results for the Likert scale are in percentage and the mean represents the central tendency on the Likert scale

Table 4.3 Head Teachers’ Responses on Modification and Infrastructural Adaptation on School Facilities.

<table>
<thead>
<tr>
<th>Physical factors</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>The government gave us support in terms of grants to adapt and modify our environment</td>
<td>33.3</td>
<td>25</td>
<td>8.3</td>
<td>25</td>
<td>8.3</td>
<td>2.50</td>
</tr>
<tr>
<td>All buildings within the school are accessible to learners with wheelchair</td>
<td>25</td>
<td>33.3</td>
<td>25</td>
<td>16.7</td>
<td></td>
<td>2.33</td>
</tr>
<tr>
<td>All school facilities are modified and adapted to make them accessible to all persons</td>
<td>41.7</td>
<td>33.3</td>
<td>8.3</td>
<td>16.7</td>
<td></td>
<td>2.00</td>
</tr>
<tr>
<td>The school has plans to make every part of the compound barrier free</td>
<td>8.3</td>
<td>7</td>
<td>58.3</td>
<td>7</td>
<td></td>
<td>3.75</td>
</tr>
<tr>
<td>Classroom sizes are big enough to accommodate learners with walking aids such as wheel chairs and crutches</td>
<td>41.7</td>
<td>25</td>
<td>8.3</td>
<td>16.7</td>
<td>8.3</td>
<td>2.25</td>
</tr>
</tbody>
</table>

From table 4.3 it is observed that 3 (25%) of the head teachers agreed that the government provided support in terms of grants to adapt and modify the school environment to accommodate learners with physical disability. Another 4 (33.3%) of the head teachers strongly disagreed that the government gave secondary schools grants in order to modify their school facilities to accommodate learners with physical disability. Further, 3 (25%) of the respondents disagreed with the assertion that the government supported adaptation and modification while 1 (8.3%) of them agreed that the government gave grants to schools to modify school facilities to include learners with physical disability. Thus, the percentage of the head teachers of those who strongly disagreed 4 (33.3%) and the percentage of those who
simply disagreed 3 (25%) outweighs the percentage of them strongly agreed 1 (8.3%) and those who merely agreed 3 (25%). Therefore, the researcher concluded that few secondary schools received government grants for modifying the physical facilities to accommodate learners with physical disability, in Kisauni Sub – county.

Secondly, on whether all school buildings were accessible to learners with wheel chairs or not, 3 (25%) and 4 (33.3%) of the head teachers strongly disagreed and merely disagreed respectively. Thus (58.3%) of the respondents disagreed that all buildings within the school are accessible to learners with wheel chairs. On the other hand, 2 (16.7%) of the respondents agreed with the with assertion while 3 (25%) of them remained neutral implying that to some extent buildings in school were accessible to learners with physical disability and also to some extent buildings were not accessible. Therefore, the study deduced that in more than (58.3%) secondary schools, the buildings were not accessible to learners with wheelchairs; hence need modification for learners on wheelchairs to access all buildings. However, the results indicate that more than 2 (16.7%) of the schools had buildings that accommodate learners with wheel chairs.

Thirdly, 5 (41.7%) and 4 (33.3%) of the head teachers strongly disagreed with the assertion that all school facilities are modified and adapted to make them accessible to all persons. On the same note, 2 (16.7%) of the head teachers agreed that all school facilities were modified and adapted to make them accessible to all persons. Thus, the study deduced that in nearly all schools slightly over 9 (75%) of the schools did not have all facilities that were modified so that learners with physical disability could access them. However, in few schools, that is, slightly over 3 (25%) their facilities were accessible to all persons.

Finally, concerning the aspect of school having plans to make every part of the school compound barrier free, the results of the analysis indicated that 7 (58.3%) of the head teachers agreed that their schools had plans to make every part of the compound barrier free. Similarly, 2 (16.7%) of the schools accessed strongly agreed with the plans. On the other hand, few schools 1 (8.3%) of the head teachers strongly disagreed that their schools
had plans to make every part of the compound barrier free, in addition 2 (16.7%) of the head teachers remained neutral on the issue, implying that to some extent their schools had plans and also to some extent the schools did not have the plans. Therefore, the researcher deduced that over 7 (75%) of the schools have plans to make every part of the compound barriers free whereas over 2 (16.7%) of the schools do not have the stated plans. Lastly, on the aspect of classrooms size being big enough to accommodate learners with walking aids such as wheel chairs and crutches, the results indicate that 5 (41.7%) of the head teachers strongly disagreed with the assertion that classroom sizes are big enough to accommodate learners with walking aids. On the same note, 3 (25%) of the respondents disagreed and 2(16.7%) of them agreed with the assertion. 1 (8.3%) on the other hand strongly agreed with the assertion that classroom size accommodated learners with walking aids. Therefore, the study concluded that over 8 (66.7%) of the secondary schools do not have big classrooms enough to accommodate learners with walking aids such as wheel chairs and crutches.

4.2.2 Teachers’ Responses

Concerning modification of physical facilities and adaptation to the same by learners with physical disability, the teachers were asked to provide information on the following specific aspects of physical facilities presented in table 4.3 (section on physical facilities) the data on Likert scale (SD =1, D=2, N=3, A=4 and SA =5) was analyzed through the aid of SPSS and the results are as shown in table 4.4. It should be noted that the results for the Likert scale is in percentage and the mean represents the central tendency on the Likert scale
In table 4.4, the results indicate that 17 (27.8%) of the teachers agreed that the classrooms and dormitories are easily accessible to learners with physical disabilities while 28 (46.5%) of them said that they are accessible but with difficulties. On the other hand, 15 (25%) of the teachers said that the classrooms and dormitories were not accessible to learners with physical disabilities. Therefore, in general the study concluded that 17 (46.3%) of the inclusive secondary schools had classrooms and dormitories modified in order to enable learners with disabilities to access the facilities. On the other hand, the study also concluded that 15 (25%) of the schools did not have classrooms and dormitories modified for easier access by the physically challenged learners. On whether the library and laboratories are accessible, the results indicate that 21 (35.2%) of the teachers accepted that they were easily accessible and 20 (33.3%) of them said that library and laboratories were accessible to the learners with physical disabilities but with difficulty while 19 (31.7%)
said that they were not accessible at all. hence implying that a total of 21 (35%) of the schools had libraries accessible. in contrast, 39 (52.6%) of the schools had library and laboratories inaccessible to the learners with physical disabilities.

The results also showed that 29(48.1%) of the classroom teachers agreed that the pavement and pathways are clear, obstruction free, level and wide and easily accessible for wheelchair users while 26 (42.2%) of them said that they were accessible but with difficulties. On the other hand, 6 (10%) felt that the pavements and the pathways were not accessible at for learners with physical disabilities at all. This analysis indicates that almost half (58.1%) of the inclusive secondary schools do not have clear pavements, pathways that are obstruction free, level and wide. While slightly less than half of the schools have pathways and pavements that can accommodate wheelchair users.

Further analysis of the teachers’ data in table 4.4 showed that 11(18.5%) and of the teachers’ respondents said that the bathrooms and toilets are adapted and have wide doors and hand rails hence making them very accessible and 9 (15%) of them felt that as much as they were accessible, it was with difficulty. On the other hand, 40(66.5%) of the respondents said that the said facilities were totally inaccessible to the learners with physical disabilities. In view of these results, the researcher deduced that less than a half 11 (18.5) of the schools had bathrooms and toilets had wide doors and hand rails, thus adapted to the use by learners with physical disabilities. Similarly, nearly half the schools did not have toilets adapted for use by the physically challenged learners.

The teachers also provided the responses on the variable concerning adaptation of the play grounds and other recreational facilities.

The analysis in table 4.4 showed that 33 (57.71%) of the teachers affirmed that the play grounds and other recreational facilities are well adapted for use by learners with physical disabilities since the latter can access them. On the other hand, 10 (16.7%) and 17(27.8) disagreed saying they were either accessed with difficulty or not accessible at all respectively. Thus, the study made a generalization that majority of inclusive schools in
Kisauni Sub-county 190 (63.2%) have not made their facilities fully accessible to the learners with physical disabilities hence denying them access these facilities with ease. Only 111 (36.6%) have made their facilities easily accessible.

4.3 Teachers Response on Adequacy of Teaching/Learning Resource

Objective 2: The study sought to establish the adequacy of teaching/learning resources available to support learners with physical disabilities in selected regular secondary schools.

4.3.1 Head Teachers’ Response

The head teachers’ respondents in the study were asked to respond to the assertion that teaching and learning resources for learners with physical challenges are available and adequate. The data on Likert scale (SD =1, D=2, N=3, A=4 and SA =5) was analyzed through the aid of SPSS version 21 and the results are as shown in table 4.5. It should be noted that the results for the Likert scale is in percentage and the mean represents the central tendency on the Likert scale.

Table 4.5 Head teachers’ Responses on Teaching and Learning Resources.

<table>
<thead>
<tr>
<th>Teaching and Learning resources</th>
<th>Availability</th>
<th>Frequency</th>
<th>%</th>
<th>Availability but not adequate</th>
<th>Frequency</th>
<th>%</th>
<th>Not available</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Availabili and</td>
<td>3</td>
<td>25</td>
<td>Adequate</td>
<td>4</td>
<td>33.3</td>
<td>Not available</td>
<td>5</td>
<td>41.7</td>
</tr>
<tr>
<td></td>
<td>Availability</td>
<td></td>
<td></td>
<td>but not</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adequate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frequency</td>
<td>3</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

From table 4.5, the results of the analysis of the head teachers’ responses indicated that 3(25%) of said that teaching and learning resources for the physically challenged learners were available and adequate.5(41.7%) of the respondents said that there were no teaching
and learning resources for the learners with physical disability. On the other hand, 4(33.3%) of the head teachers said that there were teaching and learning resources for the physically challenged learners but not adequate. This finding agrees with the findings of Lelan et al (2014) who found out that there is shortage of teaching / learning materials in inclusive primary schools.

The study, therefore, concluded that on the aspect of whether secondary schools in this study had adequate resources, over 8 (66.7%) of the schools did not have adequate teaching and learning resources while 3 (25%) of the schools had required teaching and learning resources.

**Table 4.6 Head Teacher’s Response on the Support given to Learners with Physical Disabilities**

<table>
<thead>
<tr>
<th>Teaching and learning resources</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>MEAN</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The board of management and proprietors of the schools do support inclusion of learners with physical disabilities</td>
<td>16.7</td>
<td>16.7</td>
<td>8.3</td>
<td>41.7</td>
<td>16.7</td>
<td>3.25</td>
<td>0.411</td>
</tr>
<tr>
<td>learners with physical disability are supported with assistive teaching-learning devices and given extra time during exams</td>
<td>25</td>
<td>16.7</td>
<td>33.3</td>
<td>16.7</td>
<td>8.3</td>
<td>2.67</td>
<td>0.376</td>
</tr>
</tbody>
</table>

The table 4.6 shows the teachers response the head teachers were also required to indicate their response on the aspect of whether the management and proprietors do support inclusion of learners with physical disability in their schools. The descriptive statistics done via SPSS 21 computer program, indicate that 2(16.7%) of the head teachers strongly disagreed while a similar percentage 2(16.7%) of them merely disagreed with the assertion that the Board of Management (BOM) and proprietors of the schools support inclusion of learners with physical disabilities in their schools. In contrast 5 (41.7%) and 2(16.7%) of the respondents strongly agreed and merely agreed that BOM and proprietors of secondary
schools support the inclusion of learners who are physically challenged. However, 1 (8.3%) of them remained neutral about the assertion. Therefore, the study concluded that slightly over 7 (58.4%) of the schools supported inclusion of learners with physical disabilities while slightly over 4 (33.4%) of the secondary schools in Kisauni sub-county, did not support the concept of inclusive learning institutions.

Also, the head teachers’ responses on the assertion whether learners with physical disabilities are supported with assistive teaching/learning devices and are given extra time during exams, were sought and analysis of their responses is as presented in table 4.3. The results indicate that 3 (25%) and 2 (16.7%) of the head teachers strongly disagreed and merely disagreed respectively with the statement that physically challenged learners are supported with assistive teaching/learning devices and given extra time during exams. In contrast 2 (16.7%) and 1 (8.3%) of the head teachers strongly agreed and merely agreed respectively that the assertion that learners are supported with assistive teaching/learning devices and given extra time during exams. The analysis also indicates that 3 (33.3%) of the head teachers remained neutral on the statement that learners with physical disabilities are supported with assistive teaching/learning devices and that they are given extra time during exams. Based on these results, the researcher concluded that 5 (41.7%) and 3 (25%) of the schools under investigation did not and supported respectively learners with physical disability with assistive teaching/learning devices and were allowed extra time during the exams.

4.3.2 Teachers’ Responses on Teaching and Learning Resources

Concerning teaching and learning resources, the teachers were asked to provide information on the following specific aspects presented in table 4.6. Data was presented on Likert scale (SD =1, D=2, N=3, A=4 and SA =5) was analyzed through the aid of SPSS version 21 and the results are as shown in table 4.6. It should be noted that the results for the Likert scale are in percentage and the mean represents the central tendency on the Likert scale.
Table 4.7 Teachers’ Responses on Teaching and Learning Progress and Resources Available.

<table>
<thead>
<tr>
<th>Teaching and learning resources</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>MEAN</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learners with physical disability can be taught in the same way like other learners</td>
<td>20.8</td>
<td>13.2</td>
<td>7.5</td>
<td>39.6</td>
<td>18.9</td>
<td>3.23</td>
<td>0.199</td>
</tr>
<tr>
<td>Head pointers, page turner, pencil grip among others are available</td>
<td>25.1</td>
<td>41.4</td>
<td>5.6</td>
<td>8.2</td>
<td>1.8</td>
<td>2.96</td>
<td>0.2</td>
</tr>
<tr>
<td>Adapted syllabus for learners with physical challenge is available</td>
<td>22.2</td>
<td>24.1</td>
<td>9.3</td>
<td>20.4</td>
<td>24.1</td>
<td>3</td>
<td>0.208</td>
</tr>
<tr>
<td>Teachers prepare an individualized education program (IEP) for learners with special needs</td>
<td>29.6</td>
<td>24.1</td>
<td>11.1</td>
<td>22.2</td>
<td>13</td>
<td>2.65</td>
<td>0.196</td>
</tr>
</tbody>
</table>

From table 4.7, the results showed that 35 (58.5%) of the classroom teachers affirmed that learners with physical disability can be taught in the same way like other learners while 21 (34%) of them reported that learners with physical disabilities cannot be taught in the same way like other learners without disability. Based on these results the study generalized that many secondary schools 35 (58.5%) conduct teaching lessons for both learners with physical disability and those without in one class. However, few schools 21 (34%) do not subscribe to the assertion that learners with physical disability can be taught in the same way like other learners with no disability.

On the availability of head pointers, page turner, pencil grip among others, the analysis in table 4.6 showed that 6 (10%) of the classroom respondents reported that their schools had pointers, page turner, pencil grip among others while 40 (66.5%) of them reported that their
schools did not have these facilities. These results indicate that in few secondary schools 6 (10%) under present study have head pointers, page turner and pencil grip that could be used by learners without fingers, whereas over half of them did not have.

Another teaching/learning resource that was investigated was the availability of the adapted syllabus for learners with physical disabilities. The analysis of the teachers’ responses showed that 27 (44.5%) and 28 (46.3%) of the teachers agreed and disagreed respectively with the assertion that adapted syllabus for learners with physical disabilities is available. This result indicates that most schools under study did not have adapted syllabus for use by learners with physical disabilities while almost a similar percentage of the schools have the adapted syllabus. Thus, content of the syllabus is not uniformly adapted to the special needs of the physically challenged.

Finally, concerning the aspect of teachers preparing an Individualized Education Programs (IEPs) for learners with special needs, the results of the analysis of the teachers’ responses showed that (35.2%) of the teachers prepare IEPs while the majority of them 32 (53.7%) did not prepare IEPs for learners with special needs. Therefore, the study generalized that the majority of the schools under investigation do not have teachers who prepare Individualized Educational Programs for the learners with special needs while few schools had them.

The above findings is in consistent with the findings of Keitany (2012) and Lelan et al (2014) who found out that there is a serious shortage of teaching /learning materials for learners with special needs in learning institutions.

4.4 Teachers’ Response on the Preparedness to Handle Learners with Physical Disabilities in Selected Regular Secondary Schools

Objective 3: The study sought to establish the preparedness of teachers to handle learners with physical disabilities in selected regular secondary schools
The study sought information from the head teachers concerning classroom teacher professional training in regard to inclusion of learners with physical disability in secondary schools. Their responses on Likert scale were analyzed by the aid of SPSS version 21 computer program and the results are presented in table 4.8 below.

**Table 4.8 Teacher Professional Training**

<table>
<thead>
<tr>
<th>Teacher professional training</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>MEAN</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have adequate teachers trained in special needs education</td>
<td>16.7</td>
<td>75</td>
<td>8.3</td>
<td></td>
<td></td>
<td>1.92</td>
<td>0.149</td>
</tr>
<tr>
<td>Training in special needs education does not add any value in teaching learners with physical disabilities</td>
<td>75</td>
<td>8.3</td>
<td>8.3</td>
<td></td>
<td></td>
<td>1.50</td>
<td>0.289</td>
</tr>
<tr>
<td>I allow teachers to attend workshop and seminars in special needs education</td>
<td>9.1</td>
<td>36.4</td>
<td>45.5</td>
<td>9.1</td>
<td></td>
<td>3.45</td>
<td>0.312</td>
</tr>
<tr>
<td>Only teachers trained in special needs education support learners with physical disabilities</td>
<td>8.3</td>
<td>58.3</td>
<td>8.3</td>
<td>16.7</td>
<td>8.3</td>
<td>2.58</td>
<td>0.336</td>
</tr>
</tbody>
</table>

Results in table 4.7 indicate that 10 (16.7%) of the respondents strongly disagreed and 9 (75%) merely disagreed with the assertion that head teachers have adequate trained teachers in special needs education. On the other hand, 5(8.3%) of them remained neutral to the assertion. Further, there was nil percentage of the head teachers who agreed with the statement, hence the study concluded that nearly all inclusive secondary schools in Kisauni Sub-county did not have adequate teachers trained in special needs education. That is, over 55 (91.7%) of the schools therefore do not have adequate trained teachers in special needs
education. This study concurs with the findings of Kochung (2003) that there is serious shortage of teachers who are trained in special needs education.

Concerning the assertion that training in special education needs does not add any value in teaching learners with physical disabilities, 45 (75%) of the head teachers strongly disagreed while 5 (8.3%) of them merely agreed. The results in the analysis indicate that there was nil percentage of the head teachers who agreed with the assertion. In light to these results, the researcher deduced that nearly all the respondents, that is, over 50 (83.3%) felt that special needs education add value in the teaching of learners with physical disabilities. Therefore, it implies that in all secondary schools in Kisauni Sub-county, have strong sense of value to teaching learners with physical disabilities.

The study also sought head teachers’ responses on whether they allow their teachers to attend workshops and seminars in special education. The analysis indicates that 28 (45.5%) and 15 (9.1%) of the head teachers strongly agreed and merely agreed respectively that they allow their teachers to attend workshops and seminars in special needs education. In contrast 4 (36.4%) of the head teachers were neutral implying that to some extent they agreed with the assertion and to some extent they do not send their teachers to workshops for capacity building in special needs education. Thus, the study concluded that slightly over 6 (50%) of the secondary schools sent their teachers to workshops and seminars in special needs education while a few slightly over 1 (10%) of them do not.

Finally, the study also required head teachers respondents to give their responses on the statement that only teachers trained in special needs education support learners with physical disabilities from the analysis, the results indicate that 1 (8.3%) of the head teachers strongly disagreed while 7 (58.3%) of them merely disagreed with the assertion that only teachers trained in special needs education support learners with physical disabilities. In addition, 2 (16.7%) of the head teachers agreed while 1 (8.3%) of them strongly agreed with the statement. Thus, over 8(64.6%) of the schools regardless of whether their teachers are trained in special needs education or not, do support learners with physical disability, while
in few schools, that is, slightly over 3 (25%) of the schools only the teachers who trained in special needs education support learners with physical disabilities. This finding concur with earlier findings of Konza (2008); Lelan et al (2014); and Keitany (2012) that there is shortage of adequate trained teachers in special needs education.

4.5 Teachers’ Response on the Support Offered to Learners with Physical Disabilities.

Objective 4: The study sought to determine the physical and academic support provided to learners with physical disabilities in the selected regular secondary schools.

The study also sought information from both the head teachers and the teachers in inclusive secondary schools in Kisauni Sub-county concerning the support staff. The analyses of their responses are presented in table 4.8 and table 4.9 respectively.

4.5.1 Head Teachers’ Responses on Components of Support Staff.

The head teachers’ responses on specific aspects of support staff in regard to supporting the needs of the learners with physical disabilities were subjected to descriptive statistics analysis with the aid of SPSS and results are presented in table 4.9 below.
Table 4.9 Head teachers’ responses on Support Staff

<table>
<thead>
<tr>
<th>Support staff</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>MEAN</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school can afford to hire specialized personnel</td>
<td>25</td>
<td>16.7</td>
<td>33.3</td>
<td>8.3</td>
<td>16.7</td>
<td>2.75</td>
<td>0.411</td>
</tr>
<tr>
<td>The teachers with other personnel collaboratively prepare the Individualized Education Programs (IEPs) for the learners</td>
<td>16.7</td>
<td>33.3</td>
<td>16.7</td>
<td>25</td>
<td>8.3</td>
<td>2.75</td>
<td>0.372</td>
</tr>
<tr>
<td>Only teachers trained in SNE can handle discipline issues pertaining learners with physical challenges</td>
<td>25</td>
<td>33.3</td>
<td>8.3</td>
<td>16.7</td>
<td>16.7</td>
<td>2.67</td>
<td>0.432</td>
</tr>
<tr>
<td>The school does not have any other support personnel other than teachers</td>
<td>25</td>
<td>25</td>
<td>8.3</td>
<td>25</td>
<td>16.7</td>
<td>2.83</td>
<td>0.411</td>
</tr>
</tbody>
</table>

Based on the assertion in table 4.9, that the school can afford to hire specialized personnel, the analysis of the head teachers’ responses showed that 3 (25%) of the head teachers strongly disagreed with the assertion while 2 (16.7%) of them merely disagreed with it. On the other hand, 1 (8.3%) of the respondents agreed with the assertion: the school can afford to hire specialized personnel while 2 (16.7%) strongly agreed with the statement. However, 4 (33.3%) of the head teachers remained undecided. This could imply that to some extent the respondents agreed and to some extent disagreed. In conclusion, the researcher, deduced that over 5 (41.7%) of the schools cannot afford to hire specialized personnel while 3 (25%) of them can afford to hire specialized personnel. The above findings are in agreement with the findings of Anati (2012) who found out that many schools do not employ the necessary professionals to assist learners with special needs in their schools.

The analysis of the head teachers’ responses on the assertion: the teachers with other personnel collaboratively prepare the Individualized Educational Programs (IEPs) for the
learners with physical disabilities. The results in table 4.8 showed that 3 (25%) of the head teachers agreed while 1 (8.3%) strongly agreed with the assertion. On the contrary 2 (16.7%) of the respondents strongly disagreed while 4 (33.3%) of them disagreed with the assertion that the teachers with other personnel collaboratively prepare the IEPs for the physically challenged learners. In contrast 2 (16.7%) of the respondents were neutral, hence implying that to some extent they either agreed or disagreed with the assertion.

Based on this analysis, the researcher concluded that over 3 (23.3%) of secondary schools have teachers in collaboration with the other personnel prepared IEPs for the learners with physical disabilities while over 6 (50%) of them do not have teachers who prepare IEPs for the physically challenged learners.

Concerning the assertion that only teachers trained in special needs education (SNE) can handle discipline issues pertaining learners with physical challenges, the analysis indicates that 15 (25%) of the head teachers strongly disagreed while 20 (33.3%) of them simply disagreed with the statement. Thus, this indicates 35 (58.3%) of the secondary educations have other teachers in addition to those trained in SNE who also handle discipline issues pertaining to learners with physical disabilities. In contrast, 2 (16.7%) of the head teachers agreed with the assertion that only teachers trained in SNE can handle discipline issues pertaining to learners with physical challenges while a similar percentage of 2 (16.7%) strongly agreed with the statement. In addition, a similar percentage 2 (16.7%) strongly agreed, implying that 4 (33.4%) of the schools under investigation have trained teachers in SNE who are the only ones who handle discipline issues pertaining to learners with disabilities. In conclusion, in consideration, 1 (8.3%) of the teachers remaining neutral, the researcher concluded that over 7 (58.3%) of the secondary schools in Kisauni Sub-county have teachers who are not trained in SNE. Both categories of teachers are actively involved in the discipline of the learners with disability.
Last but not least, another statement “the school does not have other personnel other than teachers,” the head teachers provided information and the results of the analysis as indicated in table 4.8 showed that 3 (25%) of the head teachers strongly disagreed while another 3 (25%) of them merely disagreed. These results indicate that 6 (50%) of the head teachers disagreed that their schools do not have any other support personnel except teachers. On the other hand, 3 (25%) of the head teachers agreed while 2 (16%) strongly agreed with the statement. In general, therefore the results imply that 5 (41.7%) of the head teachers agreed with the assertion. Therefore, in general the study concluded that more than 6 (50%) of the sampled schools in Kisauni Sub-county do not have any other support personnel except teachers while (41.7%) of the schools under the present study have other support staff in addition to teachers who assist learners with physical disabilities in public secondary schools.

4.5.2 Classroom Teachers’ Responses on Additional Support Provided to Learners with Physical Disabilities.

The study also sought information from classroom teachers concerning the degree to which additional support is provided to learners with physical disabilities. The teachers responded on the following assertions: Learners with physical disability are supported by personnel such as psychotherapist, occupational therapist etc., learners with physical disability access physiotherapy services within the school when need be, an itinerant (teacher trained in special needs education) do visit our school occasionally to advise regular teachers on special needs, learners with disability can access medical support any time they are in need and Counseling service is always available for learners with physical disabilities. The results are presented in table 4.9 below
Table 4.10 Teachers Responses on Additional Support Staff

<table>
<thead>
<tr>
<th>Additional support by support staff</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>MEAN</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learners with physical disability are supported by personnel such as psychotherapist, occupational therapist etc.</td>
<td>24.5</td>
<td>17</td>
<td>11.3</td>
<td>30.2</td>
<td>17</td>
<td>2.98</td>
<td>0.202</td>
</tr>
<tr>
<td>Learners with physical disability access physiotherapy services within the school when need arise</td>
<td>25</td>
<td>15.4</td>
<td>30.8</td>
<td>30.8</td>
<td>13.5</td>
<td>2.92</td>
<td>0.198</td>
</tr>
<tr>
<td>An itinerant (teacher trained in special needs education) do visit our school occasionally to advice regular teachers on special needs</td>
<td>30.8</td>
<td>23.1</td>
<td>7.7</td>
<td>32.7</td>
<td>5.8</td>
<td>2.6</td>
<td>0.191</td>
</tr>
<tr>
<td>Learners with disability can access medical support any time they are in need</td>
<td>9.4</td>
<td>22.6</td>
<td>11.3</td>
<td>37.7</td>
<td>18.9</td>
<td>3.34</td>
<td>0.177</td>
</tr>
<tr>
<td>Counseling service is always available for learners with physical disabilities</td>
<td>9.4</td>
<td>20.8</td>
<td>9.4</td>
<td>41.5</td>
<td>18.9</td>
<td>3.4</td>
<td>0.175</td>
</tr>
</tbody>
</table>

The analyzed results of the data were presented in table 4.10 showed that 28(47.2%) of the teachers affirmed that learners with physical disability are supported by personnel such as psychotherapist and occupational therapists. while 24 (41.2%) of them did not affirm the statement. In addition, 27 (44.3%) of the teachers agreed with the assertion that learners with physical disability access physiotherapy services within the school when need arises while 24 (40.2%) were of the view that learners with physical disability access physiotherapy services within the school. Table 4.9 also showed that 23 (38.5%) of the teachers affirmed that itinerant (teacher trained in special needs education) do visit their schools occasionally to advise regular teachers on special needs whereas 32 (53.9%) disagreed with the assertion. On seeking of medical attention by learners with disability, 33 (56.6%) of the teachers
confirmed that the learners can access medical support any time they are in need while 20 (32%) negated the assertion. Finally, the assertion that counseling service is always available for learners with physical disabilities, 35 (59.9%) of the teachers agreed with the assertion while 18 (30.2%) of them disagreed.

Therefore, based on these results the researcher made generalization that in fairly few schools of the secondary schools provide physiotherapy and occupational therapy to the learners with special needs. Also, the majority of the schools are not visited by itinerant to offer advice to the regular teachers concerning the needs of the physically challenged learners. Finally, the study generalized that less than half of the schools provide medical support to learners with physical disability any time they are in need.

4.6 Relationship between Performance (dependent variable) and the Independent Variable (factors)

The study sought information from the classroom teachers concerning factors that contribute to the academic performance of the learners with special needs. The analysis of the data is presented in table 4.10 below.

4.6.1 Rating of various Factors in regard to Academic Performance of Learners with Physical Disability

The data were subjected to descriptive statistics analysis with the aid of SPSS version 21 and the results are presented in table 4.10 below which shows the rating of various factors in percentage while the mean is on the Likert scale (VR = 1, R = 2, FR = 3, IR = 4), VR= very relevant= relevant = fairly relevant= irrelevant.
Table 4.11 Rating of various Factors in Regard to Performance of the Physically Challenged Learners.

<table>
<thead>
<tr>
<th>Teacher factors</th>
<th>VR</th>
<th>R</th>
<th>FR</th>
<th>IR</th>
<th>MEAN</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training in special needs education</td>
<td>56.6</td>
<td>34</td>
<td>5.7</td>
<td>3.8</td>
<td>1.57</td>
<td>0.1</td>
</tr>
<tr>
<td>Academic qualification</td>
<td>34</td>
<td>60.4</td>
<td>3.8</td>
<td>1.9</td>
<td>1.74</td>
<td>0.086</td>
</tr>
<tr>
<td>Length of teaching experience</td>
<td>32.1</td>
<td>49.1</td>
<td>11.1</td>
<td>7.5</td>
<td>1.94</td>
<td>0.119</td>
</tr>
<tr>
<td>Level of devotion and commitment</td>
<td>61.5</td>
<td>28.8</td>
<td>3.8</td>
<td>5.8</td>
<td>1.54</td>
<td>0.115</td>
</tr>
<tr>
<td>Regular in service course in SNE</td>
<td>34</td>
<td>49.1</td>
<td>15.1</td>
<td>1.9</td>
<td>1.85</td>
<td>0.102</td>
</tr>
</tbody>
</table>

From table 4.10 the results showed that 55 (90.6%) of the respondents reported that training in special needs education of teachers is relevant to the performance of learners with physical disability. In addition, 57 (94.4%) of the respondents reported that academic qualifications of teachers are also relevant to the performance of the learners with disability, 49 (81.2%) of the teachers were of the view that length of teaching experience while 55 (90.3%) and 50 (83.1%) of the respondents affirmed that level of devotion and commitment and regular in service course in SNE were contributed to the performance of learners with physical disability.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter provides a summary of the findings of the study in reference to the present study’s set objectives. It also presents the conclusion, and lastly recommendations and suggestions for further research.

5.1 Summary

According to the Ministry of Education (MOE), the main objective of special education program is to assist persons with disability to realize their potentials and to participate fully in their day today activities with the rest of the members of the society after school and therefore de self-dependent.

To achieve this, the MOE recommends that physically handicapped children be integrated with normal children in regular schools to receive inclusive education, (GOK Sessional Paper No. 6, 1988). Inclusive education philosophy ensures that schools, learning environments and educational systems meet the diverse needs of all learners in the least restrictive environment irrespective of their physical, intellectual, social, disability and learning needs. Despite the government relentless effort to implement this policy, there are still a number of challenges facing physically impaired learners which consequent to dropping out of school, regression in performance and resistance to integration. This study was set to assess the secondary schools’ learning environment for inclusion of learners with physical disabilities in selected secondary schools in Kisauni Sub County, Kenya.

The study was guided by four research questions and the data findings analyzed and summarized in chapter four. The following summary findings are discussed according to research objectives.
5.1.1 Modification and Infrastructural Adaptation on Physical Facilities

The data based on the study’s first objective: ‘to determine the Modification and Infrastructural adaptation on physical facilities for learners with physical disabilities’ was analyzed using the SPSS computer program and findings were as follows:

Majority of the secondary schools investigated had modified nor adapted the learning environment of the learners with physical disabilities. Most of the school buildings were not, accessible to learners with wheelchairs except only a few schools which have pavements and pathways that are clear, obstruction free, level and wide enough to accommodate wheelchairs. The study found out that the government offered grants to few schools to help to modify their learning environments to accommodate learners with special needs and not all the schools despite the fact that learners with physical disabilities were enrolled in both private and public schools.

Thirdly, concerning bathrooms and toilets, the findings showed that about a half of the schools under study modified their bathrooms and toilets to create wide doors and hand rails. This implied that in more than half of investigated schools had not modified the doors and hand rails to the bathrooms and toilets. This implied that learners on wheelchairs had to be supported when going to the washrooms. This goes against the spirit of inclusion which advocates for helping the learners with special needs be able to do things for themselves with minimal support since disability is not inability.

Fourthly, some of the investigated schools had not modified their playgrounds and other recreational facilities accessible to the physically challenged learners. Learners with physical disabilities may not excel very much in academics but some are very talented in co-curricular and that is why it is very important to help nurture their talents and some may end up earning their leaving from it. Further, the study found out that majority of schools had not modified chalkboards and classrooms to make them accessible to learners with wheel chairs. This
means, learners on wheel chairs are denied the opportunity to participate in full learning such as doing exercises on the chalkboard like their peers.

**5.1.2 Teaching / Learning Resources.**

The data based on the study’s second objective: ‘to establish the adequacy of teaching learning resources available to support learners with physical disabilities’ was subjected to descriptive statistics analysis via SPSS computer program and findings were as follows:

The study found out that nearly half of the schools did not have the adapted syllabus used to teach learners with physical challenges. Secondly, the findings revealed that majority of the school under study conducted lessons for learners with physical disability with the others. This is in favor with the government policy of integration and the Disabled People act (2011) education for all without discrimination.

Thirdly, on teachers preparing Individualized Educational Programmes (IEPs) for learners with physical needs, the study found out that in many schools do not conduct IEPs for physically challenged learners.

Fourthly, on the assistive teaching/learning devices, the study found out that 25% of the schools under the present study had devices to assist learners with physical disability while the rest of the schools do not have the devices.

In general, the present study found out that the majority of the schools under study do not have the required teaching/learning resources.

**5.1.3 Training of Classroom Teachers**

Based on the research objective: ‘to assess the training of classroom teacher supporting the needs of learners with physical disabilities and research question three, ‘the study found out the following findings:
On the aspect of inclusive secondary schools having trained teachers in special needs education, the study found out that almost all schools under the present study do not have adequate trained teachers in special education. On the same note, the present study found out that all teachers in inclusive secondary schools under investigation have strong sense of value to teaching learners with physical disabilities, that is, the respondents felt that special needs education add value in the teaching learners with physical disability.

Further the study also found out that half of the schools normally send their teachers to workshops and seminars in special needs education in order to equip them with innovative skills of teaching/handling learners with special needs. Another finding was that more than half of the secondary schools, regardless of whether their teachers are trained or not, support learners with physical disability.

5.1.4 Additional Support Provided Physically Challenged Learners

After analyzing the data on the supportive staff, the current study found out that:

First, on the aspect of hiring teachers, the study found out that less than half of the schools could not afford to hire specialized support personnel.

Second, the study findings revealed that very few secondary schools under study have teachers who collaborate with the other personnel to prepare IEPs for the learners with physical disability. The study further found out that slightly less than half of the secondary schools in Kisauni sub-county have teachers who are trained in SNE.

Finally, the study found out that more than a half of the investigated schools do not have any other support personnel except teachers. While on the other hand, psychotherapy services are provided to the physically challenged learners in few of the schools under study. The study also discovered that the majority of the schools under investigation are not visited by itinerant to offer advice to the regular teachers. The learners with disability get minimal medical support in over secondary schools.
In general, the present study found out that training of teachers in special needs education, academic qualification of teachers, length of devotion and commitment and regular in-service course in SNE have a significant contribution to the performance of learners with special needs.

5.2 Conclusions

In conclusion, the researcher made a generalization that all the public inclusive secondary schools in Kisauni sub-county have accommodated learners with physical disability in their teaching/learning programmes. The study further concluded that on average, less than half of the secondary schools under the study had modified the physical facilities such as bathrooms and toilets, play grounds and recreational facilities, classrooms and chairs/desks to suit the use of learners with physical disability.

Secondly, less than half of the schools investigated have the following required teaching/learning devices, conducting of Individualized Educational Programmes and adapted syllabus. From the findings the study concluded that only half of the schools had these resources among others. Therefore, the researcher generalized that over half of the schools do not have adequate required resources except a few.

Thirdly, on training of classroom teachers, the study concluded that nearly in all schools, there are no adequate trained teachers in special education. However, slightly more than half of the teachers are not trained in SNE. In addition, schools normally send their teachers to attend workshops and seminars in special needs education.

Finally, concerning additional support provided to learners with special needs, the study concluded that less than half of the schools can afford to hire specialized support personnel.
5.3 Recommendations of the Study

The current study has established existence of inadequate trained teachers in special education, unmodified physical facilities, inadequate support staff and teaching and learning resources. Therefore, based on these findings, the study made the following recommendations:

1. The study recommends that education stakeholders especially Teachers Service commission to consider employing more trained teachers in special needs education order to address the shortfall.

2. School Boards of Management (BOM) in the majority of inclusive secondary schools in Kisauni Sub-County should give priority to modifications of physical facilities such dormitories, classrooms; play grounds among others so as facilitate easy accessibility by learners with physical disability. In addition, the boards should also make available teaching and learning resources such as assistive devices, head pointers among in schools that do not have.

3. The stakeholders such as ministry of education through Special Education department should come up with strategic programmes of training teachers in special education.

5.4 Suggestions for Further Research

Based on the findings of the study, the researcher made the following suggestions for further research.

1. A comprehensive study on role of modified physical facilities and academic performance of learners with special needs would provide detailed insight on in inclusive education

2. A comparative study on implementation of inclusive education in Public secondary schools and private secondary schools in Mombasa County could provide
comprehensive information on the status of inclusive education especially in understanding of the unique challenges that face learners with physical disability.

3. A study on the status of school environment in enhancing inclusive education for learners with special needs in Mombasa County would add deeper and wider scope of understanding of the subject.
REFERENCES AND BIBLIOGRAPHY


Colombia MB: Center for technology in Education, Johns Hopkins University of Maryland. State department of education.


Universal Declaration of Human Rights (1948)
APPENDIX A

LETTER OF INTRODUCTION

PWANI UNIVERSITY

DEPARTMENT OF SPECIAL EDUCATION

P. O. BOX 196-80108

KILIFI, KENYA.

Dear respondent,

I am a postgraduate student studying for the degree of Masters in Special Needs Education at Pwani University. As part of partial fulfillment for the degree I am carrying out research on the topic “Assessment of secondary schools’ learning environment for inclusion of learners with Physical Disabilities in Secondary Schools in Kisauni Sub-county, Mombasa County, Kenya”. For this reason, I would appreciate if you would kindly spare a few minutes of your time to ask you a few questions in regard to inclusion of learners with physical disabilities in regular schools.

The information from this questionnaire will be treated with confidentiality and in no instance will your name be mentioned in this research. In addition, the information will not be used for any other purpose other than academic. Your assistance in facilitating the same will be highly appreciated.

Thank you.

Yours faithfully

Christine Chemutai Aiyabei

P.O.BOX 80231-80100-MOMBASA

TEL: 0720251132
Dear colleagues, I am a student at Pwani University pursuing a Master’s Degree in Special Needs Education. Am conducting a research study on Assessment of Secondary Schools’ Learning Environment for Inclusion of Learners with Physical Disabilities in Kisauni Sub-County as part of partial fulfillment for the degree. Please spare few minutes of your time to answer the following questions. The information from this questionnaire will be treated with confidentiality and in no instance will your name be mentioned in this research. In addition, the information will not be used for any other purpose other than academic. Your assistance in facilitating the same will be highly appreciated.

Thank you in advance for your co-operations.

Section A: General information.

1. Name of your school………………………………………………………………………………

Your gender: Male [ ] Female [ ]

2. What is your highest academic qualification?

C.P.E/K.C.P.E K.C.E/K.C.S.E [ ]
E.A.A.C.E/K.A.C.E [ ]
B.ED / B.SC [ ] M.ED [ ]
PHD [ ]
Other, specify……………………………………………………………………………………………

3. How long have you been teaching in this school?

2-5years [ ] 6-10years [ ] 10-15years [ ] Over 15years [ ]
4. My initial professional training adequately prepared me to teach learners with physical disabilities.

Very Adequately  
Adequate  
Fairly Adequate  
Not Adequately  

5. I am encouraged by my administrators to attend conferences/workshops on special needs education

Strongly Disagree  
Disagree  
Neither  
Agree  
Strongly Disagree  

SECTION B: Other information

6a) Do you have any training in special needs education?

Yes  
No  

b) If your answer in ‘a’ is yes, to what level of professional training?

Certificate  
Diploma  
Degree  
Masters  
Any other, specify………………………………………………

7. In your opinion, what is the level of importance of the following aspects in relation to inclusive education?

Use the following codes to answer this question.

1=Very relevant  2=Relevant  3=Fairly Relevant  4=Irrelevant

<table>
<thead>
<tr>
<th>Teacher Academic and Professional factors</th>
<th>Very relevant</th>
<th>Relevant</th>
<th>Fairly relevant</th>
<th>Irrelevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training in special need education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic qualification</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of teaching experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8. Please mark your response on the level of accessibility of each item on adaptation and modification of the school environment to suit learners with physical disabilities using the following scale:

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Accessibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easily Accessible</td>
</tr>
<tr>
<td>1. Classrooms and dormitories</td>
<td></td>
</tr>
<tr>
<td>2. Library and laboratories</td>
<td></td>
</tr>
<tr>
<td>3. Pavements and pathways</td>
<td></td>
</tr>
<tr>
<td>4. Bathroom and toilet doors</td>
<td></td>
</tr>
<tr>
<td>5. Playground and other recreational facilities.</td>
<td></td>
</tr>
</tbody>
</table>

9. Please mark your response on the level of acceptance to each item on adaptation and modification of the school environment to suit learners with physical disabilities using the following scale:

1-Strongly Disagree (SD)  2-Disagree (D)  3-Neither (N)  4-Agree (A)

5-Strongly Agree (SA)
<table>
<thead>
<tr>
<th>Teaching and learning resources</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Learners with physical disabilities can be taught in the same way like other learners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Learners with physical disabilities participate actively in adapted games / sports for the challenged</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Tasks/ assignments are adapted to fit the diversity of learners in the classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Head pointers, page- turners, pencil grips among others are available for learners with physical disabilities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Adequate games facilities for learners with physical disabilities are available.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Adapted syllabus for learners with physical challenge is available.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Teachers prepare an Individualized education program (IEP) for learners with special needs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Learners with physical disabilities are supported by personnel such as psychotherapists, occupational therapists, speech therapists among others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Learners with physical disabilities are assessed with regular learners and given extra time to compete their work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Learners with physical disabilities perform as good as the regular learners.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. What is the level of support service available for the learners with physical disabilities?

Use the following scale to indicate your level of acceptance;

1-Strongly Disagree (SD) 2-Disagree (D) 3-Neither (N) 4-Agree (A) 5-Strongly Agree (SA)
<table>
<thead>
<tr>
<th></th>
<th>Support Team</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Learners with physical disabilities access physiotherapy services within the school when need be.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Learners with physical disabilities are taught as per the IEP.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>An itinerant (teacher trained in special needs education) do visit our school occasionally to advice regular teachers on technical support for learners with special needs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Professional personnel work together to draw an IEP for learners with special needs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Learners with disabilities can access medical support anytime they are in need.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Counseling services is always available for learners with physical disabilities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

QUESTIONNAIRE FOR HEAD TEACHERS

Dear Heads,

This study is on Assessment of Secondary Schools Learning Environment for Inclusion of Learners with Physical Disabilities in Kisauni Sub-County. In this regard I would be very grateful if you could spare your time to answer the questions that follow. Your responses will be treated with confidentiality. I appreciate your co-operation.

Section A: General Information

1. Name of the school: .................................................................

2. Gender: male □ female: □

3. Your age:

   Under 30 years □ 31-40 years □ 41-50 years □ 51 years and above □

4. Nature of the school: Day □ Boarding □ Day/boarding □

5. Your enrolment:

   Boys □ Girls □ Mixed □

6. Approximate number of learners in your school:

   Less than 100 □ 100-200 □ 500-800 □ 1000 and above □

7. Which of the following handicapping conditions are represented in your school?

   Physical disabilities □ Visual impairment □
   Hearing impairment □ Emotional and behavioral difficulties □
   Mental retardation □ Autism □
   Multiple disabilities □
   Learning disabilities □

   Other impairments, specify..........................................................
Section B: Other Information

8. What is your highest academic qualification?
  - C.P.E/K.C.P.E  
  - K.C.E/K.C.S.E  
  - E.A.A.C.E/K.A.C.E  
  - B.ED  
  - M.ED  
  - PHD 
  Other, specify…………………………………………………………………………………………

9. Number of years you have been a head teacher
  4-9  
  10-20  
  21 and above 

11. What is your level of understanding of the Ministry of Education policy on special Need Education?
  - Expert  
  - Moderate  
  - Minimal  
  - Not at all  

12. Did your initial professional training adequately prepare you to teach learners with physical disabilities in an inclusive set up?
  - Very Adequately  
  - Adequate  
  - Fairly Adequate  
  - Not Adequately  

13. Please mark your response on the level of adequacy of teaching learning resources for learners with physical disabilities.

<table>
<thead>
<tr>
<th>Teaching learning resources</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Available and adequate</td>
</tr>
<tr>
<td></td>
<td>Available but not adequate</td>
</tr>
<tr>
<td></td>
<td>Not available</td>
</tr>
</tbody>
</table>

14. In your own assessment, how do learners with physical disabilities perform academically?
  - Very well  
  - fairly well  
  - Average  
  - below average  

## APPENDIX D

### OBSERVATION CHECKLIST.

#### A. Accessibility of the School-Design Consideration.

<table>
<thead>
<tr>
<th>School code</th>
<th>Pavements/ pathways available</th>
<th>Width 0.9-1.8x1.2m</th>
<th>Ramps available</th>
<th>0.9-1.2m accessible</th>
<th>Playground to all</th>
<th>Storied Buildings Have ramps</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## B. Physical Facilities

(i) Classrooms

<table>
<thead>
<tr>
<th>School code</th>
<th>Classroom door-0.9m wide</th>
<th>Window sills-0.6-0.7m high</th>
<th>Accessible window handle</th>
<th>Laboratory sink 16.5cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(ii) Dormitories

<table>
<thead>
<tr>
<th>School code</th>
<th>Height of switches(0.7-0.9m high)</th>
<th>Door(0.9m wide)</th>
<th>Bed size(wheelchair height)</th>
<th>Bottom edge of flat mirror(0.9m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(iii) Bathrooms and Toilets

<table>
<thead>
<tr>
<th>School code</th>
<th>Bathroom floor have non slip material.</th>
<th>Rooms are spacious with guard rails.</th>
<th>Sitting toilets available</th>
<th>Flashing and toilet papers arrangements lowered</th>
<th>Grab bars of height between 0.85m and 0.5m are available</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Learning Facilities

The following learning facilities for physically challenged learners are available/ not available. Use tick (✓) for available and (×) for non-available.

<table>
<thead>
<tr>
<th>School code</th>
<th>Portable reaching racks</th>
<th>Head pointers</th>
<th>Standing tables</th>
<th>Adjustable seats</th>
<th>Book holders</th>
<th>Pen/pencil grips</th>
<th>Paper Stabilizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX E

### NARRATIVE SUMMARY

<table>
<thead>
<tr>
<th>NAME OF SECONDARY SCHOOL</th>
<th>LEARNERS</th>
<th>TEACHERS</th>
<th>PRINCIPALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shimo la Tewa</td>
<td>765</td>
<td>44</td>
<td>1</td>
</tr>
<tr>
<td>Mssph</td>
<td>310</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>Hassan Joho Girls</td>
<td>143</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Maweni Mixed</td>
<td>406</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>Mtopanga</td>
<td>44</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Mwakirunge</td>
<td>180</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Light Academy</td>
<td>132</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>Nyali Academy</td>
<td>52</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>New Apak</td>
<td>97</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>VerleryeMcmillan</td>
<td>138</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Mt.michael</td>
<td>124</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Bi Nuru</td>
<td>310</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>Eagle wing</td>
<td>85</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Jcc</td>
<td>87</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Kisauni high</td>
<td>283</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Bamburi community</td>
<td>505</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Gremon High</td>
<td>103</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Talent Academy</td>
<td>150</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Sheikh Khalifa</td>
<td>709</td>
<td>53</td>
<td>1</td>
</tr>
<tr>
<td>Brainsworth Bamburi</td>
<td>346</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>BrainsworthMsa</td>
<td>304</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Imara</td>
<td>473</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Junda</td>
<td>253</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>St.Francis</td>
<td>127</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>
APPENDIX F

THE 47 COUNTRIES OF KENYA

SOURCE: GOOGLE MAPS
APPENDIX G

A MAP OF MOMBASA COUNTY

SOURCE: GOOGLE MAPS
APPENDIX H

CERTIFICATE OF ETHICAL APPROVAL

NACOSTI ACCREDITED

ETHICS REVIEW COMMITTEE
ACREDITED BY THE NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY
AND INNOVATION (NACOSTI, KENYA)

CERTIFICATE OF
ETHICAL APPROVAL

THIS IS TO CERTIFY THAT THE PROPOSAL SUBMITTED BY:

CHRISTINE C. AIYABEI

REFERENCE NO:
ERC/MED/003/2015

ENTITLED:
Assessment of Secondary School learning environment for inclusion of
learners with physical disabilities in Kisauni Sub County, Mombasa
County, Kenya

TO BE UNDERTAKEN AT:
MOMBASA COUNTY, KENYA

FOR THE PROPOSED PERIOD OF RESEARCH
HAS BEEN APPROVED BY THE ETHICS REVIEW COMMITTEE
AT ITS SITTING HELD AT PWANI UNIVERSITY, KENYA
ON THE 8th DAY OF FEBRUARY 2016

CHAIRMAN  SECRETARY  LAY MEMBER

Pwani
APPENDIX I

RESEARCH PERMIT

REPUBLIC OF KENYA
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
STATE DEPARTMENT OF EDUCATION

Telegram: "SCHOOLING", MOMBASA
Telephone: KSN
Tel: 0713375360
Email: deokisauni@gmail.com

SUB COUNTY EDUCATION OFFICE
KISAUNI
P. O. BOX 10651
BAMBURI
MOMBASA

22/2/2016

TO WHOM IT MAY CONCERN

RE: PERMISSION TO PROCEED TO THE FIELD AND COLLECT DATA.
This is to introduce Christine C. Aiyabei a student of Pwani University. Her registration number is ERC/MED/003/2015. She has been permitted to go to schools in Kisauni Sub county to collect data in order to complete her research project.

Kindly extend to her any assistance that may enable her to collect the information she requires.

MOSES MAKAU
FOR: SUB-COUNTY DIRECTOR OF EDUCATION
KISAUNI.