ACCESSIBILITY TO SPECIALISED SERVICES BY LEARNERS WITH PHYSICAL DISABILITY IN SELECTED SCHOOLS OF KASAMA AND LUSAKA DISTRICTS

BY

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A Dissertation submitted to the University of Zambia in partial fulfilment of the requirements for the award of the Degree of Master of Education in Special Education

THE UNIVERSITY OF ZAMBIA

LUSAKA

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DECLARATION

I, **Joseph M. Munanga,** declare that this dissertation is my own work and that all the works of other persons used have been duly acknowledged, and that the work has not been presented to any other institution for similar purposes.

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APPROVAL

This dissertation of **Joseph M. Munanga** has been approved as fulfilling the requirements or partial fulfilment of the requirements for the award of the Degree in Master of Education in Special Education of the University of Zambia.

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DEDICATION

I dedicate this dissertation to my last born daughter Faith Chisela Munanga who was born at a time when I was working on this document; as such I could not give her the care and attention she needed.

I equally dedicate the document to all special education teachers and all other professionals throughout the world who dedicate their lives to ensure children with special needs attain an education and live a better life.

ACKNOWLEDGEMENT

I thank God, my refuge, fortress and my shield for giving me life and preserving my soul, body and spirit. Without His grace, I would not have completed my studies.

I will remain indebted to my supervisor Dr Beatrice Matafwali who guided me in the writing of this dissertation. Her feedback and guidance will always be remembered and appreciated. Equally, her comments and critique challenged me to become a better scholar and researcher. For that I will forever remain grateful. I would also want to thank Dr Joseph Mandyata, our programme coordinator for his fatherly guidance. My other thanks go to Dr. Daniel Ndhlovu for inspiring me to always aim high in life. I am equally indebted to all lecturers in the Department of Educational Psychology, Sociology and Special Education.

My gratitude also goes to the school administration, staff, parents and all the learners of all the schools where I collected data. I thank all the Education Standard Officers and all the service providers from Kasama and Lusaka respectively that took their precious time to avail me with the information for this study. I am equally indebted to my Head teacher Mrs Banda, C.L. (Mpika Boys Secondary), the DEBS (Mpika) and the PEO (Muchinga Province) for giving me permission to pursue my studies.

My other profound gratitude goes to my lovely wife Elizabeth Lukonde for permitting me to pursue my studies and use the family resources. I was aware my going to pursue further studies prior to the upgrade of my salary would bring untold misery to her and my children. I thank my children Mundia, Joseph, Bwembya, Tabo and Faith Chisela for shaping my vision.

I thank my young brother Nosiku for sparing his only laptop so that I could use at school. In the same vain I thank my parents for everything they have done for me.

I will also remain indebted to Mr Richard Mweene (Mulena), Northern Province Police Commissioner for hosting me when I was collection data in Kasama. Lastly but not the least, I thank all my classmates especially Ndume Sarah, Chisala Moses and Zulu Brago for all their support and a shared vision.

ABSTRACT

The study was conducted in selected schools of Kasama and Lusaka districts and was aimed at establishing whether learners with physical disability (PD) had access to specialised services. Due to ethical issues, the five schools that participated in the study were given pseudonyms; Dudu, Teka, Don, Hope and Venus. A total of 109 respondents participated in the study comprising 25 teachers, 5 head teachers, 40 pupils, 15 parents, 8 caregivers, 10 service providers and 6 education standard officers. The study used a descriptive case study design and was purely qualitative. The study used semi-structured interview guides, focus group discussion guides, observation checklists and questionnaires to collect data. Thematic approach was used to analyse data and the Microsoft Office Excel was used to generate charts. The research has established that learners with PD in both districts accessed counselling and teacher aide services. Learners in Lusaka also schools accessed more services such as orthopaedic and physiotherapy services. Additionally, leaners in both districts had access to mobility aids. With regards to accessibility to the school built environments, the research has found that generally school environments in Lusaka schools were more accessible than those in Kasama schools. The study has equally revealed that all the door handles were not accessible to learners with shorter stature and those using wheelchairs. All the accessible services in the sampled schools were not adequate.

The major barriers that limited learners with PD from accessing specialised services were less funding from the government and shortage of service providers. Despite the specialised services not being adequate, the respondents felt that the services that were accessible were significant to the learners. For example, mobility aids enhanced mobility and orthopaedic surgeries helped in correcting deformities. The study therefore recommends that government must increase funding to Special Education to enhance learners' access to specialised services. Government must create a Directorate of Special Education so as to improve accessibility to specialised services in the country.

Keywords: *Accessibility, Specialised services, Physical disability; Barriers; Significance.*

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ACRONYMS AND ABBREVIATIONS

ACPF - African Child Policy Forum

CWDs - Children with disabilities

CRC - Convention on the Rights of the Child

CRPD - Convention on the Rights with Persons with Disabilities

CSO - Central Statistical Office

DEBS - District Education Board Secretary

ESO - Education Standard Officer

ICF - International Classification of Functioning

IDEA - Individuals with Disabilities Education Act

IEP - Individualised Education Plan

MoGE - Ministry of General Education

MoF - Ministry of Finance

MoH - Ministry of Health

NYCDOE - New York City Department of Education

PD - Physical disability

PWDs - Persons with disabilities

UNESCO - United Nations Educational, Scientific and Cultural Organisation

UNICEF - United Nations International Children's Emergency Fund

UTH - University Teaching Hospital

WHO - World Health Organisation

OPERATIONAL DEFINITION OF TERMS

Accessibility:	The ability by learners with PD to access and benefit from specialised services such as mobility aids, orthopaedic services, adapted environments and educational programmes.
Barriers:	Obstacles such as inaccessible school environments and negative attitudes that prevent learners with physical disability from accessing specialised services.
Curriculum differentiation:	Modification of the content, teaching/learning methods and resources so at to suit the needs of each learner.
Learner:	A person with a physical disability enrolled in a mainstream school, special school or unit.
Physical disability**:**	A physical abnormality relating to any deformity in the bodily stature that may affect physical or academic functioning and results in the need for specialised services.
Service providers:	Professionals/institutions who administer or provide specialised services to learners with PD.
Specialised equipment:	A device that can be used to maintain or improve functional capabilities of learners with physical disability. Examples include a wheelchair, prosthetic and an adapted chair.
Specialised services:	Support services such as physiotherapy, orthopaedic and school physiological services provided to learners with physical disability.

CHAPTER ONE: INTRODUCTION

1.1 Overview

This chapter comprises the background of the study, statement of the problem, purpose of the study, research objectives and research questions, significance of the study, conceptual framework and the summary of the chapter.

1.2 Background

It is universally acknowledged that majority of children with disabilities (CWDs) especially in developing countries continue to be excluded from formal education on account of several barriers (ACPF, 2011 and WHO, 2015). For instance, an estimated 90 percent of school-age CWDs in developing countries are excluded from the education system (Filmer, 2008; WHO, 2011; UNESCO, 2015). CWDs are far less likely to go to school or to stay in school for a variety of reasons. According to Bob (2014), these reasons deny them their right to education as recognized in the Convention on the Rights of the Child (CRC) and the Convention on the Rights of Persons with Disabilities (CRPD). UNESCO (2007) observe that 10 percent of all CWDs in the world are in school and of this number, only half complete their primary education, with many leaving after only a few months or years. This would mean that only 5 percent of all CWDs worldwide are able to complete primary school. Furthermore, the World Bank (2003) has estimated that out of 115 million children who were out of school, 40 million of them had disabilities. This is supported by Filmer (2005) who postulates that disability is a stronger predictor of educational enrolment than either gender or socio-economic class. In a study of eleven developing countries, Filmer found that the enrolment rates for CWDs did not vary much by family's income and also that the disabled children were less likely to start school and less likely to transition from one grade to the next. Additionally, Shantha (2011) contends that the chances of a child with a disability not attending school in some countries are two or three times greater than a child without a disability.

In Zambia, the Central Statistical Office (CSO, 2012) reports that there were a high percentage of persons without disabilities who were attending school (34.6 percent)

compared to 16.6 percent for persons with disabilities (PWDs). Additionally, the CSO (2012) also revealed that the highest level of education attained by the majority of PWDs was primary education, and also that the proportion of PWDs that had never attended school was higher (34.4 percent) than that of persons without disabilities (20.9 percent).

These low percentages of CWDs accessing education are due to multiple barriers that exist which limit the implementation of inclusive education (ACPF, 2014). One among such barriers according to the United Nations (2015) is the absence of support services. WHO (2015) asserts that not all PWDs require support services but many do because support services are a prerequisite for children and adolescents with disability to attend school. Consequently, the WHO/World Bank (2011) contends that there is need to provide additional support services to CWDs so as to enable them have a good quality of life, make them excel in academics and to enable them participate in many activities on an equal basis with others. Chiriacescu et al., (2010) equally argues that one of the greatest needs of PWDs in terms of access to education is the provision of support services which compensate for the additional needs that the learning environment does not provide. Support services provided to children with special education needs are also referred as specialised services.

Being in school is only the first step but is not enough to guaranty success for learners with disabilities especially those with severe disabilities. Such learners cannot benefit from special education solely by placing them in a special school, unit or an inclusive school but rather when they have access to specialised services in totality. For example, a school may have many accessible features such as ramps, wider doorways and accessible toilets but failure to provide a wheelchair to a quadriplegic learner would mean denying such a child the right to education (UNESCO, 2014).

According to Dixon (2010), specialised services are an extended category of services which are needed to address the more complex needs of people with severe disabilities. Furthermore, according to the Individuals with Disabilities Education Act (IDEA, 2004), which is an American legislation that advocates for the provision of the same education opportunities for CWDs as those students without disabilities,

support services are needed to assist a learner with a disability benefit from an instruction. For instance, learners with physical disability may require services such as mobility aids, occupational therapy, speech therapy, school psychological services, curriculum differentiation and adapted environment. Most specialised services cannot be administered without an array of professionals such as speech and language pathologists, special education teachers, physiotherapists, occupational therapists and school psychologists (Smith, 2007). Apart from specialised services, learners with PD also require specialised equipment such as prostheses and wheelchairs.

It is worthy to mention that according to IDEA (2004), health and education specialised services such as psychological and physiotherapy services can only be provided to a learner after a team of paraprofessionals (which includes the parent and the special education teacher) have assessed and have found that the disability/disabilities adversely affect the learner's educational performance and the consequent need for special education services. These services are documented in the students Individualised Education Program (IEP). An IEP is a document that specifies the specialised services, modification and adaptation to be done to the programme content which is tailored to the individual student's needs in order to make him or her access or benefit from special education (Gibb and Dyches, 2007).

Increasing accessibility to education for CWDs is a developmental and human rights issue which calls for a series of interventions in terms of policy design, service delivery and programming. According to UNESCO (2002), inclusive education is a system of education in which all the pupils with special educational needs are enrolled in ordinary classes and are provided with support services and an education based on their forces and needs. Therefore, accessibility to specialised services by learners with disabilities is an indicator of an inclusive education.

In the same line, for learners to be able to benefit from specialised services, the services and specialised equipment must be accessible to them. The word accessibility is a broad concept which can have different meanings depending on how it is used. For example, the Americans with Disability Act (ADA, 2016) defines accessibility as the ability to access the functionality, and possible benefit of some

system or entity and is used to describe the degree to which a product such as a device, service or environment is accessible by as many people as possible. For the purpose of this study, the word 'accessibility' has been used in reference to physical access which refers to infrastructure changes (for example ramps, wider doors, adapted bathrooms) that maximize the child's ability to participate (Beckman et al., 2016), specialised equipment, health related services and other services. Furthermore, the word has been used to mean usability. The services must not only be accessible but the learners must derive benefits from them so as to better their lives and to enable them access the general education curriculum on an equal basis with other learners without disabilities.

However, evidence from studies around the world has demonstrated that several learners with disabilities including those with physical disability hardly access specialised services. For example, Pechak and Thompson (2007) and the WHO (2003) highlight that out of 640 million people living with disabilities, 80 percent live in low-income countries with inadequate access to health and rehabilitation services. In addition, the ACPF (2014) indicate that only one in every ten children with disabilities on the continent of Africa has access to education and that majority of such learners are deprived of many services that could enable them develop to their full potential. Furthermore, the WHO/World Bank (2011) estimates that 30 million people in Africa, Asia and Latin America require an estimated 180 000 rehabilitation professionals.

Notwithstanding the fact that several studies have been conducted on this topic in other parts of the world, UNICEF (2008) reports that there is limited information about available services for disabled children in Zambia. Information on accessibility to these services is also scarce according to the reviewed literature. This therefore necessitated the need to carry out this study so as to fill this knowledge gap. It is worthy to point out that although children with physical disability can have other associated impairments such as hearing, visual, cognitive or verbal language difficulties (Donald et al. 2015 and UNESO, 2006), this study focused much on physical body disorders such a mobility impairments that interfere with body functioning and other general execution of daily tasks.

1.3 Statement of the problem

Accessibility to specialised services and devices is a prerequisite for learners with physical disability to fully access formal education and live a better life (WHO, 2015). However, a growing body of global research (for example, World Bank, 2004, Pechak and Thompson, 2007 and Donald et al., 2015) has revealed that specialised services are scarce or non-existent in many low or middle income countries. In addition, literature reviews seem to suggest that no comprehensive study on the accessibility to specialised services by learners with PD has been conducted in Zambia. Consequently, little is known about accessibility to specialised services by learners with physical disability.

1.4 Purpose of the study

The study was aimed at establishing whether learners with physical disability had access to specialised services.

1.5 Objectives of the study

The objectives of the study were:

a) To establish the nature of specialised services accessible to learners with physical disability.
b) To determine the barriers limiting learners with physical disability from accessing specialised services.
c) To assess the views of the head teachers, teachers, parents, service providers and learners on the significance of specialised service to learners with physical disability.

1.6 Research questions

The study sought to have the following research questions answered:

a) What nature of specialised services did learners with physical disability access?
b) What were the barriers limiting learners with physical disability from accessing specialised services?

c) What were the views of the head teachers, teachers, parents, service providers and learners on the significance of specialised services to learners with physical disability?

1.7 Significance of the study

It is presumed the findings of this study may transform the mind-set of policy/decision makers at national, provincial, district and school levels to find better avenues to ensure learners with PD who require specialised services have access to them. Through the findings of the study, government may increase funding to Special Education so as to enhance the provision of specialised services to learners with PD. The study may as well provide valuable insights to the educators at various levels to understand and appreciate the critical role played by specialised services in helping learners with PD to access education. In addition, it is also hoped that the findings of the study would add literature on the accessibility to specialised services for learners with PD. Finally, it is equally hoped that the findings of the study would form a base for potential future studies related to accessibility to specialised services for learners with PD and other learners with different disabilities.

1.8 Delimitation of the study

Due to financial constraints and the large number of the potential respondents in the study population, the present study focused only on 5 selected schools from Kasama and Lusaka districts respectively.

1.9 Limitation of the study

The first limitation of the present study was financial constraints. As a result, the researcher conducted the research alone without research assistants. This in a way might have affected the validity of the findings of the study. This is because the researcher as a primary instrument for gathering data, is limited by being human, hence mistakes could have been made, opportunities missed, and personal biases could have interfered at any point of the research process (Merriam, 1998), these potential biases may have gone unchecked possibly during data collection and analysis (Yin, 2003). However, precautions such as the pilot testing of the research instruments, use of different methods of collecting data could have minimized the

biases that might have been arisen. The other limitation was that since the study used a small sample, the findings of the study cannot be generalised beyond the specific population from which the sample was drawn. The other limitation encountered in the course of the study was that it was not easy to transcribe the interviews because some recordings were not clear as some learners' speech was unintelligible.

1.10 Conceptual framework

A conceptual framework is a model presentation where a researcher conceptualizes or represents the relationship between variables in the study and shows the relationship graphically or diagrammatically (Orodho, 2005). The conceptual framework of this study therefore is anchored on the three main actors that can collaborate to enhance access to the provision of services to CWDs. The World Bank (2004) posits that three key stakeholders must collaborate in harmony to enable any group of people to adequately access services. These three key actors are the service providers, service users and the decision or policy makers.

The decision or policy makers are individuals, institutions, organisations who make policies/decisions at various levels. The government is at the helm of policy/decision making in most countries. Dixon (2010) and the WHO/World Bank (2011) observe that the government being the key stakeholder does not only provide services but regulates them to ensure the service providers provide quality services. It is therefore cardinal to have policy/decision makers with a positive mind-set at all levels to ensure that they make decisions that enhance learners' access to specialised services. For instance, the head teacher who knows the significance of an adapted environment and has the right attitude will channel the resources towards making sure the school environment is accessible to all learners. Furthermore, in order to enhance access to services, PWDs must be included in decision making at all levels. This is because PWDs have unique insights about their disability and situation, nevertheless WHO (2015) notes that PWDs have been excluded from the decision-making process about issues that directly affect their lives. According to Article 4 of the CRPD, PWDs through their representative organizations should be fully consulted and actively involved in all stages of formulating and implementing policies, laws and services that relate to them (UNCRPD, 2006).

The service providers include the different professionals who provide specialised services to learners with disabilities and their families, for example education psychologists, teacher aides, physiotherapists, orthopaedics and many others. Service providers must have the right attitude towards CWDs and they must as well have adequate knowledge and skills to effectively manage the needs of these learners. The WHO/World Bank (2011) highlights that service providers may be unsure how to address health needs directly related to a disability and how to distinguish between health problems related and unrelated to a disability.

The service users include the learners with disabilities and their families. The service users must have knowledge on where to get the services. ACPF (2014) reports that many CWDs and their families often do not know such services or how to access them. The family members are a significant component in the provision of specialised services because what affects a child also affects the entire family. Berker and Yalcin (2010) argue that physical impairments that create lifelong disability to the children cause psychological disturbance in the family, hence the parents are in need of constant support. In the same line, Turnbull et al. (2010) elaborate that according to the family systems theory, a family is an interconnected system with the activities of each member affecting all other members of the family as a unit. In other words, what benefits or stresses the child is also likely to benefit or stress the family as a whole because of the connections among the family members. Therefore service providers can extend services such as counselling to the family members as well.

Additionally, Mittler et al. (2000) further observe that parents have knowledge, skills and experience in bringing up the child with a disability which they can offer to the service providers. Likewise, the knowledge and experience which the professional have accumulated in working with the disabled children can be passed on as skills to the parents to enable them help their child living with disability. To sum it up, where the three actors collaborate well with the right attitude and resources, there is a greater likelihood that CWDs who require specialised services can have access to them in totality. The relationship among the three main actors and what can happen if the three collaborate in harmony is shown diagrammatically in Figure 1.

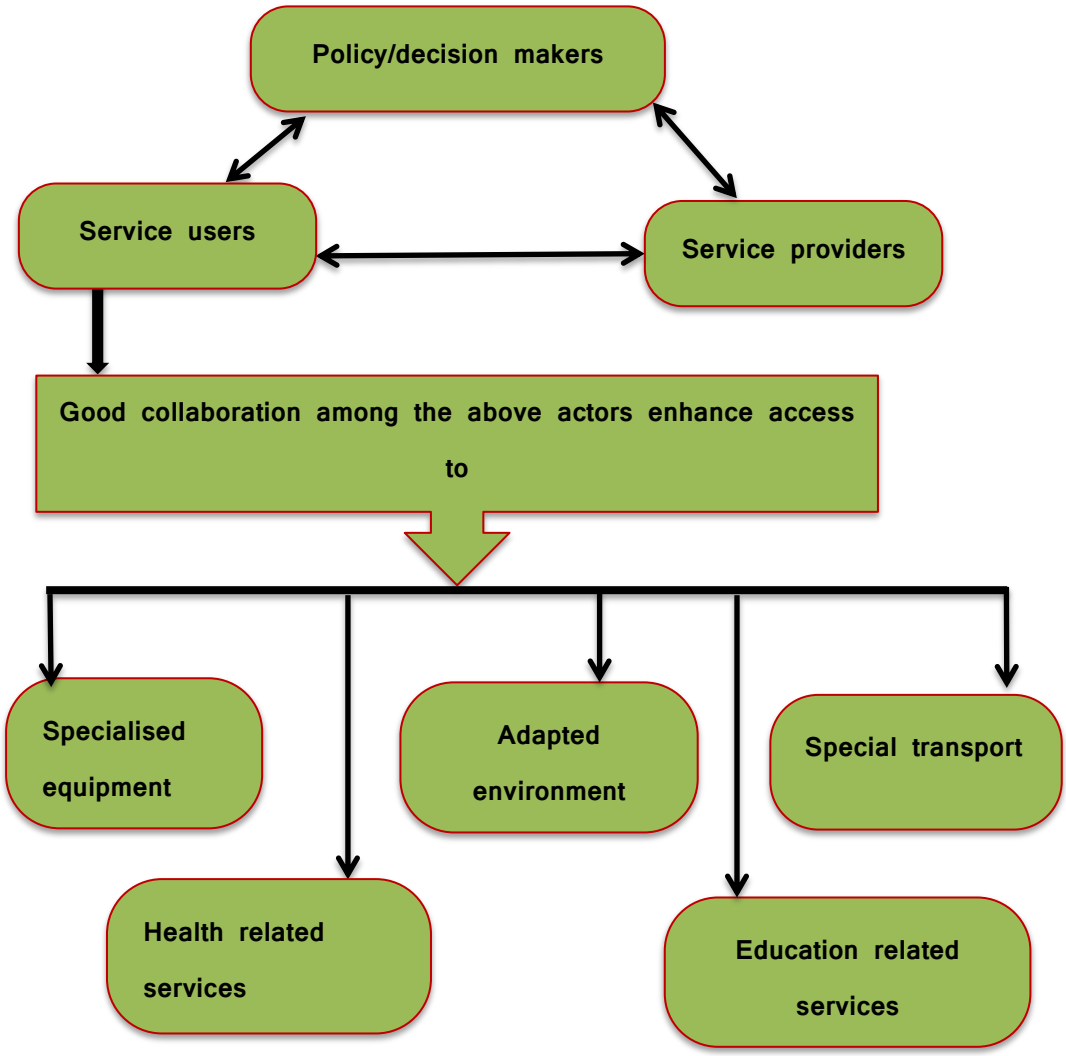

Figure 1: Conceptual framework ***(****Source: Slightly adapted from the World Bank, 2004:19*)

1.10 Summary

This chapter presented the background information on the accessibility to specialised services by learners with physical disability. The background starts by providing statistics on the number of CWDs who are not in school and the statistics show that many are not in school due to various barriers. Later the term specialised services is introduced and an explanation on eligibility to specialised services has been provided. The chapter also explains what had necessitated the need to undertake the research. It provides the purpose of the study, the significance of the study and the conceptual framework. The chapter ends with the operational definition of terms. The next chapter reviews the literature.

CHAPTER TWO: LITERATURE REVIEW

2.1 Overview

This chapter reveals relevant literature on the accessibility to specialised services by learners with PD. The chapter comprises the following sub-titles: the concept of physical disability, characteristics of physical disability, global disability statistics, disability statistics in Zambia, the International Classification of Functioning (ICF) and the Human Rights models, the CRPD, and Zambia's specific legislation related to accessibility, accessibility to specialised services, barriers that can limit learners with PD from accessing specialised services, nature of specialised services and their significance and the summary of the chapter.

2.2 The concept of physical disability

A physically disabled person is any person with a physical abnormality relating to the loss of bodily limbs or any deformity in the bodily stature (CSO, 2012). Additionally, physical disability refers to the inability to use legs, arms, or body trunk effectively because of paralysis, stiffness and pain (WHO, 2008a). A physical disability may be temporary or permanent and may affect parts of the body or the whole body. Deon (2001) observes that persons with physical impairments may be affected by a number of disabling conditions including seizure disorders, visual deficits, hearing problems, problems of perception, attention deficit, inconsistence in using senses, lack of concentration, hyperactivity disorder, learning disorders, speech impairments and even mental retardation.

In terms of classification, physical disability can be classified into two groups of neuromotor and muscular skeletal conditions (Liptak, 2007). Neuromotor impairments result from a damaged central nervous system (the brain and the spinal cord) and individuals affected have difficulty in controlling their muscles and movement (Smith, 2007). Examples of neuromotor impairments include cerebral palsy, seizures, spinal cord disorders, polio, muscular dystrophy and multiple sclerosis. On the other hand, individuals with musculoskeletal impairments also have challenges with muscular and movement control (Smith, 2007). Examples include limb deficiencies, juvenile arthritis and skeletal disorders.

2.3 Nature of children with physical disability

Majority of children with physical disability are unable to use their legs, arms or the body trunk effectively because of paralysis, stiffness, pain or other impairments. Goyal (2000) writes that some of the common physical characteristics may include paralysis, altered muscle tone, an unsteady gait, inability to use one or more limbs, difficulty with gross-motor skills such as walking or running and difficulty with fine-motor skills such as buttoning, clothing, printing, writing and many more. Supporting this view, Spina Bifida and Hydrocephalus Association of Canada (2010), provides an example by stating that children with spinal bifida sometimes have an open lesion on the spine which significantly damages the nerves and the spinal cord. The Association further explain that even if the lesion is surgically repaired shortly after birth, the nerve damage is permanent as a result people with spinal bifida may experience low limb paralysis and fine motor impairment. Similarly, Chung et al. (2008) assert that many children with cerebral palsy experience difficulties participating in daily activities due to the impairment in mobility and positioning as well as other neurological impairments. When motor movements affect arms and hands, a person may find it hard even to manipulate simple classroom equipment such as using a pen, opening a book or performing activities for daily living. This is why the Quebec MOE (2015) writes that because of poor fine motor skills, slow performance, muscle weakness, extreme tiredness, and paralysis or reduced range of motion; students with motor impairments are at a disadvantage in learning situations compared with other students.

2.4 Disability statistics in Africa and in the world

More than one billion people, or 15% of the world's population, have a disability. Out of this number, it is estimated that some 93 million children or 1 in 20 of those under 15 years of age live with a moderate or severe disability (WHO, 2015). In the same vein, the United Nations (2015) explains that the World Disability Report conducted by the WHO/World Bank in 2002-2004 found that the prevalence of disability was higher (18 percent) in low income countries and lower (12 percent) in higher income countries and that the evidence also suggested that the rate of disability was slightly higher in rural areas than in urban areas probably because

poverty rates were higher and access to health care was low. Additionally, Africa has one of the largest populations of CWDs in the world due to factors such as armed conflict, poverty and lack of adequate healthcare services (ACPF, 2014).

2.5 Disability statistics in Zambia

According to GRZ (2013), there is no recent and accurate data on the prevalence of the PWDs in Zambia due to many cultural barriers where most of the children are hidden because disability is still regarded as a misfortune or a punishment from God for the family's wrong doings. The United Nations (2015) further explains that societal norms such ascribing blame for the impairment on the behaviour or past sins of parents and lack of knowledge and understanding on the causes of some impairments have resulted in some parents and caregivers ascribing a lower value to the right of a child with a disability and hiding them way from the opportunities that could make them realise their full potential. These reasons seem to have negatively affected government and other agencies involved in compiling statistics for CWDs.

A survey on living conditions among PWDs (Loeb et al., 2008) found that the prevalence of disability in Zambia was 13.3 percent. According to the CSO (2012) and National Policy on Disability (2015), the magnitude of childhood disability in Zambia is not known but the most common disability reported was physical disability with 38.8 percent. Finally, the preliminary results of the National Disability Survey conducted in 2015 by the CSO and the University of Zambia, indicate a disability prevalence of 7.2 percent (UN, 2017).

2.6. The ICF and the Human Rights Models

The desire to have learners with PD access specialised services is premised on the International Classification of Functioning, Disability and Healthy (ICF) model which is an integration of the medical and social model into a biopsycho-social model (WHO, 2001). Disability is defined in the medical model as caused by a disease, an injury or other health conditions and it is considered intrinsic to the individual (Mitra et al., 2011). A person's limitations in their life in this model are due to impairments and consequently, the panaceas to these limitations are often associated with medical and healthcare intervention. Therefore the key actors to

solve the limitations within this model tend to be through rehabilitations by medical professionals such as physicians and physiotherapists. The belief in the medical model is that impairments make PWDs fail to access various services. In this model, the problems are embedded in the sickness of individual and have nothing to do with the society.

On the other hand, the social model views disability as a social construct implying it is created by the social environment and addressing it requires social change. Carson (2009) observes that disability through the social model is understood as an unequal relationship within a society in which the needs of people with impairments are often given little or no consideration. The social model highlights two key elements that cause disability; these are physical and attitudinal barriers. People with impairments are disabled by the fact that they are excluded from participation within the mainstream society as a result of barriers such as inaccessible environments, poverty, organisational and attitudinal barriers. The ICF model therefore integrates the medical and social model by recognizing that PWDs are disabled by both health conditions and the environment (Mitra et al., 2011). With this realisation that PWDs are disabled by both health conditions and by the environment, it is therefore important for learners with PD to access specialised services that are advocated by both the medical and social models to enable them have good quality lives and excel in their education.

In addition, the human rights model (HRM) of disability focuses on the inherent dignity of the human being and places the individual centre stage in all decisions affecting him/her and most importantly, the model locates the main problem outside the person in society (Quinn and Degener., 2002). It moves from the treatment of PWDs as objects of charity, medical treatment and social protection, towards viewing PWDs as people with rights who are capable of claiming those rights and making decisions for their lives based on their free and informed consent (Njelesani et al., 2012). Furthermore, Degener (2016) contends that the HRM of disability clarifies that impairment does not derogate human dignity nor does it encroach upon the disabled person's status as rights-bearer. When applied to the provision and accessibility of specialised services, the Law Commission of Ontario (LCO, 2010) is of the view that the HRM orients PWDs as bearers of rights who necessarily are

active respondents in the system of services and supports delivered by government and service providers unlike where PWDs are generally viewed as passive recipients of services. This makes HRM approach particularly relevant in making sure learners with PD access specialised services since the model clearly states that it is their inherent right to access the services.

2.7 The CRPD, and Zambia's specific legislation related to accessibility

The CRPD is one of the legal sources of the HRM because the purpose of the treaty according to the WHO/World Bank (2011) is to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by PWDs to promote respect for their inherent dignity. The CRPD, therefore, constitutes a significant global commitment to a human rights framework for PWDs (LCO, 2010). The CRPD requires governments to ensure PWDs, including CWDs participate fully in all aspects of life by identifying and eliminating barriers to accessibility. All state parties that have signed and ratified the CRPD are obliged to ensure quality services are accessible to PWDs to promote self-reliance and to facilitate their active participation in the community. Article 9 of the CRPD states that:

> *To enable PWDs to live independently and participate fully in all aspects of life, State Parties shall take appropriate measures to ensure PWDs access, on an equal basis with others, to the physical environment, to transportation, to information, and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and rural areas,* (CRPD, 2006)

In the same vein, the Zambian government has taken positive strides in terms of legislative and policy steps to ensure that specialised services are provided to the learners with disabilities. This commitment is shown by signing CRPD on 9 May, 2008 and ratifying it on 1 February, 2010. The signing and ratification of the CRPD meant that Zambia as a State has an obligation to domesticate all the provisions of the CRPD and implement them. However, the Disability Act has only domesticated a few provisions from the convention while excluding other important ones such as

those relating to the rights of CWDs (The United Nations Special Rapporteur Report, 2016).

Nevertheless, Zambia as a country has shown some commitment to the realisation of the CRPD by domesticating some provisions of the CPRD into the national laws and policies (SIDA, 2014), this is because Zambia has a dualist legal system, and hence no international or regional instrument is enforceable unless it is domesticated. Some provisions of the CRPD are included in the Disability Act of 2012. For instance, section 40, sub-section 1(b)-(ii) and (iii) of the Disability Act contains provisions on accessibility:

> *The minister and other line ministries shall facilitate access by PWDs to quality mobility aids, assistive technology, other forms of live assistance and provide training in mobility skills to PWDs and to specialist staff working with PWDs, (*Disability Act, 2012*).*

Similarly, the National Policy on Disability (2015) is very elaborate on issues of accessibility:

> *Appropriate measures should be taken to ensure persons with disabilities access, on an equal basis with others, the physical environment, transportation, information and communication technologies and systems and other facilities and services open or provided to the public.*

Additionally, both the CRPD (Article 26) and the disability Act of 2012 (section 33, sub sections 1-5) stress the importance of habilitation and rehabilitation because according to the ACPF (2011) these enable disabled children to enjoy maximum independence and develop their abilities to the full. Furthermore, WHO (2015) says habilitation and rehabilitation reduce the impact of a broad range of health conditions such as diseases and injuries. This therefore entails that all learners with disabilities need to have access to all forms of specialised services to enable them have access to all the school programmes.

Despite the fact that Zambia has ratified the Convention and has domesticated some provisions, the United Nations Special Rapporteur noted that the majority of public and private infrastructure in Zambia such as roads, schools, hospitals and buildings

were inaccessible for PWDs despite the existence of national accessibility standards adopted by the Zambia Bureau of Standards (UN, 2016). This view is supported by ACPF (2014) that observes that while most African countries have ratified the relevant human rights treaties that uphold the right to education of CWDs, and despite some attempts to integrate these instruments into national laws, policies and education plans, implementation of legislative and policy provisions has been very slow and inconsistent.

2.8 Accessibility to specialised services

2.8.1 Accessibility to specialised services by learners with PD globally

Global literature indicates that specialised services have been a missing link in the chain of prerequisites that enable CWDs to lead an independent life in many developing countries. Out of 110 million people with moderate or severe disabilities in developing countries, about 70 million (63 percent) of them need rehabilitation services and the remainder need periodic rehabilitation or simple technical aids (Wiman et al., 2002). In the same line, ACPF (2014) observes that there is a significant lack of skilled personnel in the habilitation and rehabilitation sector in Africa. For example, less than 16 percent of CWDs surveyed in Ethiopia and 18.5 percent of children in Uganda had access to specialised rehabilitation services such as occupational therapy, physiotherapy and speech therapy. The statistics provided however does not provide the total number of children who required rehabilitation services.

In Rwanda, Atijosan (2009) reports that a national survey of musculoskeletal impairments concluded that 2.6 percent of children were impaired and about 80 000 needed physical therapy, 50,000 needed orthopaedic surgery and 10 000 needed assistive devices. Nevertheless, the report is not clear whether all the mentioned number of children did not receive any services and if they did not, the study doesn't explain why the services were not provided. Additionally, Kiarie (2014) points out that a report by the Kenya Ministry of Education conducted in 2003 on the status of special education in Kenya revealed that at school and at home, students with physical disability required adapted seats, writing equipment, sports and recreational

facilities, therapy balls, wheelchairs, crutches, orthoses such as callipers and braces, prosthesis and adapted functional aids among others. This report however is not very clear whether all the stated specialised equipment/facilities were not provided.

In Ethiopia, a study on the situation of children with physical disability showed that many such children were not going to school because they did not have wheelchairs and crutches (ACPF, 2014). In the same line, Nthia (2012) conducted a study in the primary schools of eastern Kenya. The study revealed that some of the wheelchairs that learners were using were old fashioned and cumbersome to push in such a way that they could not wheel themselves and therefore needed to be pushed hence this deprived them of independence and privacy. The study however did not explain whether the physical environment was accessible for the wheelchair users.

In another study of the PWDs in Beijing, China, 75 percent of those interviewed expressed a need for a range of rehabilitation services, of which only 27 percent had received such services (Zongjie et al., 2008). This study doesn't elaborate why the other 48 percent of PWDs did not receive rehabilitation services.

In Zimbabwe, Ndinda (2005) carried a study on how best learners with physical disability would be integrated into regular schools. The study found out that some classrooms had torn floors with pot holes causing the children using wheelchairs to fall frequently. Not only that it made wheelchairs wear down and develop punctures which in turn hiked the maintenance costs. The study also found out that many learners lacked physical exercises and this led to increased dependence due to generating conditions of their disabilities. However, the research is not elaborate as to why many learners lacked physical exercises. The study equally found out that the special schools lacked recreational facilities and transport means to use to ferry learners with physical impairments to social and other out-door activities which in turn isolated them from socialising with other peers.

Mwaijande (2014) carried a study on the access of education and assistive devices for children with physical disability in Tanzania. The study revealed that access to assistive devices was a challenge, with about 1.7 million children with physical disability, only five orthopaedic centres were functioning and the remaining eight were dormant due to lack of materials. The researcher also found out that there was a

very high shortage of rehabilitation personnel such as prosthetists, orthotists, occupational therapists and physiotherapists resulting in very limited access to therapy by the children.

Addo (2014) analysed barriers to children with mobility impairments in basic education in Ghana, the study found that the major barrier to access buildings was the absence of ramps at the entrances to the classrooms. Consequently the students in wheelchairs had to be carried by the peers to enter classrooms.

2.8.2 Accessibility to specialised services for learners with PD in Zambia

Literature has demonstrated that many learners with disabilities including those with physical disability in many low income countries lack specialised services. For instance, with regards to orthopaedic services, Makasa and Munthali (2009) reports that UTH and St. John Paul II Orthopaedic Mission Hospital were the two referral hospitals for the whole country. Similarly, national studies on living conditions of people with disabilities were conducted in Malawi, Namibia, Zambia, and Zimbabwe (WHO/World Bank, 2011). The studies revealed large gaps in service provision for PWDs, with unmet needs particularly high for welfare, assistive devices, education, and counselling services. In addition SIDA (2014) observes that accessibility to basic health services in Zambia for PWDs is limited due to attitudes, distances and costs.

The United Nations Special Rapporteur Report (2017) writes that Zambia has very few specialised instructors or teachers to assist PWDs at the level of primary, secondary or even tertiary education. The report equally indicates that education facilities also lack infrastructure and assistive devices necessary to reasonably accommodate PWDs. There is also a problem of the unmet needs of wheelchair bound learners. This report however did not specify what type of infrastructure and assistive devices were lacking. The United Nations Special Rapporteur Report (2016) posit that majority of CWDs were excluded from the general education system because of multiple barriers to accessing education on an equal basis with others, owing to lack of accessible infrastructure, unavailability of assistive devices and materials adapted for different types of impairments and lack of individual learning plans. In addition, Chinombwe (2007) conducted a study on the challenge

teachers faced when teaching children with cerebral palsy in three special institutions in Zambia. The study indicated that there was a shortage of teacher aides, wheelchairs, crutches and callipers.

2.9 Accessibility standard guidelines

In terms of the built environment such as ramps, pathways, doors and signage, there are accessibility standard guidelines agreed by the international community so that PWDs all over the world enjoy their inherent fundamental rights to have access to the built environment.

2.9.1 Accessibility standard guidelines for ramps

Ramps are built for people who cannot use stairs or need a gentler less stressful way to change levels. They are an important feature in accessing any building for wheelchairs users and other people who have difficult climbing stairs such as those who are hemiplegic and those who use walkers, crutches and canes. To make ramps accessible, the width of the ramp should be at least 1.5m, but a width of 1.8m is preferred to allow two wheelchair users to pass each other (Bob, 2014). The ramp surface must be firm and not slipping, with tactile surfaces (Handicap International, 2008). Handrails should be provided on both sides of the ramp if the slope is greater than 1:20 in order to help people with reduced mobility to use them (Parks Victoria, 2013). Figure 2 shows an example of a ramp with handrails.

Figure 2: An ideal ramp with handrails (*Source: Parks Victoria, 2013*)

A ramp must not have a maximum running slope of more than 1:20 (Light for the World, 2014). Figure 3 shows a ramp with different gradients that are both ideal and not ideal especially for wheelchair users.

Level (ideal) <1:20 (accessible) max 1:10 (with assistance) >1:10 (hazardous)

Figure 3: Ramp's running slope (*Source: PHOS, 2005)*

2.9.2 Accessibility standard guidelines for corridors, pathways and doors

Corridors inside and outside buildings should be wide, level, smooth and nonslip. Additionally, corridors outside buildings should have some warning signal if they drop off to a step or has an exposed edge (Samantha, 2006). Handicap International (2008) points out that corridors must be wide enough (at least 1.40m -1.9m) to let the traffic flow if the place is much frequented. AusAID (2013) further recommend that a corridor must have a minimum width of 1.8m for ease mobility and manoeuvrability with other pedestrians.

Accessible doors include doors a person with a disability can operate in a single motion with little effort. They must not be too narrow or heavy and hard to operate (AusAID, 2013). Classroom doors should provide at least 0.85m of clear width when they are open (Bob, 2014). As for the pathways, Handicap International (2008) says the minimum width of a two-way wheelchair traffic pathway is 1.5m and the maximum is 1.8m. Samantha (2006) writes that ideal pathways are those that are paved, level, smooth, wide and well drained. The author further notes that it is important to have accessible pathways leading to water points and toilets.

2.9.3 Accessibility standard guidelines for the toilets

The main considerations in designing toilets for learners using mobility aids are to address aspects such as sufficient space to allow full-turn manoeuvring of a wheelchair (Light for the World, 2014). It is important for the toilets to be accessible for example the corridors and the doors leading to the toilets must be accessible. Bog (2014) further points out that wheelchair-accessible toilet cubicles should have a minimum clear floor space of 1.5m x 1.500m and a door of at least 0.9m wide which opens to the outside. The other key element that needs to be captured in toilet facilities according to Parks Victoria (2013) is the space available beside the toilet and the position of the grab bars, the grab bars must be within arms' reach especially for children of shorter stature as shown in Figure 4.

Figure 4: A toilet with an accessible grab bar (*Source: Parks Victoria, 2013*)

2.9.4 Accessibility standard guidelines for the floor surfaces.

People who have difficulty walking or maintaining balance or who use crutches, canes or walkers and those with restricted gaits are particularly sensitive to slipping and tripping hazards. For such people, a stable and regular surface is necessary for safe walking particularly on stairs (ADA, 2004). Wheelchairs can be propelled most easily on surfaces that are hard, stable, and regular. Soft loose surfaces such as loose sand or gravel, wet clay, and irregular surfaces can significantly impede wheelchair movement. Table 1 summarises the accessibility standard guidelines for the ramps, corridors, door handles, toilet spaces, handrails, doorways, pathways and chalkboards.

Table 1: Accessibility standard guideline summary

Author	Structure /facility	Standard measurements
Parks Victoria (2013), ADA (2004)	Ramps gradient	Less than 1:20
Bob (2014)	Ramp width	1.8m and above
AusAID(2013) , Handicap International (2008)	Corridors Widths	1.5m – 1.8m
Handicap International (2008)	Height of door handles	0.8m – 0.9m
ADA (2004)	Doorways width	0.815m
Bob (2014)	Toilet space	1.5m × 1.5m
Handicap International (2008)	Pathways width	1.5m – 1.8m
ADA (2004)	Grab bars height	0.84m – 0.915m
Light for the world (2014)	Chalkboard height	0.92m

2.10 Barriers that can limit learners with PD from accessing specialised services

Several barriers can prevent learners with physical disability from accessing specialised services. Some of the barriers include:

2.10.1 Negative attitudes

Negative attitudes are one of the most important barriers because they form a basis of a cohort of other barriers. Negative attitudes can be found at all levels: parents, community members, schools and teachers, government officials and even disabled children themselves (Cain, 2002). The negative attitudes at national level are evident when the needs of the disabled are not incorporated in the planning, budgeting and programming stages. This has been the trend in most parts of the world where policy

makers perceive the education of the disabled children as a waste of resources that brings no retains. Many governments see the responsibility of providing education to children with disabilities as the domain of non-governmental organizations and other charitable organizations, which have in many countries been the first to try and provide some form of education or training to CWDs, often in small separate schools or centres (UNESCO, 2009). Negative attitudes have led to the deprivation of PWDs on multiple levels, for example government authorities and policy makers in African countries tend to ignore the needs of citizens with disabilities and fail to ensure that relevant policies are adequately inclusive, enforced or budgeted for (ACPF, 2014).

Chimhenga and Musarurwa (2011) study provides an example of how negative attitudes can negatively affect the lives of CWDs and limit them from accessing specialised services. The duo investigated the attitudes of ten parents in Bulawayo, Zimbabwe towards the education of their children with cerebral palsy. The study found that parents preferred to pay school fees for children without disabilities first because it was cheaper than paying and looking for money for rehabilitation services for the disabled children. The parents felt that children with cerebral palsy required a lot of financial support for rehabilitation; hence this was causing a lot financial strain on the families. The ACPF (2014) summarises by stating that negative attitudes towards disability are pervasive in all strata of African societies, from high-level authorities and policy-makers in government, to traditional chiefs and religious leaders, to the rural homes of African families.

2.10.2 Inadequate funding

Inadequate funding to the education sector is believed to be a major reason specialised services are not accessible to most learners with special educational needs (Ndinda, 2005; UNICEF, 2016)). For example, according the report by UNICEF, there was a decline in the Zambian national budget allocation to the Ministry of Education in 2016 (UNICEF, 2016). The report indicate that the 2016 education budget represented 17.2 percent of the overall budget which was reduced by 3 percent from 2015, lower than 20 percent budget target set by the Dakar Framework for Education for All. The report also reveals that this allocation is the lowest in five years. This was the same trend in other countries as well. For example, the ACPF

(2011) equally established that lack of funding in South Africa severely restricted the implementation of inclusive education.

In the study conducted by Muranda (2015) in special schools in Harare, Zimbabwe on the challenges faced by special schools in providing support services to learners with physical and motor impairments. It was concluded that the special schools were not equipped to cater for all the needs of the learners with physical and motor impairments. The major challenges cited in the study were poor funding, lack of professionals and non-availability of appropriate assistive devices. The study also found that the special schools did not have adequate teacher aides who are vital in helping learners with physical and motor impairments in many areas.

Nongola (2011) study seems to provide a panacea to the issue of funding. He carried a study in four provinces of Zambia on the effectiveness of the Ministry of Education's inspection tool in the provision of Special Education. Respondents especially education standard officers and teachers cited the creation of the Directorate of Special Education as one of the key area that could enhance the provision of Special Education. Most of the respondents argued that for Special Education to improve, it was necessary to establish a Directorate of Special Education. The respondents said once a Directorate is created, legislation and implementation of Special Education programmes would be achieved easily. However, the study did not provide authentic examples of countries that were doing fine in terms of the provision of specialised services due to the creation of Special Education Directorates.

2.10.3 High cost of specialised equipment

Compounding to the matter of inadequate funding to the education sector, is the issue of high costs of assistive devices. The World Report on Disability asserts that the high cost of many technologies limits access for people with disabilities particularly in low-income and middle-income countries (WHO/World Bank, 2011). In particular, intermediate and assistive technologies are often unaffordable or unavailable as a result many governments, institutions or individuals cannot afford to buy them for learners with physical impairments. Additionally, Choruma (2006)

explains that high cost of specialised equipment is one of the major reasons most CWDs do not participate in educational activities.

2.10.4 Shortage of service providers

There is a significant lack of skilled personnel in the habilitation and rehabilitation in Africa (ACPF, 2014). For example less 18.5 percent of those surveyed in Uganda had access to specialised rehabilitation services such as occupational therapy, physiotherapy and speech therapy (ACPF, 2011). In addition, Wiman et al. (2002) note that several barriers impede the supply of cost-effective technology for PWDs in developing countries due to lack of specialised doctors to make full use of high-quality technology.

Simuchimba (2014) assessed the quality of special education needs provision in Special Education units in Muchinga and Northern provinces. The study revealed that majority of head teachers were not collaborating with professionals because they were not there and where they were available; the head teachers explained that they had to pay for their services in terms of allowances. The study however did not mention the type of professionals that were lacking. Similarly, Nongola (2011) reports that insufficient staffing in Special Education in terms of teacher aides and housekeepers was a challenge the learners were facing. In addition, the African Report on Disability observes that lack of specialists such as physiotherapists and occupational therapists constitute a significant impediment to ensuring adequate and quality habilitation and rehabilitation services for children with disabilities (ACPF, 2014)

2.10.5 Unreliable data on children with disabilities

Loebe et al. (2007) argue that one importance of collecting data on disability is to design and implement programs aimed at providing services to the disabled people. These services might be general or they may be targeted at a specific particular category of people with disabilities such as the provision of prosthetic devices and associated rehabilitation services. Most of the figures the developing nations have are five to ten years behind and they normally rely on United Nations estimates (Grol, 2000). In addition, ACPF (2011) reports that many countries in Africa have low

registration rates for CWDs, for example, only 28.5 percent of CWDs in Ethiopia and 48.7 percent of CWDs in Uganda were registered at birth. The under reported data on CWDs has led to under-investment in services and support for learners with disabilities. Where data does exist, there is a wide discrepancy between the national census information and that from United Nations' agencies such as UNICEF. The main problem arising from these discrepancies is that inaccurate reporting on impairment prevalence results in inappropriate resource allocation to implement programmes (Coe, 2013).

2.10.6 Inaccessible school environments and other school related factors

A physical environment can either disable or foster learners with disability to participate in education programmes. Physical access can be a major concern for students who have physical disability as those who use wheelchairs, braces, crutches, canes or prostheses or those who fatigue easily may have difficulty moving around a school campus (Algozzine and Ysseldyke, 2006). Furthermore, the environment is a critical area that can facilitate or hamper the usage of specialised equipment. Those with mobility disabilities are likely to face difficulties with stairs, narrow doorways, inappropriate seating, or inaccessible toilet facilities (UNESCO, 2010). For instance studies done in Sierra Leone reported that in some schools, the toilets were located on top of hills without any accessible routes for wheelchair users (ACPF, 2014). Similarly, Samantha (2006) cited some barriers to accessing toilets as being limited spaces in most schools mainly because the architects did not follow accessibility standard guidelines. This is because learners using wheelchairs need adequate spaces for turning or packing the wheelchair.

Other barriers according to Bog (2014) include blackboards that are too high to reach by smaller children and children who use wheelchairs. Similarly, McKevitt (2012) is of the view that students with mobility disabilities have difficulties with steps, or heavy doors and may also need additional desk spaces if they use wheelchairs, or additional storage spaces for a walking frames or crutches. Kiarie (2014) observes that the learning environment can be an obstacle for learners with physical disability. She notes that learners face challenges such as inaccessible toilets, doorways, desks and chairs, in their effort to access learning and teaching. This is why Muranda

(2015) recommends that the environment need to be adapted so as to be user friendly for example it must have handrail for those learners with poor balance, ramps for wheelchair users and so on.

In Taiwan, Huang et al. (2009) conducted a study on fifteen children with cerebral palsy aimed to understand the children's perspectives regarding mobility assistive devices (wheelchair, standers, and special tricycle, crutches and ankle-foot orthoses) use in school and to explore the factors related to their device utilization in the school setting. The study found out that some device design was unsuitable for use in the classroom. Several teachers said that some devices, such as standers, wheelchairs or cerebral palsy walkers could not fit properly in the classrooms as there was no adequate space. The study is however silent on why the classroom was not spacious. Moreover, several environmental barriers were identified in the study. Some children commented on the ramps being too steep which made it difficult for them to propel their wheelchairs up or walking up with their walker; the children also felt unsafe when going down.

2.10.7 Poverty

Poverty can be a great barrier towards learners' access to specialised services. This is because CWDs often require multifaceted specialised care on a long term basis. Hence, fulfilling all such expenses can be very difficult for a parent who is not working. Families with exceptional children often face complex family functions because family resources can be strained by multiple needs of the child with disability (Sanders, 2000). Disability exacerbates poverty by increasing economic strain not just for the individual but often for the affected family as well. The ACPF (2014) asserts that CWDs are less likely to have access to adequate health care, medicines, and assistive devices. In addition, where services are available, families may not have the resources to pay for assistive devices, medicine, or school fees, or for transport to and from school for their children.

In Uganda, Najjingo (2009) examined the challenges faced by CWDs on accessing inclusive education; the study revealed that all the respondents comprising teachers, parents and caregivers agreed that poverty affected CWDs access to education. The

study indicated that significant proportion of families which were mostly headed by women was living in destitution and deprivation. The study however did not explain how poverty was affecting the children's access to inclusive education. Consequently, Moyi (2012) argues that the goal of ameliorating the adverse effects of poverty for children and youth with disabilities must be part of a larger government effort to reduce child poverty in general and to provide families and communities with the support they need to raise healthy, well-adjusted children.

2.11 Nature of specialised services and their significance

A physical disability can hamper a person's mobility, coordination, stamina, communication to such an extent that educational objectives can be difficult to accomplish without the intervention of specialised services. The following are some of the types of specialised services and their significance to learners with PD.

2.11.1 Specialised equipment

Children with physical disability are affected by a wide range of conditions. The extent to which they require care and assistance depends on their conditions and the severity of their disabilities. This in turn determines the need for assistive technology which Wiman et al. (2002) say they are important because they compensate or complement functional limitation. The British Healthcare Trades Association (BHTA, 2014) writes that children with different disabilities require equipment of some sort to carry out day to day activities like remaining mobile, communicating with the world around them or preventing conditions from deteriorating further. Such equipment can range from those that help in mobility, activities for daily living, sitting and posture and academics among many others. For example, mobility devices assist people with mobility problems to walk or move and may include crutches, walking frames and wheelchairs (McConkey, 2001). Other specialised equipment include the positioning devices which are used by CWDs who often have difficulty maintaining good lying, standing or sitting positions and are at risk of developing deformities due to improper positioning and examples of such devices include wedges, adapted chairs, and standing frames (Shiksha, 2012).

A study by Rigby (2009) in Ontario, Canada whose aim was to evaluate the short-term impact of two adaptive seating devices on the performance of children with cerebral palsy who had an ability to move around on the floor but had difficulty in maintaining floor sitting or required trunk support to maximize hand function when sitting on a chair. After twelve weeks intervention, the children were able to engage in self-care and play activities when using specific adaptive seating devices in their homes.

Similarly, in a cross-sectional study done in Norway, Ostensjo et al. (2005) assessed the influence of assistive devices on mobility, self-care, and social function among preschool children with cerebral palsy. Parents reported that children with some abilities in sitting and limited self-mobility increased their independence in moving around. Among children with the severest limitations in gross motor function, the parents judged that the assistive devices had benefits for the functional independence of the children. Furthermore, Wachianga (2010) investigated the provision of support services for learners with PD in selected schools in Kenya; the study revealed that mobility services made learners active and this improved their class participation. How the mobility services made learners active was however not explained. He also reported that mobility services promoted socialisation of learners with PD with fellow peers and teachers.

2.11.2 Occupational therapy

Occupational therapy is a professional health discipline that utilizes the analysis and application of activities specifically related to performance in areas of self-care, productivity and leisure (British Columbia Ministry of Education-BCMOE, 2016). It emphasizes independence in activities of daily living for example dressing, feeding, bathing, toileting and skill acquisition such as self-management skills, vocational skills and school participation in various settings (NYCDOE, n.d.). Occupational therapists can also design or recommend special aids to assist a child with physical impairments to sit or to feed themselves (McConkey, 2001). Additionally, occupational therapists can teach CWDs how to play with appropriate toys and can as well assist them to acquire skills such as handwriting. For example Case-Smith (2002) reports that occupational therapy intervention together with high levels of

collaboration with teachers resulted in improved handwriting legibility in a group of students with poor handwriting following participation in a multisensory occupational therapy.

2.11.3 Physiotherapy

Physiotherapy uses manual-handling techniques, exercises and sensory processing activities to maintain improve or restore function including gross motor development such as mobility, ambulation, and posture and neuromotor status for example muscle tone, strength, balance, coordination (BCMOE, 2016). Therapists work with teachers to help learners with PD acquire functional abilities which are necessary to access educational materials and move about the school. When posture and body position are not well managed, these difficulties can lead to body shape distortion in ways that may be destructive to the overall health. For example, a spine that develops a scoliosis can lead to internal organs becoming constricted or an impaired ability to swallow (BHRA, 2014). Physiotherapists are also able to recommend exercises to keep the child's limbs supple and activities to help the child's practice movements. They can also advise on special sitting that the child may require or aids to walking such as crutches (McConkey, 2001).

2.11.4 Adapted sports

Sport is another activity that provides the only means of improving CWDs' neuromotor abilities and preventing deformities. Through sports and recreational activities, the child with a disability has the ability to participate in the world of the 'normal children' and thus improves their neuromuscular functional status (Berker and Yalcin, 2010). Adapted physical education is a sub discipline of physical education that allows for safe, personally satisfying, and successful participation to meet the unique needs of students which includes alterations in equipment, rules, time limits, positions, size of teams and playing areas, or other adaptations or modifications (Winnick, 2000). The importance of adapted physical education includes improving motor skills and developing a higher level of physical fitness and developing skills for lifelong leisure and recreation and increasing opportunities to experience feelings of self-worth and the joy of active interaction with peers (Roberts, 2004).

Murphy and Carbone (2008) also commend that regular physical activity is essential for the maintenance of normal muscle strength, flexibility, and joint structure and function and may slow the functional decline often associated with disabling conditions. Additionally, sports participation enhances the psychological wellbeing of CWDs through the provision of opportunities to form friendships, express creativity, and develop a self-identity and foster meaning and purpose in life (Dykens et al., 2002).

2.11.5 Adapted environment

The environment is cardinal in making a child with a mobility disability move easily whether within a school or inside a classroom. For example, a child using a wheelchair may need a ramp to be able to move from one classroom to the other. Similarly, lowered water fountains and handrails in bathrooms facilitate the acquisition of personal hygiene and self-help skills. Lowered door handles and ramps allow the student to achieve independence in mobility. UNESCO (2015) elaborates the importance of having an adapted environment by explaining that children who use wheelchairs, callipers or crutches for mobility may find it difficult moving around within a traditional classroom that is blocked by rows of chairs and desks. Consequently, UNESCO (2014) further suggests that entrances should be free of steps and be wide enough to accommodate children who use wheelchairs and other assistive devices. Entrance doors or gates should provide at least 0.85m of clear width when they are open. Walkways should be wide enough to allow a child using a wheelchair to pass another child or any other person who is walking in the same or opposite direction (UNESCO, 2014).

2.11.6 Curriculum differentiation

UNESCO (2004) defines curriculum as what is learned and what is taught (content), how it is delivered (teaching and learning methods), how it is assessed (for example examinations) and the resources used (i.e., books used to deliver and support teaching and learning). On the other hand curriculum differentiation for diverse learners is the process of adapting or modifying the curriculum according to the different ability levels of the students in one class (UNESCO, 2014). Therefore, there

is need to modify the curriculum in terms of the content, teaching methodologies and the format of assessments based on the diverse abilities of the CWDs. For instance, some children with motor disabilities may not be able to hold a standard pencil. The Disability learning Management Solutions (2015) advises that ergonomic pens and pencils can be used to make writing easier for children who have disabilities that make holding a standard pen or pencil difficult. This is because ergonomic pens and pencils are designed to be easier for the children to hold and utilize. In the same line, differentiated instructional strategies can be used and among the most cited strategies that can be employed include cooperate learning and peer group interaction (Nind and Wearmouth, 2006). Cooperate learning might mean for example, dividing the class into ability groups or dividing them into mixed-ability groups in which students with more experience can help those with less experience. UNESCO (2015) also mentions that many children with physical disability will need additional time to read, write or take notes. This may affect their classroom participation as well as the time they would require to finish assignments.

The situation in most developing countries however is not favourable in terms of curriculum accessibility to learners with special education needs. For instance, Shantha (2011) observed that schools in developing nations are often inadequately staffed, have no flexible curriculum and limited teaching materials, leading to an inferior quality of education for children with disabilities, compared to other children. The author further says CWDs may be required to repeat a grade because the curriculum is inflexible, or that teaching and evaluation methods do not meet their specific needs.

2.11.7 Counselling

According to Ndhlovu (2015), counselling is a mutual helping relationship between a person in need of help and a trained counsellor. Oluka and Okirie (2014) further explain that counselling is a personalised, intimate interview or dialogue between a person experiencing some emotional, social, educational, physical, and vocational problems and a professional counsellor. Baker and Donelly (2001) explain that learners with disabilities need counselling because they often feel socially isolated, stigmatized, and marginalized by society. Additionally, they also noted that bullying,

social segregation and insecurity which are more common among CWDs than their peers can lead to feelings of friendlessness and social separation. When peer relation problems are chronic, children are at greater risk of depression, negative self and peer perceptions and long-term adjustment problems. Therefore, NYCDOE (n.d.) observes that counselling is designed to improve learners' social and emotional school functioning in the areas of appropriate school behaviour and discipline, social skills, self-control, conflict resolution, problem solving skills, self-esteem, decision-making skills. Similarly, in a study conducted in eastern district of Kenya, Wachianga (2010) reported that counselling had positive influence on socialisation of learners with PD through building their self-esteem, self-concept, confidence and guidance to socialise.

2.11.8 School psychology services

These are aimed at providing assessment, consultations and interventions for learning/teaching. Psychologists may be able to assist with teaching programmes and ways of managing children's behaviour (McConkey, 2001). School psychologists can help if there is a concern about a child's emotional well-being and behaviour or if the child has difficulties with the family (Reddihoug and Katherine, 2008). School psychologists administer and interpret psychological tests and information about a child's behaviour and all conditions related to learning, mental health and development as well as planning services including consultation and parent training (Shiksha, 2012).

2.11.9 Speech pathology services

Children with physical disability often have difficulty using speech for communication purposes. Speech pathology services are aimed at assessing, diagnosing and treatment of communication disorders in order to maximise a person's ability to communicate through speech, gestures or other supplementary means such as using communication aids in order to make them independent communicators (Shiksha, 2002). The focus of speech therapy is to fix speech related problems like vocal pitch, volume, tone, rhythm and articulation. In addition, Reddihoug and Katherine (2008) posit that CWDs such as those with cerebral palsy

may have difficulties with eating and drinking due to poor control of the muscles of the mouth, face and throat, therefore, a speech pathologist can help deal with such problems.

2.11.10 Orthopaedic surgery services

Orthopaedic surgery is a specialty of surgery dedicated to the prevention, diagnosis, and treatment of diseases and injuries of the musculoskeletal system in all age groups (Laura and Gehrig, 2011). It is a branch of surgery concerned with conditions involving the musculoskeletal system. Orthopaedics use both surgical and nonsurgical means to treat musculoskeletal trauma, spine diseases, sports injuries, degenerative diseases, infections and congenital disorders. Orthopaedic surgeons specialise in disease and abnormalities of the locomotive system (bones, muscles, joints and tendons) in addition to performing surgery, orthopaedic surgeons can also recommend special footwear or braces for PWDs. Berker and Yalcin (2010) point out that no matter how well they are cared for, almost all diplegic children need orthopaedic surgery sometime in their lives; this is because contractures and deformities occur eventually in all diplegic children. Laura and Gehrig (2011) summarise the significance of orthopaedic services when they mention that the main aim of orthopaedic surgery is to prevent, diagnose, and treat all diseases and injuries of the musculoskeletal system in all age groups so as to preserve the form and function of human locomotion. In Zambia, according to the study by Makasa and Munthali (2009), congenital disorders, non-congenital deformities and traumatic conditions are the commonest musculoskeletal disorders affecting Zambian children aged less than 15 years.

2.11.11 School based health nurse services

NYCDOE (n.d.) point out that school health services are designed to address the specific health needs of the students and to ensure a safe educational environment that allows the students to benefit from their educational program. A school nurse plays a unique role in meeting the special needs of learners in the school setting by assessing children's' health needs and developing individual care plans to meet such needs. According to Lee and Yip (2014), some of the core roles of a school nurse may include providing direct care to the students, providing screening and referrals

for health conditions and liaising among the school personnel, family and other health care professionals. The other justification to have a school based nurse is that most CWDs can have medical emergencies that require immediate interventions by a school based nurse (Yip and Lee, 2014). Above all, school nurses also act as mediators between the school and the other services providers and as such must maintain an active and collaborative relationship with all school professionals.

2.11.12 Special transport

Every human being at one time may need to travel from one place to the other and learners with severe physical disability are not an exception. Therefore there is need for them to be provided with modified transport. Special schools have a special need to expose their learners to field trips and other experiences outside the school (Access Exchange International, 2017). Therefore modified transport is very significant for learners with PD especially those with severe mobility challenges for it enables them to engage in main activities which in turn enhances their functionality. Alsnih and Hensher (2003) further explain that lack of accessible means of independent travel creates social exclusion for many disabled people. Transport such as buses for example must have ramps for children in wheelchairs or hoists to lift them onto the coach and should have seats with safety belts to prevent them from falling and special wells in the floor of the coach into which the wheels of the wheelchairs can be securely braced (Goyal, 2000).

2.11.13 Teacher aides

Teacher aides provide support to teachers and students. Many are employed specifically to support students with disabilities; they teach within special schools, units and in mainstream classes (Stephenson and Carter, 2014). Teacher aides work in different ways depending on the needs of the child. Some of the job description of teacher aides include carrying out learning activities of the children, working with the students in the class and encouraging them to play and boosting their learning and social skills. If a child with a disability has special health or physical needs, a teacher aide can help with medicines, feeding, and toileting and they can help them

to move about the school, using specialised equipment (Kenya Ministry of Education, 2012)

2.12 Summary

The chapter reviewed relevant literature pertaining to the accessibility to specialised services. The chapter started by explaining the concept of disability covering areas such as causes, types and characteristics. The chapter shaded some light on the legal and policy matters relating to the provision of specialised services explaining the ICF model and the Human Rights model in relation to the provision of specialised services. On accessibility; the reviewed literature has indicated that most studies confirmed that specialised services were scarce in many low and middle income countries. It was also evident from the reviewed literature that many learners with PD were not accessing specialised services due to barriers such as shortage of service providers, negative attitudes, inadequate funding, unreliable data on CWDs, inaccessible school environments and poverty. The chapter also reviewed literature on the nature and significance of specialised services. Many studies have indicated that specialised services were significant to learners with PD. Additionally; several gaps were revealed in the reviewed literature. For example, most of the reviewed studies on specialised services have been conducted outside Zambia in different countries from both developed and developing countries where the social, technological and economic circumstances are completely different from the prevailing situations in Zambia. Other observable gaps were for example one study did not provide explanation on why the physical environment was not accessible to wheelchair and crutch users; others were silent on why learners with PD did not access rehabilitation services like physiotherapy and orthopaedic services. Equally, one study conducted in Zambia reported that many head teachers did not collaborate with professionals because they were not there, the study however did not mention the professionals that were lacking in institutions. These and many other gaps is what the present study sought to address. The next chapter explains the methodology that was used to collect and analyse data.

CHAPTER THREE: METHODOLOGY

3.1 Overview

This chapter explains the research methodology used in the study. It comprises the research design, population, sample size and sampling procedures, research instruments, and data collection procedures, pre-test of research instruments, data analysis, limitations of the study, ethical considerations and the summary of the chapter.

3.2 Research design

A research design is a logical sequence that connects the empirical data to a study's initial research questions and ultimately to its conclusions (Yin, 2003). This present study employed a descriptive case study design to conduct the research. Descriptive research studies are studies which are concerned with describing the characteristics of a particular individual or of a group (Kothari, 2004). The main goal of a descriptive case study is to portray precisely a phenomenon. Similarly, Yin (2012) says a descriptive case study method is appropriate when the research questions seek to answer the 'whats' of a study. This research design befitted this present study because all the research questions that guided this inquiry sought to answer the 'what questions'. The choice for the design was also appropriate as it enabled the researcher to portray the experiences of the respondents clearly and accurately with much explicit details.

This study was purely a qualitative. Qualitative research involves an interpretive, naturalistic approach to the world meaning that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them (Denzin and Lincoln, 2005). However, numbers, figures and tables were used to make a study appear more precise, rigorous and scientific (Maxwell, 2010). Additionally, Sandelowski (2001) warns that sometimes data displays in qualitative research is so overloaded with words or verbal explanations making it so complex that the reader can have difficulty absorbing all the information conveyed in them, hence the author advises to reduce qualitative

data to numbers so as to sharpen the focus on the key findings. Furthermore, Olson (2000) contends that numbers can complement and enhance narratives and therefore urges qualitative researchers to use numbers in a way that produce both trustworthy findings and evocative reports of those findings.

Additionally, the researcher opted not use the quantitative research paradigm because according to Cohen et al. (2011) and Yimaz (2013), a quantitative research requires a deductive approach and predetermined sets of standardised responses, hence, they fail to provide insight into the participants' individual or personal experiences and they do not let the respondents describe their feelings, thoughts, frames of reference, and experiences with their own words. The other point that justifies that this present study is qualitative and not quantitative is the size of the sample that was used. According to Kielmann et al. (2012) and Yilmaz (2013), quantitative research generally demand randomly selected large representative samples in order for researchers to generalise their findings from the sample.

3.3 Population

A population is a group of individuals who have one thing in common from which a sample is drawn (Kombo and Tromp, 2013). The population comprised all head teachers, teachers, pupils, parents and caregivers of Dudu, Teka, Don, Hope and Venus (pseudonyms) Schools from Kasama and Lusaka, all the education standard officers in charge of special education from the national, provincial (Lusaka and Northern) and district levels (Kasama and Lusaka) and all the service providers who provided services to learners with PD in both districts.

3.4 Sample size

A sample is a portion taken from a population that has at least one thing in common **(**Kasonde-Ng'andu, 2013). The sample size for this study was 109 respondents comprising 25 teachers, 5 head teachers, 40 pupils, 15 parents, 8 caregivers, 10 service providers and 6 education standard officers.

3.5 Sampling procedure

The research used purposive and convenience sampling methods to select respondents. Similarly, purposive sampling was used to select learners, teachers, service providers, education standard officers and caregivers. Kasonde-Ng'andu (2013) explains that the researcher using purposive sampling purposively targets a group of people believed to be reliable for the study. The primary consideration in purposive sampling according to Kumar (2011) is the researcher's judgement to be able to select people who in their opinion can provide the best information to achieve the objectives of the study. As for the parents, convenience sampling was used. According to Saunders et al. (2012), convenience sampling is non-probability sampling method that relies on data collection from population members who are conveniently available to participate in the study. The researcher used this sampling method because it was not easy to find parents especial in boarding special schools. Most parents lived in distant places; some even lived in other districts. Convenience sampling method therefore was the only alternative sampling method to use to select parents for the study. Parents were selected on the basis of geographical proximity. Therefore only parents who were available physically or those who were accessible through phoning participated in the study. This is why Creswell (2012) argues that the decision to choose a sampling technique depends on reasons such as the accessibility of the respondents and the relevance of the targeted group.

3.6 Research instruments

Data was collected through questionnaires, semi-structured interview guides, focus group discussion guides and observation checklists. Eisenhardt and Graebner (2007) asserts that using multiple methods of data collection can improve the quality of the research as it allows triangulation, reduces the respondent bias and provides additional information.

3.6.1 Questionnaires

Questionnaires were used to collect data from the head teachers and teachers. Even though a questionnaire generates quantitative data, open ended questions responses can be analysed qualitatively (Hancock et al. 2007). The questionnaires consisted of

both closed and open-ended questions hence they collected both quantitative and qualitative data. Open-ended questions gave an opportunity to the respondents to explain without limitation, and the closed-ended questions limited the respondents to the alternatives provided such as a YES or NO. This provided many advantages among them was that since there was no face-to-face interaction between the respondents and the interviewer; it provided greater anonymity hence increasing the likelihood of collecting accurate information. Questionnaires also reduced chances of the researcher bias as the same questions were asked to all the respondents.

3.6.2 Semi-structured interview guides

Semi-structured interview guides were used to collect data from the caregivers, parents, 16 learners, service providers and all the education standard officers. Qualitative researchers usually employ semi-structured interviews which involve a number of open ended questions based on the topic areas that the researcher wants to cover (Kielmann et al., 2012); the open ended nature of the questions posed defines the topic under investigation but provides opportunities for both interviewer and interviewee to discuss some topics in more detail (Hancock et al., 2007). According to Kumar (2011), an interview guide is a written list of questions which may be open-ended or closed prepared to be used by an interviewer in a person-to-person interaction. Some of the interviews were conducted face-to-face, however, due to issues of physical inaccessibility; other interviews with parents especially from Kasama based schools were done through phoning. One advantage of using semi-structured interviews was that the researcher was able to modify or rephrase the question if a respondent did not understand the question. In addition, through interviews, the researcher was able to discover experiences that might have taken place in learners' lives on account of not having being provided with adequate specialised services.

3.6.3 Focus group discussion guide

A focus group discussion guide was used to collect data from 24 learners. According to Hancock et al. (2007), focus groups resemble interviews, but they enable the participants to interact with each other and influence each other's expressed ideas,

which obviously cannot happen with one-to-one interview material. Bryman (2008) points out that a focus group discussion is a type of group discussion where the respondents interact argue and make joint contribution on the topic of concern rather than making individualized contributions. The researcher interviewed four focus groups, each group comprising six participants. Each session lasted between forty to sixty minutes. The group discussions were recorded and subsequently transcribed. Focus group discussions were valuable for this study because respondents interacted more among themselves than with the interviewer thereby increasing the chances of enriching the quality and the quantity of information needed. In addition, the researcher chose this research instrument because of the belief that group dynamics could provide useful information that could not be obtained from a single respondent.

3.6.4 Observation checklists

Observation checklists were equally used to collect data. The observation checklists contained a list of items/facilities which the researcher counter-checked to confirm whether they were available and accessible. According to Kumar (2011), observation is a purposeful, systematic and selective way of watching and listening to an interaction or phenomenon as it takes place. The main advantage of using observation according to Kothari (2004) is that the information obtained under this method relates to what is currently happening; it is not complicated by either the past behaviour or future intentions or attitudes. The researcher used non-participant unstructured observation to observe for example how the learners were interacting with their physical school environment, for example observations were made on the challenges that learners with wheelchairs were facing as they moved on ramps. Additionally, Kothari (2004) explains one advantage of employing observation as a technique in collecting data is that it enables the researcher to witness situations and issues personally without relying on other people. The researcher observed the structures of the school built environment such as corridors and ramps so as to compare with the data that was collected using other methods. This provided a detailed and context-related information and reliability.

3.7 Data collection procedure

The researcher visited the five schools and collected data from the head teachers, teachers, caregivers and the learners. He equally visited all the service providers and the education standard officers at their places of work. Interviews were conducted in English, Icibemba and Njanya according to the language of preference by the participants. With permission from the respondents, interviews were recorded using a smart phone. However, notes were written for the respondents who did not allow the researcher to record them for one reason or the other. This was in line with the recommendation by Driscoll (2011) that before one record any interview, they must be sure that they have permission from the participant. Recording the interviews enabled the researcher to concentrate on asking questions and listening to the interviews. Driscoll (2011) also explains that recording interviews allows the researcher to directly quote the respondent after transcribing it. Interviews with the parents were conducted at their homes. However, phoning interviews were used to collect data from parents who resided far from the school. All the questionnaires were distributed to the respondents and a maximum of three days was given to the respondents to fill them in. The questionnaires were self-administered to the respondents and were later collected after they were answered. All the questionnaires that were distributed were answered and corrected giving a distribution return rate of 100 percent.

Measurements were also done where features such as the ramps, pathways, corridors, doorways and grab bars were measured using a tape so as to assess whether they were accessible in accordance with the accessibility standard guidelines. Similarly, a camera was used to capture photos especially school structures such as ramps, corridors, toilets, washing tubs, urinals and many more. Photographs are a good way of collecting information which can be captured in a single shot or series of shots (Hancock et al., 2007). Furthermore, photographs were the simplest way to illustrate how particular facilities were accessible to the learners just like a common saying that ‘a picture is worth a thousand words.’ Equally, a note book was used to record what was observed. McMillan and Schumacher (2010) explain that during and immediately after the observations, the researcher takes field notes to record not only what is seen and heard, but also reflections on what has occurred.

3.8 Pre-test of research instruments

Pre-testing of research instruments was done in Kasama district. It involved 4 teachers, 6 pupils, 1 service provider and 1 parent. The rational was to test the efficacy and the validity of the research instruments especially the questionnaires. Pre-testing also enabled the researcher to identify problems in instruments that the potential respondents might encounter, that was to find out if respondents would find problems in understanding and interpreting the way the questions were phrased. Consequently, questions that failed to measure the intended variables were either modified or discarded by the researcher. Yin (2009) also explains that a pilot case study can help one to refine their data collection plans with respect to both the content of the data and the procedures to be followed.

3.9 Data analysis

According to Corbin and Strauss (2008), data analysis refers to a process of examining and interpreting data in order to derive meaning, gain understanding and develop empirical knowledge. Data was analysed manually and summarised so as to get concise measures using a thematic approach. Thematic analysis is described by Cohen (2007) as a method used for categorising, analysing and showing patterns emerging from data. Analysis was done after the recorded interviews were transcribed accurately as possible through listening to them several times. The transcribed interviews were later translated from Icibemba or Nyanja into English. Data was then coded following the imaging themes which were derived from the research questions. Qualitatively, a lot of the information has been presented in descriptive terms. The researcher presented exactly what the interviewees were saying. The Microsoft Office Excel was used to generate different charts

3.10 Ethical considerations

According to Creswell (2012), collection of data should be done ethically, for instance, respecting sites and the individuals participating in it. Therefore, the researcher paid a courtesy visit to the two District Education Board Secretaries (DEBs) where he obtained written permission to allow him conduct the study (Appendices 12 and 13). This was in accordance with the observation made by

Creswell (2014) that a researcher needs to obtain approval of individuals in authority to gain access to sites and to study respondents prior to the study. Equally, permission to collect data was obtained from the five school administrators of all the institutions. Participation in this study was purely on voluntary basis and respondents were made aware that they could withdraw at any time if they so wished. Kielmann et al. (2012) warn that no research can be conducted without voluntary participation and respondents must be given the choice to refuse or withdraw their participation at any time in the research process. Additionally, Bryman (2008) suggests that the researcher should inform interviewees that their involvement is entirely voluntary and that they are free to withdraw from the study at any time if they felt threatened.

Consequently, respondents were informed about the purpose of the research, expected duration and procedure before collecting any data and they were adequately made aware of the type of information that was to be collected from them. They were also assured that the information they would provide would be used for academic purposes only and would be kept confidential. In the same vein, permission was sought from the respondents before recording any piece of information. In cases where the respondents felt apprehensive to be recorded for one reason or the other, the researcher collected data through note taking. To enhance anonymity, respondents were requested not to write their names on the questionnaires. Moreover, to protect the privacy and confidentiality of the respondents, schools that were selected to participate in the study were given pseudonyms. Research data was solely used for research purposes and no information was made public without prior consent from the respondents.

3.11 Summary

This chapter provided an explanation on the methodology used in the study to collect and analyse data. The study employed a descriptive case study design. The research instruments used were questionnaires, semi-structures interviews, focus group interviews and observation. Measurements of the structures were done and photos taken. Research ethics were adhered to for instance participation in the research was on voluntary basis and interviews were conducted in the language that the respondents were familiar with. Data was analysed using themes and ethical issues have also been highlighted. The next chapter presents the findings of the study.

CHAPTER FOUR: PRESENTATION OF FINDINGS

4.1 Overview

The chapter presents the findings of the study. The findings are presented according to the themes obtained from the research questions namely nature of specialised services accessible to learners with PD, barriers that limited learners with PD from accessing specialised services and views of head teachers, parents, services providers and learners on the significance of specialised services. The findings are presented using tables, pie charts, graphs and the use of verbatim to show the exact responses that the respondents made. Before presenting the findings from the themes of the research questions, demographic data of the respondents was first presented. For example Figure 5 shows the gender for the respondents.

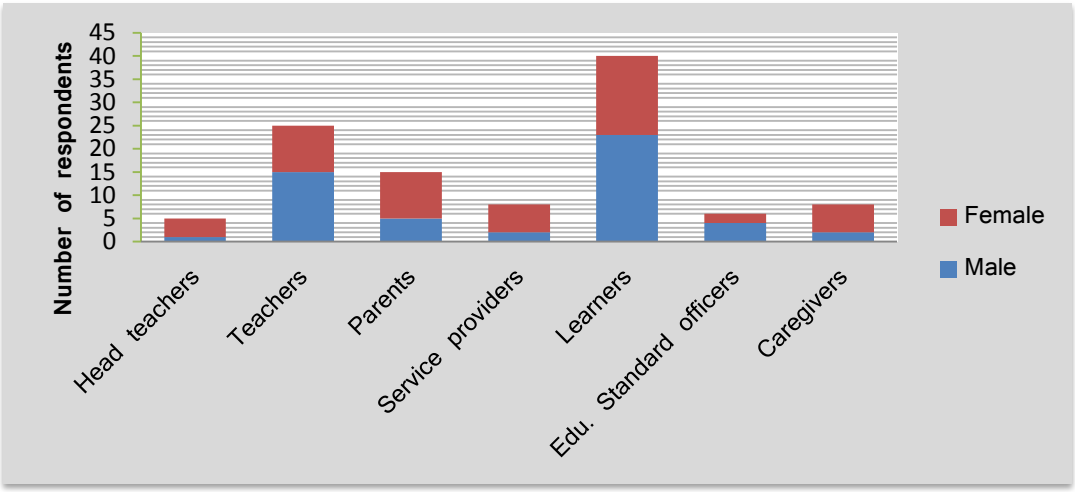

Figure 5: Gender of the respondents (N=109)

Out of 5 head teachers who participated in the study, 4 were females and 1 was male. Out of 25 teachers, 15 were males and 10 were females. 15 parents participated, 5 were males and 10 were females. The total number for service providers was 10, 8 were female and 2 were males. Out of 40 pupils, 23 were males and seventeen 17 were females. Out of 6 education standard officers, 4 were female and 2 were male. 6 from the caregivers were females and 2 were males. Generally the study had more females 57 (52.2%) than males 52 (47.8%)

Respondents were required to state their professional qualifications; their responses are shown in Table 2.

Table 2: Professional qualifications for head teachers, teachers, service providers and education standard officers (N=46)

Qualification	Status of respondents				Total
	Teachers	Head teachers	Service providers	Education standard officers	
Certificate	-	-	2	-	2
Diploma	8	1	3	-	12
Degree	17	3	2	3	25
Master's degree	-	1	1	2	4
PhD	-	-	2	1	3
Total	25	5	10	6	46

The table indicates that out of 25 teachers, 8 had diplomas and 17 had degrees. Among the head teachers, 1 had a diploma, 3 had degrees and 1 had a master's degree. As for service providers, 2 had certificates, 3 had diplomas, 2 had degrees, 1 had a master's degree and 2 had PhDs. The table further shows that from the standard officers, 3 had degrees, 2 had master's degrees and 1 had a PhD. The results indicate that almost all the teachers, head teachers, services providers and education standard officers were highly qualified.

Apart from the qualification, the teachers and the head teachers were asked to say how long they had been teaching and managing schools respectively. The responses are in Figure 6.

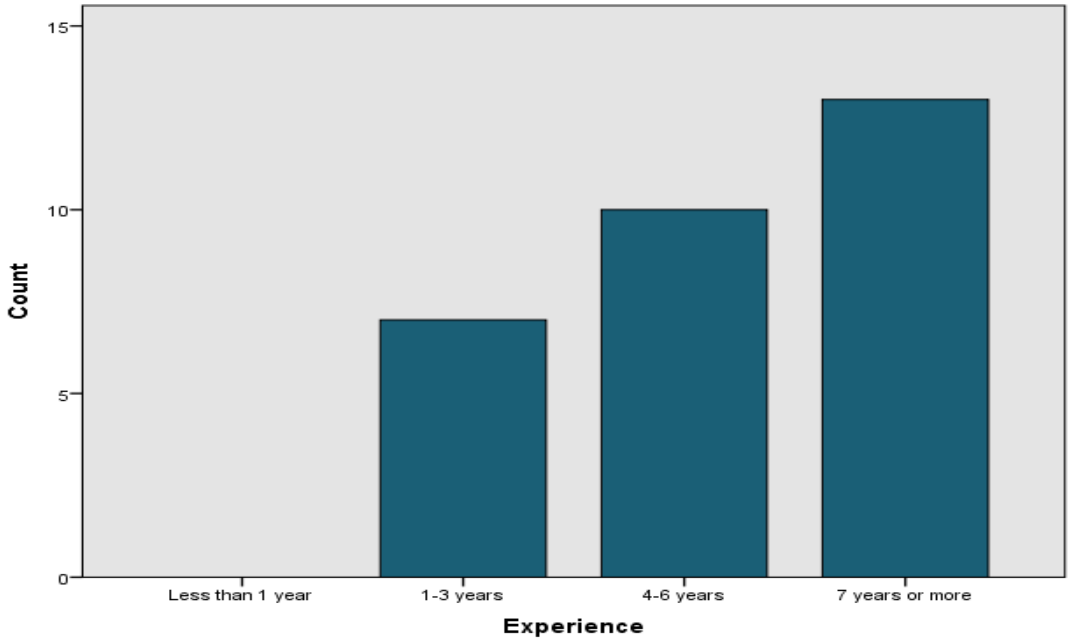

Figure 6: Teaching experience for head teachers and teachers (N=30)

Based on the data shown on Figure 6, all the 5 head teachers had served for seven years or more, 8 teachers had taught learners with PD for seven years or more. Ten teachers indicated that they had been teaching learners with PD for four to six years while the other 7 teachers said they had taught for one to three years. Therefore, if the long period can be translated into adequate knowledge on how accessible the specialised services were to learners with PD, then the teachers and head teachers who participated in the study could be considered competent to provide correct answers on the accessibility to specialised services by learners with PD.

Teachers and learners were also asked whether learners had IEPs. The responses are shown in Table 3

Table 3: Whether learners had IEPs (N=65)

Status of respondents	Responses		Total
	No	Yes	
Teachers	10	15	25
Learners	30	10	40
Total	40	25	65

Fifteen teachers indicated that learners had IEPs whereas 10 said learners did not have. Among the pupils, 10 said they had IEPs and 30 reported they did not have IEPs. Generally the results indicate that few learners had IEPS in the study schools.

4.2 Nature of specialised services accessible to learners with PD

The first objective was aimed at establishing the nature of specialised services accessible to learners with PD. The results are shown in Figure 7.

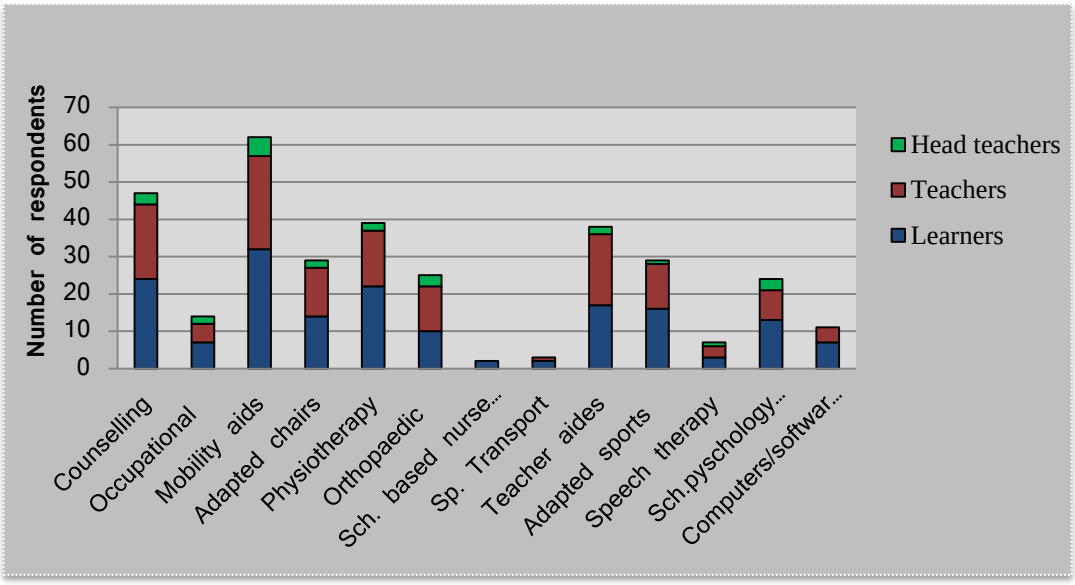

Figure 7: Specialised services/equipment accessible to learners with PD (N=70

The chart shows that out of 70 respondents, 62 confirmed that mobility aids were provided to learners. Most learners with mobility challenges were using wheelchairs, crutches, braces, walking frames and canes. Of all these aids, wheelchairs and crutches were the common used mobility aids. Figure 8 shows pictures of some of the common used mobility aids that learners with physical disability were using.

Figure 8: Some of the mobility aids used by some learners (*Source: Field data, 2018)*

Forty-seven said counselling was offered, 39 said physiotherapy was provided, 38 confirmed teacher aide services were provided, 29 said learners participated in adapted sports, and 29 respondents said learners were provided with adapted chairs. Figure 9 shows pictures of some adapted chairs.

Figure 9: Adapted chairs at Don (left) and Venus (right) (*Source: Field data, 2018*)

A total of 22 respondents said school psychology services were provided to the learners, 11(7 learners and 4 teachers only) said learners had access to computers and software accessible to learners with disabilities, 15 said orthopaedic services were provided to the learners, 14 said occupational therapy was provided and 8 reported that school based nurse health services were provided, 2 said speech therapy was provided and 3 said special transport was provided. A boy who used a wheelchair said:

We do not have modified transport; actually the only bus we have is not modified and is currently in the garage. (Learner 3 from Venus)

Generally the results have indicated that the major services that the learners accessed were mobility aids, counselling, teacher aide services, adapted chairs, adapted sports and physiotherapy. Very few learners accessed services such as orthopaedic, speech therapy, school psychology services, physiotherapy, computers and software accessible to learners with disabilities and occupational therapy.

In order to assess if the curriculum was differentiated, learners were asked some questions. Their responses are shown in Figure 10.

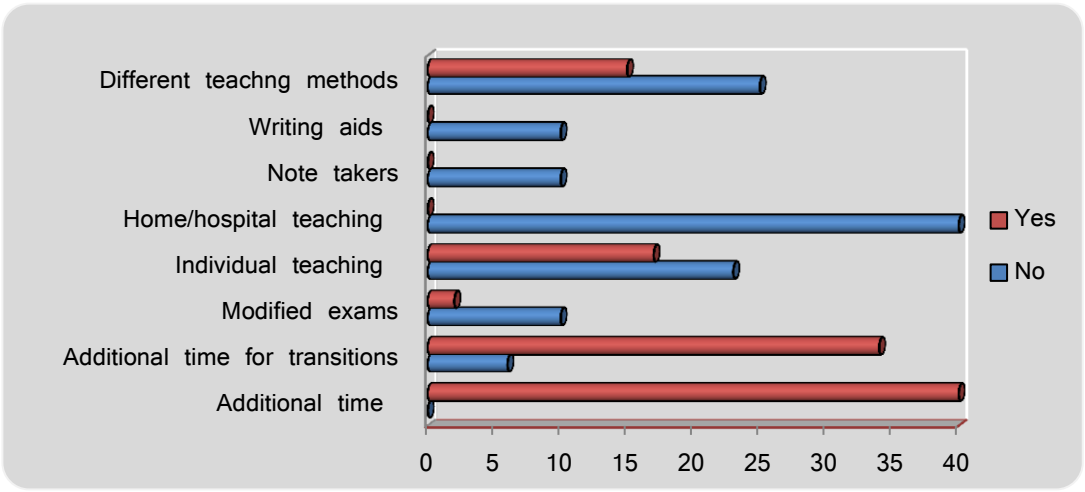

Figure 10: Learners' responses on curriculum differentiation (N=40)

The figure shows that all the 40 learner respondents agreed that they were given adequate time to complete their academic tasks, 34 said they were given additional time for transitions, on the other hand, 6 reported they were not given additional time. Ten out of the twelve learners who needed the examinations and tests to be modified reported that the examinations were not modified whereas 2 said they were modified. Twenty-three said there was no individual teaching while 17 said there was individual teaching. Ten learners who had challenges with writing revealed that they did not have access to note takers and another 10 said they were not provided with writing aids, 25 said teachers never used different methods when teaching and 15 agreed that teachers used variety teaching methods. Generally, the results indicate that the learners felt the curriculum was not differentiated.

Equally, teachers were required to answer questions on curriculum differentiation. Figure 11 summarises the responses.

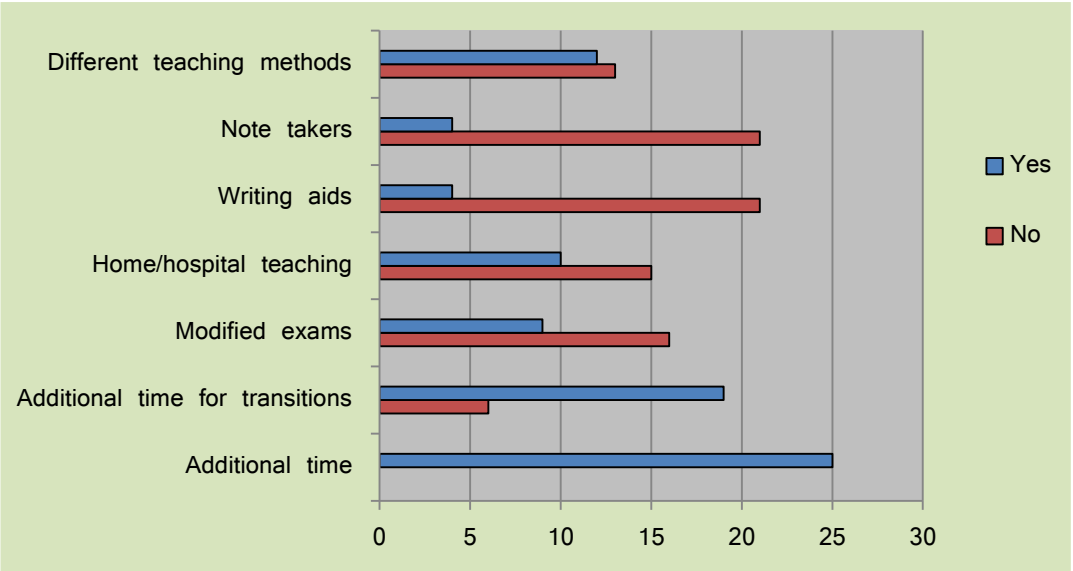

Figure 11: Teachers' responses on curriculum differentiation (N=25)

The figure shows the teachers' responses on whether the curriculum was differentiated. All the 25 teachers said learners were given additional time to complete academic tasks, 19 agreed that learners were given more time for transitions, 6 said they were not given, 16 said the examinations were not modified, 9 said the examinations were modified, 15 said there was no home/hospital teaching, 10 said there was home/hospital teaching, 21 said learners did not have writing aids but 4 said they had writing aids, 21 said learners did not have note takers, 4 said they had note takers, 13 said they used variety teaching methods but 12 said they did not.

The results generally point to the fact that a lot of teachers felt that the curriculum was differentiated. Since many learners who were the majority and a number of teachers indicated that most activities that justify differentiation of the curriculum were not done, it is only right therefore to generally conclude that the curriculum was not differentiated.

In an attempt to establish whether the environments in the schools were accessible to the learners, the learners were asked questions on facilities such as toilets, entrances, chalkboards, ramps, doorways, corridors, classroom spaces, floor and pathways. The responses are indicated in Figure 12.

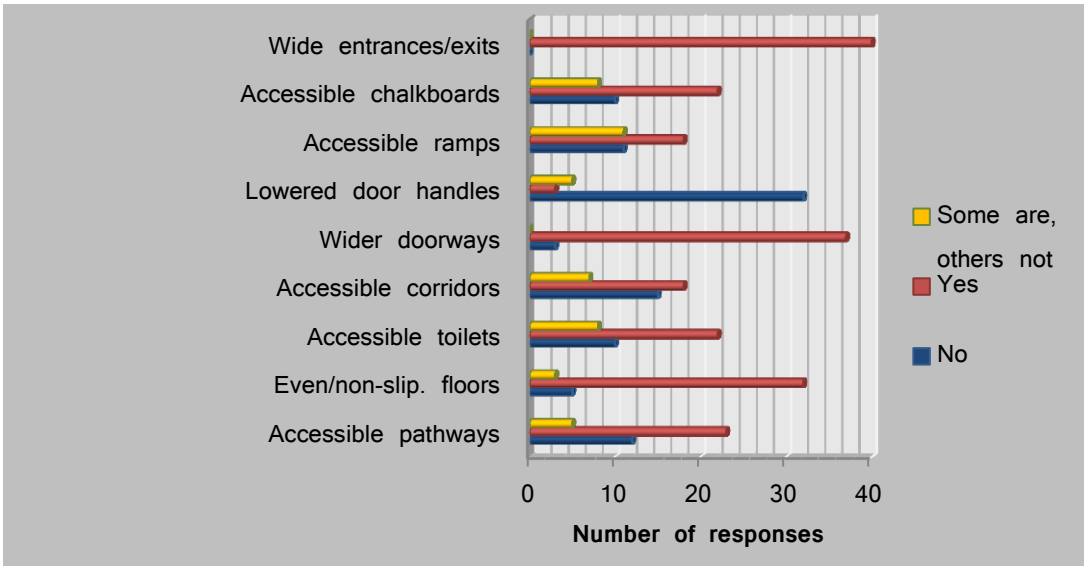

Figure 12: Learners' responses on accessibility to the school environment (N=40)

On the pathways, 23 learners said they were accessible, 12 said the pathways were not accessible and 5 said some pathways were accessible but others were not. Figure 13 shows some pathways from Lusaka based schools.

Figure 13: Paved pathways at Don (left) and Venus (right) (*Source: Field data, 2018*)

With regard to floor surfaces, many (32) said the floor surfaces were even and non-slippery, 5 however had contrary views, they said the floor surfaces were not even, 3 said floors were slippery and even but others were not. A boy from a focus group who was using a wheelchair at Teka School explained:

> *The floor in classrooms and dormitories is very fine; it is not slippery* (Learner 1 from Teka).

But a girl who was using crutches interrupted and said:

> *It is not true, the floors especially in the dormitories are slippery for us who use crutches; one needs to be extremely careful when walking.* (Learner 4 from Teka)

Out out of 40 learners, 22 said the toilets were accessible, 10 however said the toilets were not accessible and 8 said some toilet were accessible while others were not. As for corridors, 18 learners said they were accessible to those using mobility aids. Contrary, 15 reported that the corridors were not accessible and 7 mainly from Dudu/Teka said some corridors were accessible while others were not. An example of an accessible corridor is shown in Figure 14.

Figure 14: An accessible corridor at Don School (*Source: Field data, 2018*

Thirty-seven said the doorways were big enough to accommodate those with wheelcahirs and only 3 said they were not accessible. However, with regards to door handles, majority of the learners (32) did not agree that the door handles were mounted and located at heights low enough to be reached by children with shorter stature and those using wheelchairs, 3 agreed and 5 said some were mounted at

convenient heights but others were not. Pertaining to ramps, 18 said they were accessible, 10 said they were not accessible and 8 said some were and others were not accessible. A ramp with uneven surface is shown in Figure 15.

Figure 15: A domitory ramp at Dudu/Teka (*Source: Field data, 2018*)

A female learner using a wheelchair lamented over the ramp at her dormitory:

> *Some ramps are not gentle and not only that, their surfaces are not smooth, for example the one leading to our dormitory, it is steeper and difficult to climb without help.* (Learner 6 from Dudu)

With regards to chalkboards, 22 learners said they were accessible to children with shorter stature and those using wheelchairs, 10 said they were not accessible and 8 said some chalkboards were accessible but others were not. Forty said the main entrances to the schools were wide enough for children using mobility aids and that all the alternate exits were free of steps. Eighteen said the slopes of the ramps were accessible, 11 did not agree and another 11 said some ramps were accessible and others were not.

4.3 Findings from the observations and measurements

With regards to the availability of big tables in the classrooms, the study found that very few classes had big tables for the learners using wheelchairs. An example of a classroom with big tables is shown in Figure 16.

Figure 16: A learner on a wheelchair using a big table at Don (*Source: Field data, 2018*)

The average measurements for the structures were as follows: corridor width (between 1.7m and 2.3m), height of door handles (between 0.84m and 1.15m), width of pathways (between 1.97m and 2.2m), distance between grab bars and toilets (between 0.79m and 0.89m). In terms of slopes of the ramp, measurements done indicated that the average gradients were between 1:21 and 1:10. Figure 17 shows some of the ramps in some schools.

Figure 17: Ramps at Venus (left) and Don schools (right) (*Source: Field data, 2018*)

As for the urinals, the heights of the rims of the urinals from the floor surfaces were between 0.4m and 0.44m and they were mounted at different heights as shown in Figure 18. The urinals were only found at Don School.

Figure 18: Adapted urinals at Don School (*Source: Field data, 2018)*

In terms of classroom space, generally most classrooms were crowded with furniture as could be seen from Figure 19.

Figure 19: A classroom at Dudu (*Source: Field data, 2018)*

As for the toilet spaces, the spaces were between 0.85m x 1.05m and 2m x 2.05m. The toilets were adapted apart from those from Venus School. Figure 20 shows some adapted toilets.

Figure 20: Toilets with grab bars at Dudu (left) and Don (right) (*Source: Field data, 2018*

When asked about the challenges they were facing, one male caregiver from Kasama schools said:

> *Sanitation is very bad at this school. All the toilets you have seen do not flush, learners pour water after using the toilets therefore this is a great challenge for those with dexterity problems and for us who clean the toilets.* (Caregiver 6)

Measurements on some structures and facilities were done. Table 4 shows the field measurements and the standard measurements of some school facilities. The measurements on the gradient of the ramps indicate that they were between 1:11 and 1:21 implying that the slopes of some ramps were accessible while others were not. In terms of the width of the ramps and the corridors, all the measurements obtained from the field were bigger than the standard measurement meaning they were all accessible. With regards to the height of the door handles, the field measurements are bigger than the standard one meaning the door handles were inaccessible to learners with short statures. The measurements on toilet spaces, toilet grab bars and the height of the chalkboards show that they were in accordance with the prescribed standard measurements, meaning they were all accessible.

Table 4: Findings on measurements of the structures and facilities

Author	Structure /facility	Standard measurements	Average measurements			
			Don	Dudu/ Teka	Hope	Venus
Parks Victoria (2013), ADA (2004)	Ramps gradient	Less than 1:20	1:14 - 1:21	1:11 - 1:20	1:17 - 1:20	1:10 - 1: 21
Bob (2014)	Ramp width	1.8m and above	2.12m	2.26m	1.92m	1.96m
AusAID(2013) , Light for the World(2008)	Corridors Widths	1.5m – 1.8m	2.02m	2.27m	1.7m	2.3m
Handicap International (2008)	Height of door handles	0.8m – 0.9m	1.2m	1.25m	1.21m	1.24m
ADA (2004)	Width of Doorways	0.815m	0.84m	1.15m	0.95m	0.92m
Bob (2014)	Toilets space	1.5m × 1.5m	2m × 2.05m	0.87m × 1.64m	1.89m ×1.42m	1.99m 1.46m
Handicap International (2008)	Width of Pathways	1.5m – 1.8m	2.02m	2.2m	1.97m	1.2m
ADA (2004)	Height of toilet Grab bars	0.84m -0 .915m	0.8m	0.79m	0.89m	Nil
Light for the World (2014)	Height of Chalkboard	0. 92m and less	0.855m	0.84m	0.91m	0.87m

A question was asked to ascertain whether the accessible specialised services were adequate. The responses from the respondents (head teachers, teachers, service providers, education standard officers and the learners) are shown in Table 5.

Table 5: Responses as to whether the specialised services were adequate (N=86)

Category of respondents	Responses		Total
	Yes	No	
Head teachers	0	5	5
Teachers	3	22	25
Service providers	0	10	10
Education standard officers	0	6	6
Learners	11	29	40
Total	15	71	86

The displayed results indicate that all the 5 head teachers said the services were not adequate. Twenty-two teachers said the services were not adequate but 3 said they were adequate. All the 10 service providers and all the 6 education standard officers said the services provided were not adequate. Among the learners, 29 said the services were not adequate but 11 said the services were adequate. Generally, a large proportion of the respondents indicated that the specialised services provided were not adequate.

Similarly, head teachers, teachers and learners were asked to state how satisfied they were with the specialised services that were accessible to learners with PD. The responses are in Table 6.

Table 6: Whether respondents were satisfied with the accessible specialised services (N=70)

Responses	Category of respondents			Total
	Head teachers	Teachers	Learners	
Extremely satisfied	2	0	0	2
Satisfied	1	12	12	25
Somewhat satisfied	1	2	0	3
Not satisfied	1	11	28	40
Total	5	25	40	70

Majority of the respondents (40) were not satisfied with the specialised services that were accessible to learners with PD. Twenty-five said they were satisfied with the services. Two said they were extremely satisfied, and 3 said they were somewhat satisfied. It is clear from the findings that many of the respondents were not satisfied with the specialised services provided.

4.4 Barriers that limited learners from accessing specialised services

The second research question was aimed at determining barriers limiting learners with PD from accessing specialised services. Table 7 summarises the responses of the respondents.

Table 7: Barriers that limited learners to access specialised services (N=69)
SP - Service Provider, T-Teacher, HT- Head teacher, ESO –Education Standard officer. P-Parents, CG-Caregivers

Barriers	Status of respondents and number of responses for each barrier						Total responses
	SP	T	HT	ESO	P	CG	
Less funding from government due to poor attitudes	7	24	5	6	3	3	48
Negative attitudes by school administration		7		6	3	1	17
High cost of specialised equipment	3			3	8	2	16
High poverty levels among parents	1	7	1	2	8	1	20
Negative attitude by parents	1	4	1	2	3	5	16
Shortage of service providers	5	16	3	6	6		36
Inadequate specialised equipment	4	12	3	6	2		27
Physical inaccessibility		10	2	7	4		23
No collaboration between schools and service providers		2		5	2		9
Lack of modified transport		5	1	2	3		11
Shortage of caregivers		3	2			4	9

The table indicates that most respondents felt that less funding from the government was the greatest barrier (indicated by 48 responses). Contributing on the challenges that learners with PD were facing to access specialised services, one education standard officer said the following:

> *The greatest challenge still has to do with the attitude people have towards disability especially those in authority. This negative attitude affects even funding. They don't think disability is an issue. We talk about overcoming and giving them their rights but what is obtainable on the ground is quite different.* (Education standard officer 5)

Similarly, one service provider elaborated:

> *The challenge comes because for you to give full treatment to a patient, you need to know what is wrong with them and detailed investigation such as the use of the MRI or CT scan are needed to figure out what is wrong with the child. So you find such limitations that you want to do MRI but the hospital has limited funds to do additional investigations and parents also cannot afford to pay hence so you find there are limitations in the treatment and diagnostic side.* (Service provider 1)

A senior education standard officer elaborated why there was less funding to special education:

> *MoGE does not budget specifically for Special Education. We attended a workshop in South Africa which was attended by 17 countries from the sub region. Of all those 17, it was only Zambia that didn't have a Directorate or a Unit and those Units are funded separately, now since Special Education doesn't have a Directorate, it becomes a big challenge to fund it, once a Directorate or a Unit is created; Special Education will be given a specific funding and a specific structure. We don't have for example the Directorate, no chief for Special Education, all we have is the Principal Education Standard Officer (PESO), and Senior*

Education Standard Officers (SESOs) at the province. The reason is because Special Education is looked at as a cross-cutting issue that's why it is not funded. (Education standard officer 1)

The second barrier was shortage of service providers (with 36 responses). This barrier was felt much by learners from Kasama based schools where the respondents said learners did not have physiotherapy despite having the equipment. The physiotherapy equipment is shown in Figure 21.

Figure 21: Physiotherapy equipment at Dudu/Teka (*Source: Field data, 2018)*

One female teacher who took the researcher on a conducted tour of the physiotherapy room explained as she pointed at the beds as shown in Figure 22:

Since the only physiotherapist at the general hospital was transferred, the physiotherapy room has become obsolete. The equipment is gathering dust as you can see for yourself. (Teacher 6 from Dudu)

Figure 22: Unused physiotherapy beds at Dudu/Teka (*Source: Field data, 2018)*

When asked if they had physiotherapy, some learners from a focus group said they did not. A boy using crutches further explained:

> *We don't, the physiotherapist stopped coming in 2013, since that time we have not been having physiotherapy*. (Learner 2 from Dudu).

The other barrier that limited learners from accessing specialised services was inadequate specialised equipment indicated by 27 responses. Physical accessibility with 23 responses was another notable barrier. Majority of the respondents on this barrier also were from Kasama Schools. Figure 23 shows the state of some corridors in Kasama district.

Figure 23: Part of a corridor at Dudu/Teka (*Source: Field data, 2018*)

High poverty levels among the parents were another barrier indicated by 20 responses. For instance, a female parent said:

> *The father to this boy doesn't care for him and all my other children. I earn my living through selling fruits and vegetables at the market and from the money I make, I feed and take them to school. Pertaining to help, I really want to help my son but money is a problem. Actually even the wheelchair he uses at home was bought by our Member of Parliament.* (Parent 10)

Additionally, when asked about the challenges she was facing, a service provider observed:

> *Poverty among the patients is one of the greatest challenges that we have as an institution. For example you can perform a surgical correction which will need an assistive device later; assistive devices are not covered because they are expensive but materials need to be bought to be used in the making of assistive devices, so parents are asked to give something as cost sharing. However most families cannot afford, so if you have already done the surgery, you find you can have a recurrent of the deformity because you are delaying to use the supportive devices, so this is a great challenge on treatment part.* (Service provider 2)

In order to establish whether parents helped in the provision of specialised services, 88 respondents gave their responses as shown in Table 8.

Table 8: Whether parents helped in the provision of specialised services (N=88)

Category of respondents	Responses		Total
	No	Yes	
Parents	10	5	15
Teachers	16	9	25
Caregivers	4	4	8
Learners	28	12	40
Total	58	30	88

The results above indicate that from the 15 parents interviewed, 10 admitted that they were not helping their children in terms of provision of specialised services. The

other 5 parents reported that they helped their children. 16 teachers reported that parents were not assisting their children and 9 said they were helping. Four caregivers said parents did not help in the provision of specialised services while the other 4 said they helped. The learners' responses also agreed with the parents' responses because 28 said the parents were not assisting in the provision of specialised services; however, 12 learners said parents helped. The overall findings were that most parents did not help their children in the provision of specialised services.

This finding can be justified by Figure 24 showing the number of mobility aids bought by the parents compared to other buyers.

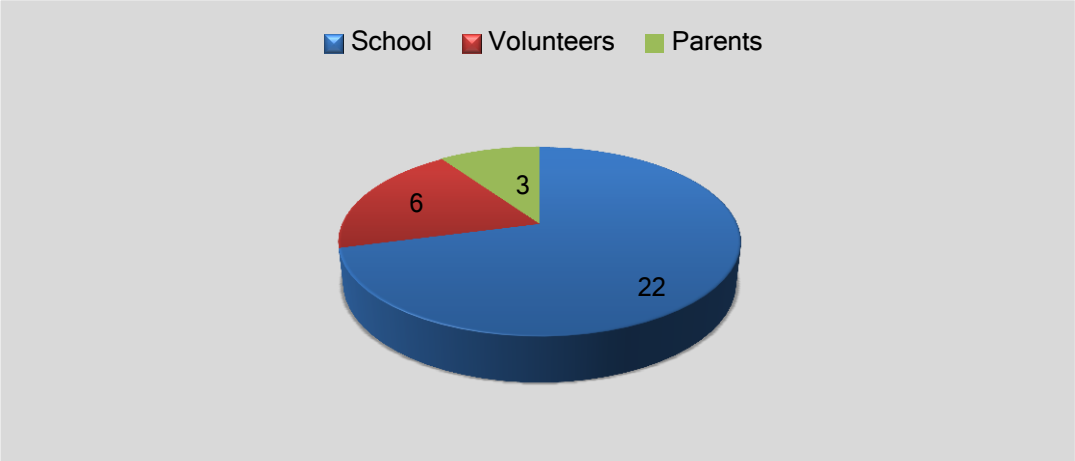

Figure 24: Mobility aid providers (*Source: Field data, 2018)*

The results indicate that 22 mobility aids were bought by the schools. However, schools did not buy mobility aids because all the school head teachers revealed that most of the mobility aids the learners were using were donated by organisations such as the World Vision Zambia and Sisters of Sacred Heart of Jesus Christ. Six mobility aids were bought by volunteers. Only 3 mobility aids were bought by the parents.

However, learners from the grant-aided schools such as Hope Special School had enough mobility aids. The school had mobility aids such as standers and wheelchairs which were just parked, unused (see Figure 25).

Figure 25: Unused wheelchairs at Hope School (*Source: Field data, 2018*)

Responding to a question as to who purchased the mobility aids, one male head teacher said:

> *Most of the wheelchairs that our learners use are donations from well-wishers*. (Head teacher 5)

The other barrier was negative attitude from the school administration with 17 responses. Some teachers from Kasama schools cited the partitioning of the physiotherapy room (Figure 26) so as to create a classroom as a sign of negative attitude.

Figure 26: The partitioned physiotherapy room at Dudu/Teka (*Source: Field data, 2018)*

Contributing on the topic of negative attitudes, an education standard officer expressed her disappointments:

> *At one time I got so upset with the school administration at Dudu/Teka because they started parking things and books in the*

physiotherapy room until I told them…. can you remove everything because it shows that you don't have a heart for the children. (Education standard officer 5*)*

High cost of specialised equipment was another barrier with 16 responses. This can further be illustrated by the quotation from one parent below:

Wheelchairs and other equipment are very expensive for most of us parents. That's why we fail to buy them; how I wish government could sell them at affordable prices. (Parent 12)

Negative attitudes from parents had 16 responses; predominant among the respondents were the caregivers. One male caregiver revealed:

Some of the parents who bring their children to the special school do not bother to pay them a visit or assist them in any way. It's like when they bring these learners; to them it's a strategy of removing a burden from their home, that's why they dump them here to be taken care by the school. I have on many occasions bought these learners basic groceries because their parents don't care. (Caregiver 6)

Another barrier was lack of modified transport which yielded 11 responses. No collaboration between schools and the health service providers had 9 responses and shortage of caregivers was another identified barrier with 9 responses. For instance a male head teacher had this to say:

The caregivers to assist the pupils in the hostels are not there. We have two caregivers against 150 pupils in the boarding. (Head teacher 4)

4.5 Findings on the views from head teachers, teachers, parents, service providers and learners on the significance of specialised services

Table 9 displays how the respondents ranked the significance of specialised services to learners with PD.

Table 9: How the respondents ranked the importance of specialised services (N=46).

Responses	Category of respondents				Total
	H/teachers	Teachers	Service providers	Education standard officers	
Very important	4	25	7	4	40
Important	1	0	3	2	6
Moderately important	0	0	0	0	0
Of little importance	0	0	0	0	0
Not important	0	0	0	0	0
Total	5	25	10	6	46

According to the displayed results, 4 head teachers indicated that specialised services were very important; 1 said specialised services were important. All the 25 teachers said specialised services were very important. Seven service providers indicated that specialised services were very important while 3 service providers said specialised services were important. Among the education standard officers, 4 said specialised services were very important and 2 indicated that specialised services were important. It was clear from these findings that respondents felt specialised services were very important to learners with physical disability.

The following summarises the responses from the respondents concerning the importance of specialised services that learners with PD were accessing.

The respondents said physiotherapy increased mobility capacity. It also improved muscle tone, gait and posture. The respondents equally said physiotherapy also decreased the likelihood of contractures and bone deformities and enabled learners to sit properly and prevent disabilities from being worsened. A girl using callipers noted:

> *Physiotherapy enables my legs to be straightened and when that happens, mobility also improves*. (Learner 4 from Hope)

Additionally, a boy with a hip dislocation who was provided with physiotherapy at Don School expressed his happiness:

> *Physiotherapy enables me to walk, normally after the exercises, I feel lighter and I become active. Am able to attend lessons and play with my friends.* (Learner 8 from Don)

Few teachers and learners mainly from Lusaka expressed their views on the importance of occupational therapy to the learners. They said that learners were able to learn skills on how to perform activities for daily living such as eating, grooming, toileting and many others.

As for counselling, the learner respondents said that it made them accept their disability and to behave well. Some teacher respondents from schools that had learners without disabilities such as Don, Dudu and Teka indicated that counselling in a way helped in eliminating the stigma among learners for it made other learners without disabilities to appreciate their peers with disabilities and this in turn increased self-esteem and confidence among learners with disabilities. These sentiments were equally expressed by the learners. For instance one female learner said:

> *Group counselling has made our friends without disabilities to understand our conditions and most of them treat us well.* (Learner 3 from Dudu)

Counselling was done to the parents as well by some service providers. For example a service provider explained that before and after a performing a surgery, parents needed to be counselled for them to understand the disability.

> *Counselling of parents is done to make them understand limitations on an individual basis, to give them hope because there is always hope to live an independent life even when one has a child who is disabled.* (Service provider 1)

With regards to mobility services, the respondents said it eased mobility hence it enabled learners with mobility challenges to access many services. It also enabled the learners to interact with others. Some learners indicated that mobility aids promoted autonomy because they were for example able to go to the toilet without being

assisted. Teacher respondents indicated that mobility aids such as crutches and walkers provided extra balance and stability for hemiplegic and monoplegic children and hence enabled them to be socially accepted by their peers. Additionally, teachers and parents said mobility aids such as wheelchairs was a lifeline to children with mobility impairments. For instance, one female parent from Kasama had this to say:

> *Before our member of parliament donated the wheelchair to my son, he used to crawl, but now he is able to play with his friends and he is able to do anything he wants.* (Parent 7)

Another female parent of a child at Don School also observed that:

> *Before a Whiteman bought a wheelchair for my child, I used to carry him on my back from home to school every day. It was not easy as you can see he is grown up. But after the wheelchair was bought, life has been better for him and for me though my worry now is that the wheelchair is slowly wearing out and I don't know who will help me buy another one.* (Parent 2)

A grade two girl who used a prosthetic leg explained her experiences:

> '*Using a prosthetic leg has enabled me to do many things that I never used to do.'* (Learner 3 from Hope)

Pertaining to the adapted environment, the respondents said it generally made mobility and life easy as it enabled the learners to interact with the school environment and through that, they were able to access many other services. A boy using a wheelchair gave the following example:

> '*We are able to wash our hands after using the toilets because the hand washtubs are accessible to us.'* (Learner 2 from Don)

As for the teacher aides, the respondents said teacher aides generally assisted special teachers in many daily activities such as teaching, feeding the pupils and taking the children to the toilet. A girl said:

> *Teacher aides help us in almost all classroom activities, for example they escort us to the toilet.* (Learner 1 from Hope)

With regards to sports, many respondents said sports improved physical fitness and enhanced good healthy. A grade 8 boy who used a forearm crutch said:

> *I play football with my friends here in school and at home and through it, I am fit and I am able to have friends both in school and at home.* (Learner 8 from Don)

With regards to adapted chairs, the respondents who were teachers mostly pointed out that adapted chairs enabled learners to sit comfortably in upright position thereby enabling them to concentrate in class.

Pertaining to orthopaedic services, the respondents who were orthopaedic surgeons said that the services had several benefits to children but the most important was that orthopaedic services corrected deformities and children who underwent successful surgeries improved their lives. One female orthopaedic surgeon explained:

> *Surgical services serve to correct deformities that can be corrected in children with orthopaedic problems. We perform surgeries such as straightening legs, joint arthrodesis and implants for treatment of rotational deformities. Once these are done successfully and the child returns home, the child's life changes as stigma is reduced and they live a much independent life.* (Service provider 1)

4.6 Summary

The chapter presented the findings of the study. The results have indicated that the major services accessible to learners were adapted environment, counselling, teacher aide services and physiotherapy. Moreover, learners had access to mobility aids. The findings on the school environment also indicate that the main entrances and all the alternate exits were accessible. Floor surfaces, chalkboards, toilets and all the doors were also accessible. Some ramps were accessible while others were not. On the other hand, corridors in Lusaka schools were accessible but those in Kasama were not. Classrooms in all the schools did not have enough spaces and few learners sitting on wheelchairs had big tables. Generally schools based in Lusaka had accessible environments compared to Kasama schools. The findings also have shown that all the door handles were not accessible especially to learners of short stature and those using wheelchairs. The major barriers inhibiting learners with PD from accessing specialised services have also been highlighted. Equally, respondents'

views on the significance of specialised services have been presented. The overall view on the accessibility of specialised services is that learners from urban areas accessed more services than those from rural. The next chapter discusses the presented findings.

CHAPTER FIVE: DISCUSSION OF FINDINGS

5.1 Overview

This chapter discusses the findings on data presented on the three themes obtained from the research objectives namely nature of specialised services accessible to learners with PD, barriers that limited learners with physical disability from accessing specialised services and views of head teachers, teachers, parents, services providers and learners on the significance of specialised services.

5.2 Adequacy of the accessible specialised services

With regards to the question on whether the provided specialised services were adequate, the general findings were that majority of the respondents said the services were not adequate. Very few learners had access to orthopaedic, physiotherapy, adapted environment, occupational therapy, school psychological services and speech therapy. The inadequacy in the provision of services was attested through the findings on the number of learners who had IEPs; most respondents said few learners had IEPs. The findings validate the observation made by the WHO/World Bank (2011) that support services are not yet a core component of disability policies in many countries as could be seen from the gaps in service provision everywhere. Additionally, the findings of the present study are in conformity with the findings by Pechak and Thompson (2007) and WHO (2003) that explained that majority of the PWDs live in low income countries with inadequate access to health and rehabilitation services.

5.3 Nature of specialised services accessible to learners with PD

5.3.1 Accessibility to health related services

For the purpose of this study, services that can be categorised as health related are physiotherapy, occupational, orthopaedic, adapted sports, speech pathology services and school based nurse health services. The findings from the study have revealed that the accessible health related services were physiotherapy, occupational, orthopaedic and adapted sports.

Physiotherapy, occupational and orthopaedic services were provided to Lusaka based learners only because the service providers were available at the two referral hospitals that is UTH and St. John Paul II Orthopaedic Mission Hospital. With regards to orthopaedic services, Makasa and Munthali (2009) correctly observed that almost all the orthopaedic surgeons in Zambia are based in Lusaka at St. John Paul II Orthopaedic Mission Hospital and UTH which happens to be referral hospitals for the whole country. The study discovered that there were no orthopaedic surgeons in Kasama district. Physiotherapy and occupational services were provided once per week. There were particular days in a week when the services providers visited the schools to provide the services. Learners at Hope school accessed physiotherapy services at any time whenever they required the services because the school had a physiotherapist based at school.

Pertaining to school based nurse health services; respondents reported that the service was not provided. Teachers said pupils were always taken to the hospital when they fell sick. This result agree to the finding by Wachianga (2010) who found that the health school services were not provided as one of the support services to the learners with PD in Kenya. The study further explained that students were referred to the hospitals as they were no nurses at schools. The importance of school nurses cannot be over emphasised in relation to the health issues of children with physical disability. School based nurses can deal with medical emergencies that occur at awkward hours. Reddihoug and Katherine (2008) contend that school nurses either in mainstream or special schools are able to address everyday health issues such as bowel and bladder management. Additionally, the Spina Bifida and Hydrocephalous Association of Canada (2010) explains that the nerves that control bladder and/or bowels are located in the lower part of the spinal cord, as a result many children for example with spina bifida have varying degrees of paralysis of the musculature of the bowel and/or bladder (the sphincter muscles), hence, this causes urine and stool to leak out spontaneously or to back up causing kidney damage, chronic constipation or a bowel blockage. Therefore school nurses are very vital to attend to such health issues of learners with PD.

With regard to speech therapy services, the study has shown that it was mostly done by the teachers and was only provided to minority learners in Lusaka based schools.

Most learners with physical disability have speech disorders which require speech therapy. Children with speech problems may not be able to control her lips, jaw and tongue. Therefore making it difficult for them to talk clearly and make themselves understood (Berker and Yalcin, 2010). Speech therapy helps children with speech problems to achieve a greater ability to use and understand language. The Murdoch Children's Research Institute (2017) writes that Speech language pathologists (SLPs) work across areas such as the physical production of sounds, language understanding, fluency, voice production and pragmatics so as to promote the functional development and/or recovery of communication skills. McConkey (2001) also explains that SLPs can advise on feeding problems in younger children as well as helping children to acquire language and speech or to learn alternative means of communications. Therefore, failure to access speech therapy can worsen a child's ability to acquire some communication prowess hence such children may produce intelligible speech. A child with an intelligible speech can be frustrated at times and frustration can breed low self-esteem which in turn can cause such learners to refrain from participating in many school activities for fear of being laughed at or teased by other learners. Withdraw from participating in school activities can also have many negative multiplier effects such as absenteeism from school and poor school performance. Therefore, there is great need to ensure learners with communication disorders are provided with speech pathology services.

5.3.2 Accessibility to the education related specialised services

Specialised services related to education include counselling, school psychological services, teacher aides and curriculum differentiation. The study has found that learners accessed psychological services, counselling and teacher aides. Psychological services were mostly done by teachers apart from Don Special School which had a qualified educational psychologist. Counselling was done in all the five schools and teacher aides' services were accessible to almost all the schools with the exception of Hope school where there was a shortage of teacher aides.

On the issue of curriculum differentiation, the study findings clearly show that even though some teachers felt that the curriculum was differentiated, the overall results from learners and almost half of the teachers indicated that the curriculum was not

differentiated. Apart from learners being given extra time to complete academic tasks and time to transient from one class to the other, majority of the learner respondents observed that the content and the process of the curriculum were not differentiated in any way. Teachers were not using variety teaching methods. Learners who required the services of computers and other teaching aids also did not have access to them and those who had challenges with writing did not have note takers to assist them, neither were they provided with writing aids of any kind. McConkey (2001) notes that writing can be especially difficult for children if they have problems controlling their hands and arms and thus recommend that such children may need extra time to do their writing, or they can be provided with a written copy of the information or another pupil may write for them. Additionally, learners who fell ill for a longer time at home or at hospital confirmed that teachers never conducted alternate teaching so as to enable them be at the same level in lesson coverage with the other learners.

Teachers can significantly improve educational outcomes of students with diverse abilities by using variety of teaching methodologies. Flexible approaches in teaching and learning are needed to respond to the diverse abilities and needs of all learners. Literature in many parts of the world has demonstrated that learners normally do not perform better where curricula and teaching methods are rigid. Children with disabilities need high quality educational environments that include flexible curriculum strategies which can be adapted to the needs of various learners, classroom based strategies to identify needs of struggling learners, access to relevant learning materials; a responsive curriculum that fosters relevant and participatory learning (Croft, 2013; Elder, 2015; UNESCO, 2014). The curriculum should be flexible in terms of time, teaching and learning resources, methodology, and mode of access, presentation and content. Additionally, Quebec, MOE (2015) writes that differentiated instruction is extremely important in helping students with motor impairments to achieve success. Teachers must choose better ways to respond to the needs of students with disabilities and their choices must be based on a good understanding of the special students. King-Sears (2011) states that for those students who need further modifications, the design and delivery of modifications should be done in a manner that is thoughtful and considerate of individual student needs. Therefore, the curriculum must be modified to ensure it is appropriate to the

needs of individual learners for learning and teaching to be meaningful to such learners. For example a pupil who cannot hold a pen to write for a longer period of time can be given an oral task instead of forcing such a one to write.

What was astonishing was that though many teachers did not differentiate the curriculum, data collected on their professional qualifications show that almost all of them had good professional qualifications and were seasoned teachers who taught for more than seven years. It is common knowledge that they were expected to provide the best services in terms of teaching/learning to the learners. Some plausible explanations to this situation can be that the teachers were not trained in inclusive teaching practices or if they were, then probably the school administration and the education standard officers were not monitoring teaching and learning in the schools. With regards to gaining some skills on inclusive teaching practices, ACPF (2011) suggests that teachers can be equipped with these skills through elaborate in-service training programmes; these programmes enable teachers to be abreast not only with new teaching/learning development but with good practices in areas such as curriculum adaptation and the use of computer technology.

5.3.3 Accessibility to the specialised equipment

The specialised equipment accessible included wheelchairs, crutches, braces (such as the ankle foot orthoses-AFO), canes, walkers, callipers and prostheses. The study has revealed that there was no child who was crawling in all the schools on account of not having a mobility aid. The adapted chairs that learners were using apart from wheelchairs were the wooden special chairs. A wheelchair is mobility as well as a seating device (positioning device) in children with severe motor dysfunction, poor sitting balance and no functional ambulation (Berker and Yalcin, 2010). The wooden adapted chairs however were found in Lusaka based schools only.

With regards to computers and software that can enhance learning and teaching among learners with disabilities, the study has revealed that this educational service was lacking in all the schools. Actually all the three government schools (Venus, Dudu and Teka) did not have even ordinary computers. The other grant-aided schools (Hope and Don) had computers but the computers did not have specialised software. Computers and software accessible to learners with disabilities are cardinal

in ensuring such learners have access to educational materials. For example Durek Skejic (n.d.) explains that an individual who has a difficult in holding printed material or turning pages may benefit from a reading system. These systems are typically made up of hardware (scanner, computer, monitor, and sound card), Optical Character Recognition (OCR) software, and a reading/filling program. Hard copy text is placed on the scanner where it is converted into a digital image. The image is then converted to a text file making the characters recognizable by the computer. The computer can then read the words back using a speech synthesizer and simultaneously present the words on screen. Such software and many others could go a long way in helping learners with disabilities to do better in their academics. There is no doubt that lack of these programmes negatively affected the learners.

5.3.4 Accessibility to the built school environment

5.3.4.1 Accessibility to the school entrances

The research has revealed that the main entrances to the schools and all the alternate exit routes were free of steps and were wide enough to allow children using big mobility aids to pass without problems. The findings are in line with the recommendations by UNESCO (2014) that says that entrances should be free of steps and must be wide enough to accommodate children who use wheelchairs and other assistive devices. Entrances to schools need to accommodate learners with diverse disabilities because accessibility starts at the gate when a child enters the school. Accessible entrances can foster independence and give pupils a sense that they are part of the school.

5.3.4.2 Accessibility to corridors

With regards to the width of the corridors, the responses from the teachers and the learners have indicated that the corridors were wide enough to allow two wheelchair users to by-pass each other. Equally the findings from the measurements have revealed that they were according to the stated standard accessibility guidelines of 1.5m to 1.8m. The average widths for corridors in all the schools were between 2.01m to 2.27m; therefore this means that the corridor were accessible according to

AusAID (2013) recommendations which states that corridors must have a minimum width of 1.8m for ease mobility and manoeuvrability with other pedestrians.

However, despite being accessible in terms of width, corridors in Kasama schools were inaccessible. Samantha (2006) notes that corridors inside and outside buildings should be wider, level and non-slip. Whereas the corridors in Lusaka based schools had even surfaces and were well maintained, the findings in Kasama schools revealed that the corridors did not have even surfaces; the surfaces had several tiny and big holes thus creating so many bumps and discomfort for those using wheelchairs and crutches. It was clear from the observations that the children using wheelchairs found difficulties to pass on such corridors especially when the wheelchair got into a sizeable pot hole. This is why Borg (2011) explains that although assistive technologies have the potential to improve quality of life and participation of persons with disabilities, success cannot be guaranteed. This is because without an accessible environment, some assistive devices cannot be used efficiently. Actually, incompatibility with the environment may render certain specialised equipment useless. Similarly, the unevenness of the corridors in Kasama based schools made learners not to be able to wheel themselves without assistance. This conforms to the explanation by the WHO/World Bank (2011) that a person's physical environment has a huge impact on the experience and extent of disability and that an inaccessible environment can make a person with a disability to depend on others for assistance. Many respondents also reported that the uneven corridor surfaces delayed their movements from one place to the other. Additionally, the bumpy corridors in a way also contributed to quick wearing of the wheelchairs and other mobility aids. There is great need to do something to make the corridors accessible in order to enhance easy movement of learners within the school premises.

5.3.4.3 Accessibility to the pathways

The learners responses have indicated that the pathways were accessible despite the fact that majority of teachers had contrary views, 14 teachers out of 25 indicated that the pathways were not accessible. Nevertheless, the field data measurements have indicated that the average widths ranged from 1.7m to 2.2m in all the schools and the prescribed standard measurement is between 1.5m and 1.8m according to

Handicapped International (2008). This means that generally the width of the pathways were big enough to accommodate two-way wheelchair traffic. The study also found that pathways in Lusaka schools were paved but Kasama schools had unpaved pathways. The AusAID (2013) distinguishes accessible pathways from inaccessible ones by explaining that hazardous pathways are those that are uneven and unpaved, have holes, are not wide enough and have many steps or changes in level. It was evident from the observations made by the researcher that lack of paved pathways at Dudu/Teka schools restricted movement of children using wheelchairs. Learners were only confined to moving on corridors; they had challenges to wheel themselves from corridors onto the unpaved pathways without being lifted. Moreover, unpaved pathways were sandy thereby limiting wheelchair movement. It is against such reasons that Samantha (2006) recommends that the pathways should be smooth, firm, and level to facilitate easy movement for learners using mobility aids.

5.3.4.4 Accessibility to the ramps

The study found that all the schools had ramps. These findings are contrary to Addo (2014) finding that reported that students with wheelchairs had to be carried by their peers to enter classrooms due to the absence of ramps at the entrances to the classrooms. In terms of accessibility, the respondents revealed that some ramps had convenient slopes while others did not. The measurements done revealed that many ramps in all the schools had slope gradients of between 1:10 to 1:21 meaning some ramps were not less than the gradient slope of 1:20 and others were greater than 1:20. According to the specifications by the Light for the World (2014), a 1:20 slope is the recommended minimum slope for a non-assisted person in a wheelchair. Therefore this implies that whereas some ramps were accessible, others were not as users could use them only with assistance. These findings are similar to those of Huang et al. (2009) who reported that the ramps were too steep which made it difficult for the children to propel their wheelchairs up or walking up with their walker; the children also felt unsafe when going down.

Additionally, both accessible and inaccessible ramps did not have handrails as per recommendation by Samantha (2006) and Parks Victoria (2013) who suggested that handrails are required on both sides of the ramps if the slope is greater than 1:20 to

assist those with difficulty walking up ramps. This means that some of the ramps were unsafe for the users because there was nowhere for the learners to hold in case they required support especially when going down the slope.

On the firmness and the evenness of the surfaces of the ramps, the findings were that ramps in Lusaka based schools had firm and even surfaces but those in Kasama schools had rugged rough surfaces, some had deep cracks. The unevenness of the ramps disadvantaged pupils using wheelchairs especially when climbing up; they needed someone to push them or they required to apply more energy in order to wheel themselves up thus increasing fatigue and in a way worsening their already fragile conditions. This is why the Handicap International (2008) contends that ramps surfaces must be firm to facilitate ease movement. There is need to make the ramps gentler and renovate those with uneven surfaces so that they become accessible to the learners. In the same line, handrails must be mounted on all ramps to enhance safety.

5.3.4.5 Accessibility to the toilets

In terms of toilets, apart from Venus school, all the four institutions had adapted toilets to cater for learners with PD who required adaptation. The spaces in the toilets ranged from 0.87m x 1.64m to 2m x 2.05m, implying that all of them had adequate spaces for those using wheelchairs. Responses from both the respondents (teachers and learners) have equally indicated that the toilets were accessible. These findings are contrary to the reviewed literature by Samantha (2006) who said most schools in Sri Lanka had limited toilet spaces mainly because architects ignored the accessibility standard guidelines hence rendering the toilets inaccessible. Handicap International (2008) elaborates that the most important thing to think about when constructing a toilet is to provide sufficient space inside them for wheelchair users to manoeuvre easily, such as a size of at least 0.8m x 1.3m must be available next to the toilet seat for a wheelchair user to be able to transfer themselves from the wheelchair to the seat.

The study however revealed that though toilets in Kasama schools were physically accessible, they were very old and had poor sanitation. For instance, they were not flushing. These findings at Dudu/Teka schools were contrary to the findings by

ACPF (2014) that reported that some schools in Sierra Leone had toilets that were located on top of hills, without any accessible routes for wheelchair users. This is because toilets in Kasama were physically accessible to the users but they were in deplorable state. Since the toilets were not flushing, pupils with fine motor impairments found it hard to use them because they could not manage to tap water in a bucket and pour into the toilet after using them. This is one reason Bob (2014) advises that proper operation and maintenance of Water, Sanitation and Hygiene (WASH) facilities is critical for sustainability and for providing clean and hygienic facilities. Having non-functional toilets meant that the caregivers had more work to clean up the mess since they were no specific personnel employed to clean the toilets. The toilets need to be renovated and old sewerage system be replaced so that sanitation can improve.

With regards to the urinals, the findings indicated that they were found at one school only and they were mounted at different heights which were between 0.4m and 0.44m from the floor surface meaning they were within the prescribed 17 inches (0.435m) standard guideline according to ADAAG (2004). This means the available urinals were accessible to all learners irrespective of their heights. Equally the grab bars in the toilets of all the four schools were accessible.

5.3.4.6 Accessibility to door handles, chalkboards, and doorways

According to the responses from the respondents, majority of them said the door handles were not accessible to learners using wheelchairs and those of short statures. Additionally, from the observations and measurements done by the researcher, all the door handles were mounted between the height of 1.2m and 1.24m. Handicap International (2008) observes that door handles must be at a height between 0.8m and 0.9m in order for them to be accessible to children, wheelchair users and people of small size. Therefore, the findings on the heights indicate that the door handles were not accessible to smaller children and those using wheelchairs; hence it was obvious that learners using wheelchairs and those with short statures faced challenges to close or open the doors.

With regards to chalkboards, the findings have indicated that they were mounted on convenient heights for learners with different disabilities and statures. These findings

contradict the observations made by Bob (2014) who cited some common barriers as being blackboards or whiteboards that are too high to reach for smaller children and children who use wheelchairs. Accessible chalkboards can enhance learning in the sense that learners are able to read and write notes without any difficulties. It is important to have chalkboards at convenient heights because most learners with PD have other impairments such as vision problems. Moreover, one other advantage of having accessible chalkboards is that all learners irrespective of their disability and stature can make use of the chalkboard, for instance they can demonstrate by way of writing on the chalkboard.

With regards to doorways the results showed that the widths of the doorways were generally bigger than the prescribed standard accessibility guideline of 0.815m (ADA, 2004), hence the doorways were wide enough to accommodate learners using big mobility aids, and hence this facilitated easy movement of learners.

5.3.4.7 Classroom space and availability of big tables

With regards to classroom space, the study has shown that many classrooms were not spacious enough to allow learners using mobility aids such as wheelchairs to freely move around. This was because most classrooms had a lot of furniture due to over enrolment in most classes. In most classrooms, learners using wheelchairs were made to sit in front of the classroom. Due to lack of aisles, learners could not interact with other learners freely. Students with disabilities require more space than non-disabled students. For example, a student using a wheelchair requires the space used by three nondisabled students (Light for the World, 2014). The situation was worse at Teka School where the study found that the school administration deliberately over enrolled learners without disabilities so as to maximize on money collections to enable the smooth running of the school. This therefore meant that most classrooms had many learners hence limiting the movement of learners using mobility aids that needed bulky spaces. Philadelphia Inclusion Network (2005) warns that the ways in which a building or room is set up makes a big difference on how children participate in activities and routines. Whether they are able to move around independently or they need support, there should be sufficient space for them to travel alongside their friends. The Rwanda Ministry of Education (2009) argues that a classroom layout

must allow effective supervision and interactive teaching; this can be achieved by considering adequate spaces so as to allow easy movements around the room and between furniture.

This brings us to the question of whether the classrooms had big tables for those using wheelchairs as seats in classrooms. The study found that most classrooms in all the schools did not have such furniture apart from some few classrooms mainly from the two grant aided schools; majority of learners who were using wheelchairs were made to sit on ordinary desks during lessons. The wheelchairs of learners in some classrooms were seen packed at the back or in front of the classrooms. Lack of big tables for pupils who are quadriplegic can lead to other complications. It can affect their postural alignment which in turn can result into serious problems such as scoliosis or lordosis commonly referred as spinal deformity. It is for this reason that Neville (2005) stresses that the prescription of appropriate seating equipment for children and young people with physical disability is important so as to provide an optimal seating position from which they may engage in functional activities and that such children will require external support from seating systems to accommodate for postural control and postural deficits. However, using ordinary desks or tables can be good for students as it can foster uniformity and uniformity can turn enhance or develop self-esteem in pupils.

5.3.4.8 Accessibility to classroom and dormitory floors

Pertaining to the condition of the floor surfaces, this study has generally revealed that the floors were even and non-slippery. Majority of the respondents especially learners reported that the floors were accessible. This facilitated easy movement especially for learners using mobility aids. These findings are not in tandem with those of Ndinda (2005) where it was revealed that some classrooms in Zimbabwe had torn floors with pot holes making children using wheelchairs to frequently fall. However, there were few classrooms in Kasama schools where the researcher observed that the floor surfaces had some cracks and a bit of holes. Bob (2014) writes that uneven and unmaintained floor surface can provide difficulties for everyone but are particularly problematic for children, especially those with

disabilities. It is imperative therefore to ensure that floors are maintained for children with mobility problems to learn without obstacles.

From the discussed findings, it is evident that that there were more services provided to the learners in Lusaka based schools than those in Kasama schools. One reason learners in Lusaka schools accessed more services especially the health related services were that two of the schools (Don and Hope) were grant-aided schools. Hope school was managed by the Franciscan Missionary Sisters of Assisi of the Cross Catholic Outreach. The school collaborated with St. John Paul II Orthopaedic Mission Hospital, managed also by the Franciscan Missionary Sisters of Assisi in the Archdiocese of Lusaka and the University Teaching Hospital-UTH. The primary mission of St. John Paul II Orthopaedic Mission Hospital is to provide free treatment to physically disabled children coming from the ten Cheshire Homes in Zambia and from other charitable institutions and outreach programmes (Kruger and Baur, n.d). Similarly Don special school was run by the Sisters of Sacred Heart of Jesus. In the same vein children who needed orthopaedic services from Don were equally taken to St. John Paul II Orthopaedic Mission Hospital. Physiotherapy and occupational services at Don School was offered by physiotherapists from the UTH. The same services at Hope School were offered by a physiotherapist stationed at the school.

5.4 Barriers that limited learners with PD from accessing specialised services

The study has revealed that majority of learners with physical disability did not have access to specialised services due to several barriers. Some of the major barriers are:

5.4.1 Less funding from the government

This was the greatest barrier that was revealed by the study. A large proportion of the respondents felt that specialised services were not provided to learners mainly because government did not specifically finance Special Education. Majority of the respondents especially teachers and the head teachers said there was literally no funding to Special Education. This finding was in conformity with the findings by Ndinda (2005) and UNICEF (2016) who observed that learners with special educational needs invariably do not have access to services due to inadequate funding to the education sector. Almost all the education standard officers and

majority of teachers said lack of a Special Education Directorate, together with poor attitudes by those in authority was the major reason funding was a problem. These sentiments were consistent with the findings of Nongola (2011) who reported that many teachers argued that for Special Education to improve, it was necessary to establish a Directorate of Special Education because in a Directorate, all would speak one language hence legislation and implementation of Special Education programmes would be achieved easily. Inadequate funding adversely affected learners from no-grant aided schools more especially those in Kasama district. The education standard officers at district levels and head teachers explained that funding was erratic and very minimum. This was the reason the school administration at Teka School decided to over enrol learners without disabilities so that their tuition fees would help in the day-to-day running of the school.

Lack of funding negatively affected the running of the school in various ways. For instance the school environment in Kasama schools was inaccessible. It was evident from the observation that the school infrastructure was renovated some years back looking at how deplorable the infrastructure was. The schools had an aging infrastructure. The floor in the classroom was not as even as those in Lusaka schools. The bathtubs were very old; some had changed the colour inside from white to black. Nearly all toilets were not flushing. Furniture that the learners were using was in very bad state. Had the schools received adequate funding, perhaps some of these challenges would have been solved.

On the other hand, Lusaka based schools especially the grant aided schools were not very much affected by funding issues. The schools had better infrastructure and learners with mobility impairments had better mobility devices compared to their counterparts in Kasama schools. For instance, schools such as Hope could afford to have unused mobility aids such as walkers, standers and wheelchairs. The findings at Hope school however is at variance with the findings by ACPF (2014) who reported that many learners with physical disability in Ethiopia were not in school because they were lacking wheelchairs and crutches.

5.4.2 Shortage of service providers

The second major barrier was shortage of service providers especially health service providers. Teachers and head teachers revealed that despite the fact that laws and legislation were in place, learners were not provided with adequate specialised services. A better justification of this barrier was a situation at Dudu/Teka Schools where the research revealed that the two schools had a physiotherapy room which housed different types of modern physiotherapy equipment such as parallel bars, exercise balls, exercise bikes, postural mirrors and rollers. Nevertheless, all the learners, head teachers and teachers confirmed that learners were not accessing physiotherapy because there were no physiotherapists. It was revealed that learners lastly had physiotherapy in 2013 prior to the departure of the only physiotherapist who was transferred to another district. These findings are at variance with the findings of Mwaijande (2014) who reported that out of 13 orthopaedic centres, only 5 were functioning, the rest were dormant due to lack of materials. Additionally, the findings in Kasama schools have fitted well with the conceptual framework of this study which illustrates that in order for CWDs to have access to services, policy makers, service providers and services users must collaborate (World Bank, 2004). Learners with PD who needed physiotherapy did not have access to this service due to lack of physiotherapists.

Apart from the shortage of physiotherapists, the study also found that other service providers such as school psychologists, school nurses, occupational therapists, orthopaedic surgeons and speech and language pathologists were also not adequate in all the two districts. The findings are in tandem with the African Report on Disability that observed that lack of specialists such as physiotherapists and occupational therapists constitutes a significant impediment to ensuring adequate and quality habilitation and rehabilitation services for CWDs (ACPF, 2014).

Without service providers, it is not possible for learners to have access to certain specialised services. Therefore government must endeavour to ensure service providers are trained in order to enhance learners' accessibility to specialised services. This will enable learners with severe physical disability to manage and limit the consequences of their disabilities. This can be done by channelling more resources in the training and development of human resources in the area of health

where service providers such as physiotherapists, occupational therapists and orthopaedics are trained and deliberately posted to work in hospitals near schools housing learners with PD. This is because if rehabilitation services for example are not provided to learners who require them, other complications such as health deterioration and increase on dependence on others can arise. For example, WHO (2015) explains that clubfoot is a condition that can be corrected surgically; through physiotherapy or through the use of a foot orthosis. However, if clubfoot is not treated successfully, long-term use of a wheelchair may be needed.

5.4.3 Shortage of caregivers

Apart from shortage of services providers, the study equally found that there was an acute shortage of caregivers both in Lusaka and Kasama schools. For example, at Dudu/Teka schools, one caregiver attended to almost 75 children daily. Similar findings were reported in a study by Nongola (2011) where he revealed that among the challenges Special Education was facing was insufficient staffing in terms of housekeepers. Caregivers therefore faced many challenges because of this shortage though most of them were not free to explain the challenges they faced due to various reasons. A few who were open to the researcher explained that they had too much work to do. Another ramification of shortage of caregivers could be failure by the few caregivers to provide quality care to the children because they were overwhelmed with work.

The study also found out that all the caregivers did not have any training on how to provide care to children with physical disability. They relied on the experience that they had gained from the many years that they had spent taking care of the children. However, many still felt if availed an opportunity, they would like to be trained so that they could take care of the children in a more professional manner. Others explained that training was very cardinal for them in order to handle children well. For instance, one male caregiver said children with brittle bone disease were very fragile hence they needed to be handled by trained persons. Supporting the significance of training to caregivers, LSHTM (n.d.) recommend that good handling and positioning of children with disabilities helps to make eating, drinking, playing and communicating easier for the child and may help to prevent disability. The

WHO/World Bank (2011) further stresses that regardless of setting and service, support workers should be provided with relevant professional training. It is therefore only prudent for the government and other organisations involved in the provision of education to learners with disabilities to ensure more caregivers are recruited and trained so that they are able to provide adequate care. It is undisputed that caregivers play a cardinal role in the lives of CWDs especially those with severe disabilities. Furthermore, Berker and Yalcin (2010) argue that quadriplegic children cannot be independent throughout their lives, therefore they need continuous care. Support workers such as caregivers are one group of people that can provide this much needed care.

5.4.4 Inadequate specialised equipment

Another barrier that limited learners with PD from accessing specialised services was inadequate specialised equipment. Majority of the respondents said that there was shortage of specialised equipment such as wheelchairs, adapted chairs, writing aids, orthopaedic shoes, eating and drinking special cutlery and computers and software that could be used by learners with disabilities. For instance, though the study revealed that there was no child found crawling on account of not having a mobility aid; most respondents still felt that mobility aids were not adequate. The study found that some wheelchairs and crutches that learners were using were too old to be used. For example the tires of most wheelchairs were wearing out. Similar findings were reported by Mandyata (2014) who revealed that children with disabilities in regular schools lacked specialised equipment such as wheelchairs to support learning. In addition, the study also found that most learners with mobility challenges especially in Kasama district did not have wheelchairs at their homes. Those who were privileged to have mobility aids at their homes reported that the conditions of their mobility aids were not good. The British Healthcare Trades Association (2014) warns that lack of suitable equipment can be a major cause of surgery and other costly treatments among disabled children; the Association further observe that failure to provide adequate equipment can prevent a child from meeting their full potential in terms of mobility and independence. Not only that but that the absence of adequate or any specialised equipment can also compound existing medical conditions or create new problems.

Lack of specialised equipment such as adapted eating devices did not only affect the learners but the caregivers as well. Few caregivers explained that some children with fine motor challenges had to be fed as they had difficulties to feed themselves and perform other activities for daily living. The caregivers felt that some of children would be able to feed themselves if they were provided with special cutlery. This is the reason the BHRA (2014) commend that adequate provision of equipment can make life simpler and safer for those caring for the disabled children.

5.4.5 High cost of specialised equipment

Many parents and service providers said the reason specialised equipment was lacking was because it was too exorbitant for institutions and individuals to afford. The respondents cited equipment such as wheelchairs, eating and drinking special cutlery, computers and disease diagnostic machines as some of the costly equipment. In the same vein, the researcher did a survey to find out the prices of mobility aids such as crutches and wheelchairs in Kasama and Lusaka respectively. The cheapest wheelchair in Kasama was at K1, 500 while the price for crutches ranged from K300 to K450. In Lusaka's central business district, wheelchairs ranged from K900 to K4, 500. These findings provide valuable evidence why most parents could not afford to buy some of the mobility equipment. These findings agree with Choruma (2006) and WHO/World Bank (2011) observation that PWDS living in middle and low-income countries fail to access many technologies due to their exorbitant prices. Majority of the parents suggested that it would be better for government to find a way to import the equipment in abundance and sell them at affordable prices. This finding is consistent with the pronouncements made by the Republic of Kenya (2009) that many parents cannot afford assistive and functional devices needed by learners with disabilities as they are expensive and out of reach. Similarly, the ACPF (2014) further explains that a major challenge is the fact that assistive devices are imported into Africa and therefore prohibitively expensive and related consumables and maintenance services are not readily available or affordable.

5.4.6 Physical inaccessibility

The research revealed that physical inaccessibility was one factor that inhibited learners with PD from accessing some specialised services. Access to buildings is

beneficial for participation in civic life and essential for education, hence lack of access can exclude people with disabilities or make them dependent on others (WHO/World Bank, 2011). This barrier was predominant in Kasama schools. Areas that had problems with accessibility included some ramps which were steeper and rugged, floors that did not have even surfaces, corridors with pot holes and cracks, unpaved pathways and classrooms without adequate spaces. These could have limited opportunities for learners with PD to access other services. The finding supports the observation of Kiarie (2014) who said the learning environment can be an obstacle for learners with PD to access services. UNESCO (2006) advises that school premises must be accessible to enable students with physical disability to participate in school activities.

5.4.7 Attitudinal barriers

Even after physical barriers have been removed, negative attitudes can produce barriers in all domains (WHO/World Bank, 2011). The research also revealed that specialised services were not provided due to negative attitudes by policy/decision makers at all levels. At national level, respondents mainly from the education standard officers and teachers said the failure by government to create a Directorate of Special Education when the same government has created Directorates in the MoGE and in other ministries was proof enough to show that Special Education was neglected in Zambia. Many respondents who advocated for the creation of a Directorate explained that in countries such as Botswana and Namibia where there were Special Education Directorates, service provision was much better. This is why ACPF (2014) notes that negative attitudes for example by government authorities and policy makers in African countries tend to ignore the needs of citizens with disabilities and fail to ensure that relevant policies are adequately inclusive, enforced or budgeted for.

The study also found negative attitudes at school level. For instance, some teachers and education standard officers in Kasama said the partitioning of the physiotherapy room at Dudu/Teka so as to create a classroom was evidence the school administration was not concerned with the significance of physiotherapy to learners with PD and their general welfare. Apart from the negative attitudes from the school

administration, the research also found that even parents of learners with PD had poor attitudes towards their very own children. The caregivers and the teachers especially those who had served for several years observed that most parents did not support their children in the provision of specialised services due to negative attitudes. For example, the study revealed that many parents never bothered to visit their children once they were admitted in school. Majority of the parents viewed residential special schools as refuge places where CWDs were kept. Related findings were revealed by Kristensen et al. (2006) in Uganda and Nongola (2011) in Zambia respectively. The two authors observed that special schools that offered boarding facilities were turned into dumping places because many parents did not bother to visit or help their children once they were admitted in school. Furthermore, the findings also agree with the observation made by Cain (200) who mentions that negative attitudes can be found at all levels: parents, community members, schools and teachers and government officials. To sum it up, ACPF (2014) contends that negative attitudes towards disability are pervasive in all strata of African societies, from high-level authorities and policy-makers in government, to traditional chiefs, religious leaders and to the rural homes of African families.

Government, school administrations, together with the teachers and organisations for the disabled people such as the Zambia Agency for Persons with Disabilities (ZAPD) have a huge task to sensitise parents with CWDs so that they can have a positive mind towards the education of their children. Since most learning occurs at home, therefore, without parental support, children are not likely to succeed in school (WHO, 2011). The WHO/World Bank (2011) propose that disabled people's organizations have a role in promoting the education of disabled children for example by working with young disabled people, providing role models, encouraging parents to send their children to school and become involved in their children's education. Without the concerted effort of all stakeholders, CWDs including those with physical disability will continue failing to access specialised services which in turn inhibits them from accessing their right to education.

5.4.8 Lack of collaboration between schools and the health service providers

The research has indicated that where service providers were available, the challenge was lack of collaboration between the schools and the service providers. For example, majority of teacher-respondents in Lusaka schools said learners with speech problems were not attended to because there was no collaboration between the school administration and the speech therapists. The situation was the same in Kasama. When asked why the health service providers were not attending to the learners at Dudu/Teka schools, one head teacher explained that the only physiotherapist from the hospital was transferred to another district. When the researcher probed more to find out what the school administration had done since the departure of the only physiotherapist, the headteacher responded that nothing had been done.

The study equally revealed that collaboration between schools and the health service providers was hampered by issues of allowances and transport. Head teachers from Kasama schools explained that service providers had a habit of demanding for allowances and to be provided with transport by the school administration after providing services to the children. They further explained that it was difficult to honour such demands since the schools did not have specific funds for such programmes. Related findings were reported by Simuchimba (2014) who revealed that majority of head teachers were not collaborating with professionals because they had to pay them allowances for their services. However, the WHO/World Bank (2011) seem to be in support with the service providers when they point out that financial incentives can encourage health care providers to improve services.

In order to enhance the provision of specialised services, school managers must take time to read legislation Acts such as the Disability Act in order for them to be aware of what they are supposed to do. However, both the Disability Act and the National Policy on Disability are silent on issues of allowances and transport for service providers. Therefore as long as this issue is not addressed, collaboration will not be achieved and learners who require specialised services that rely on health service providers will continue not accessing them.

5.4.9 Lack of special transport

The study found out that though all the schools had transport, all the vehicles were not modified to suit the diverse needs of the learners. Alsnih and Hensher (2003) observe that lack of accessible means of independent travel can create social exclusion for many disabled people. For instance, lack of special transport can affect the learners' social and education tours. This curtails the acquisition of knowledge and skills that are provided by both recreation and education tours. In addition, children miss opportunities that can enable them to socialise with other children. Moreover, using non-modified vehicles especially for learners who are quadriplegic can be a risk because they will not be able to sit properly and this can worsen their conditions.

5.4.10 High poverty levels among parents

Poverty was another huge factor that inhibited learners with PD from accessing specialised services. Many parents confirmed that poverty was the major reason for their failure to help their children who required various supportive services as most of them were not in formal employment. Literature supports this finding, for example, Mont (2014) says poverty can cause conditions that lead to functional limitations and worsen the extent to which those functional limitations are disabling, and this is because children from poor families are hindered from accessing even the very basic needs of life. This equally confirms the argument by the ACPF (2014) that CWDs are less likely to have access to adequate health care and assistive devices due to poverty and that where the services are available, families may not have the resources to pay for them. Similarly, Choruma (2006) also writes that poverty can lead to secondary disabilities for those individuals who are already disabled, as a result of poor living conditions, malnutrition, and poor access to health care and education opportunities. It is for this reason that the WHO/World Bank (2011) commend that governments can consider a variety of financing measures including offering tax incentives, and devolving budgets to people with disabilities and their families for direct purchases of services.

5.5 Views of head teachers, teachers, parents, service providers and learners on the significance of specialised services

Notwithstanding the fact that this study has indicated that very few specialised services were accessed by learners especially those based in Kasama district, the respondents have revealed that specialised services were very significant in that they addressed the complex challenges of learners with severe disabilities. First of all, the findings have clearly shown that a larger proportion of the respondents indicated that specialised services were very important to the learners. Even though many said the services were very important, it was observed in the study that several of them could not explain properly the preceding question that required them to explain how important specialised services were. As a result many of the respondents commented only on few specialised services that they were familiar with which included specialised equipment especially mobility aids, counselling, sports, special chairs, teacher aides, adapted environment, orthopaedic, physiotherapy and occupational therapy.

5.5.1 Views on the significance of specialised equipment

The respondents said devices such as wheelchairs enabled the children to ambulate. Through this, they were able to access many services including health and education. Others elaborated that mobility aids made learners with mobility challenges to be socially accepted by peers without disabilities. This was because the burden of lifting them was no longer there. The respondents explained that the children were able to socialise with others both in school and at home. This is in line with Berker and Yalcin (2010) who are of the view that mobility aids enable children to move around, to explore their surroundings and to interact with peers so that their mental, social and psychological skills develop to the fullest. Parents said without mobility aids, the lives of their children would be unbearable. This is supported by the Spina Bifida and Hydrocephalous Association of Canada (2010) observation that a wheelchair is a ticket to freedom and independence to a person with mobility impairment because through it, a child can travel and may have more opportunities to participate in activities with others. Supporting this observation, McConkey (2001) contends that children's difficulties can sometimes be overcome by using special aids and

equipment to overcome their particular impairments, he cites crutches and wheelchairs being among special aids that can help them move around school more easily. This finding is consistent with the study by Wachianga (2010) who found out that among the benefits of mobility services to the learners with physical disability were that it promoted socialisation among them, the peers and teachers in various activities within the school premises.

In relation to the orthopaedic services, some service providers gave an example of the Magnetic Resonance Imaging (MRI) machine that produces detailed pictures of joints, soft tissues, ligaments that have abnormalities. They emphasised that such machines are very important in detecting areas that had defects. They said without such machines, diagnosing certain disorders can be very difficult.

With regards to adapted chairs, the respondents pointed out that adapted chairs enabled learners to sit comfortably in upright position thus enabling them to concentrate in class. McConkey (2001) observes that children with physical impairments can have difficulty to sit and can therefore benefit from special chairs or standing frames that support them correctly. According to Neville (2005), the goal of upright positioning is to promote symmetry and alignment of the body segments and linkages. Additionally, the London School of Hygiene and Tropical Medicine (LSHTM, n.d.) note that upright sitting can help to maintain a person's health by improving breathing, digestion and blood circulation. This sitting position is more relaxing as it provides a greater support surface and allows relaxation of the muscles of the lower extremities. Berker and Yalcin (2010) crown it all when they explain that good seating promotes normal development by maintaining postural alignment and reducing undesirable tone and reflexes; optimises the child's position for feeding, respiratory and digestive function; assists exploration of the child's environment; and improves head control which is essential for orientation and socialisation and to help the child to develop cognitive and communication skills.

5.5.2 Views on the significance of counselling

Respondents who answered on the importance of counselling said it enabled learners with PD to understand and accept their disabilities. Accepting who they were also made them behave well and it enhanced confidence in them. Similar finding were

highlighted by Wachianga (2010) whose study revealed that counselling had positive influence on socialisation of learners with PD through building students' self-esteem, self-concept, confidence and guidance to socialise. The respondents also pointed out children's bad behaviours that affected learning and teaching were corrected through counselling. Pizzi (2008) justifies the importance of counselling CWDs by explaining that CWDs get frustrated because their disabilities prevent them to do what other children without disabilities do, this creates anger and frustration in them and eventually they may decide to take the anger out on someone. Counselling was also done to some parents of children with disabilities in Lusaka by some service providers. For example the physiotherapists and orthopaedics said counselling enabled parents to accept the condition or disability of their children. The parents were also counselled on how to take care of their children and how to conduct home-based physiotherapy. In the same vein, the London School of Hygiene and Tropical Medicine (LSHTM (n.d.) is of the view that it is very important that physiotherapist or community workers use the time during an outreach or home visit to teach the caregivers how to position, handle and play with the child daily in a way that helps to make muscle tone more normal, that prevents secondary problems and that helps the child to learn and develop.

5.5.3 Views on the significance of adapted sports

On sports, the findings of the study showed that respondents felt that adapted sports helped the children to stay physically fit and healthy. Other respondents also said that sports enabled the learners with PD to socialise with other peers with and without disabilities. Berker and Yalcin (2010) argue that sports and recreation benefit the children with disabilities because they save them from going to long hours of physiotherapy and being apart from their friends. The findings agree with Roberts (2004) who stated that the importance of adapted physical education includes improving motor skills and developing a higher level of physical fitness and developing skills for lifelong leisure and recreation and increasing opportunities to experience feelings of self-worth and the joy of active interaction with peers.

5.5.4 Views on the significance of teacher aides

The study findings have indicated that majority of the respondents especially leaners and teachers said learners benefited a lot from teacher aides. For instance, learners said teacher aides facilitated individual teaching and this made them grasp the content of lessons unlike a situation where they are taught by a single teacher. Majority of learners especially from the focus groups observed that they were able to understand the content of the subjects when they were handled by more than one teacher. Those with severe physical disability indicated that teacher aides were helping them in many activities such as feeding and escorting them to the toilet. The finding is line with Muranda (2015), whose study found that teacher aides played vital role in assisting learners with physical and motor impairments as some of these children have loose bowels which need frequent visit to the toilet.

5.5.5 Views on the significance of the adapted school environment

In terms of the modified environment, the study revealed that the lives of learners with PD were made much easier. The respondents cited the presence of convenient ramps, adapted toilets and convenient pathways and corridors as areas of the environment that benefited and made life easy for learners. Some learners with motor impairments and limited strength explained that the adapted toilets with grab bars provided support for them when using the toilets. Learners especially from Lusaka district reported that they were able to wheel themselves within the school premises because the pathways and the corridor were accessible. This is in line with the observation made by Algozzine and Ysseldyke (2006) that physical access can be a major concern for students who have physical disability as those who use wheelchairs, braces, crutches, canes or prostheses, or those who fatigue easily may have difficulty moving around a school campus.

5.5.6 Views on the significance of physiotherapy and occupational therapy

The study indicated that the two services were very important. Through physical exercises, pupils' muscles were made flexible and this improved strength and muscle tone which also increased mobility among other benefits. Physiotherapy also improved gait and posture. The respondents equally said physiotherapy decreased the

likelihood of contractures and bone deformities and enabled learners to sit properly and prevent disabilities from being worsened. This is in line with the sentiments of Berker and Yalcin (2010) that physiotherapy works to prevent contractures by stretching spastic muscles. One physiotherapist explained that some children only managed to ambulate after undergoing massive therapy. The findings are in line with what the BCMOE (2016) noted that physiotherapy improves or restores function including motor development and neuromotor status such as muscle tone.

As for occupational therapy, the research has shown that the major benefit for learners were that they were able to acquire skills to perform activities for daily living such as eating, grooming, and toileting among others. The acquisitions of such skills made children to have confidence in personal management and hygiene. These findings are in line with the writing of NYCDOE (n.d.) that occupational therapy improves independence in activities of daily living and skills acquisition.

5.5.7 Views on the significance of orthopaedic services

The study has shown that orthopaedic services such as surgical services corrected deformities that could be avoided in children with musculoskeletal disabilities. Berker and Yalcin (2010) observe that orthopaedic surgery corrects deformities of the spine and extremities that disturb sitting, standing and walking capacity. One orthopaedic surgeon explained that impairments such as club foot or hip dislocation if not treated could lead to a child being stigmatized in the community. However, she said that if a surgery is successful done on such a child; the child would not be stigmatized by the community and would live a much independent life. Stigma based on disability can have severe consequences for children with disabilities and it is the same stigma that often causes parents to hide their children or keep them isolated from their communities (ACPF, 2014). The research findings from this present study shows some consistency with regards to the literature of Laura and Gehrig (2011) who explained that the main aim of orthopaedic surgery is to prevent, diagnose, and treat all diseases and injuries of the musculoskeletal system in all age groups so as to preserve the form and function of human locomotion and movement in the best way possible.

5.6 Summary

The chapter has discussed the findings of the study. It has discussed the accessible specialised services such as counselling, adapted environment and teacher aide services among others. Similarly, the discussion has highlighted the consequences of not providing certain specialised services to learners with PD. The major barriers have also been discussed in details and finally the views of the respondents on the significance of specialised services have been discussed as well. The next chapter concludes the findings of the study.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1 Overview

This chapter presents the conclusion and recommendations drawn from the findings of the study. The study was conducted to establish whether specialised services were accessible to learners with physical disability in selected special schools of Kasama and Lusaka districts. The following objectives guided the study:

1. To establish the nature of specialised services accessible to learners with physical disability.
2. To determine the barriers limiting learners with physical disability from accessing specialised services.
3. To assess the views of the head teachers, teachers, parents, service providers and learners on the significance of specialised services to learners with physical disability.

6.2 Conclusion

The research has established that majority of the learners with physical disability accessed the following specialised services: counselling, sports and teacher aide services. Additionally, learners from schools based in Lusaka had access to orthopaedic services, occupational therapy and physiotherapy and a few learners from Lusaka schools accessed school psychology services and speech therapy services. Apart from specialised services, the study equally established that learners with PD had access to mobility aids were whereas the adapted chairs were only accessible to Lusaka based learners. Additionally, the study has revealed that learners with PD did not have access to computers and software that were accessible to learners with disability. Furthermore, the study has established that learners who required the curriculum to be modified in order for them to benefit from teaching and learning did not have access to the curriculum as it was not differentiated. Moreover, all the learners in the sampled schools did not have access to the school based nurse health services and special transport services.

With regards to accessibility to the school built environments, the study has found that the entrances/exit routes to the schools, chalkboards, dormitory and classroom floors were accessible in all the schools. Not all the ramps were accessible; some ramps were steeper thereby making it difficult for learners using mobility aids to move on such ramps without being assisted. Ramps in Lusaka based schools had surfaces which were firm, even and well maintained while those in Kasama had rugged surfaces with some cracks. Additionally, none of the ramps in all schools had handrails implying that ramps which were steeper posed a danger to the users. Only corridors and pathways in schools based in Lusaka were accessible. Corridors and pathways in Kasama schools were inaccessible because the corridors had numerous pot holes and cracks and the pathways were not paved. Toilets were accessible though those in Kasama based schools were in a deplorable state. Classrooms did not have adequate spaces for learners that required adequate space because they were cluttered with furniture. Equally, majority of learners using wheelchairs as seats in classrooms did not have big tables. It was evident learners from urban and grant-aided schools accessed more services than those from rural and non-grant aided schools. The study has equally revealed that door handles were not accessible to learners with shorter stature and to wheelchair users because they were mounted at higher heights.

Overall, the study has revealed that all the accessible specialised services in the two districts were not adequate and the study has shown that the major barriers that limited learners with PD from accessing specialised services were less funding from the government and shortage of service providers. Other barriers included negative attitudes from parents and the school administration, high cost and shortage of specialised equipment, high poverty levels among parents, physical inaccessibility, lack of special transport, shortage of caregivers and lack of collaboration between schools and service providers. These barriers adversely limited learners with PD from having access to specialised services.

Despite the fact that all the accessible specialised services were inadequate, respondents acknowledged their significance to learners with PD. For example, they said mobility aids enhanced mobility. Teacher aides helped special teachers in teaching and taking care of the learners, adapted environment made it easy for

learners with PD to access other services and facilities. Physiotherapy improved muscle strength of children with physical disability thereby improving their functionality. Adapted sports helped learners with PD to stay physically fit and to socialise with others. Counselling made the learners with PD accept their conditions. Occupational therapy enabled the learners to learn how to perform activities of daily living, adapted chairs made sitting comfortable and orthopaedic services helped in correcting deformities of children with musculoskeletal problems.

6.3 Recommendations

Based on the findings of this study, the following are the recommendations:

a) Government through the Ministry of Finance (MoF) must increase funding to Special Education to enhance learners' access to specialised services.
b) Government through the MoGE must create a Directorate of Special Education so as to improve accessibility to specialised services in the country.
c) The MoGE and the MoH must find ways to enhance collaboration between schools and the health service providers so as to enhance learners' access to specialised services.
d) The MoGE in collaboration with the MoF and other stakeholders must renovate old special schools to improve physical accessibility to learners with limited mobility.
e) The MoGE and other stakeholders must ensure the school environment in all schools housing learners with PD is adapted to ensure every learner has access to all school facilities.
f) School administration must ensure there are adequate spaces in classrooms where they are learners using mobility aids so that they are able to interact freely with their fellow learners and teachers during lessons.
g) Government through the MoH must have a deliberate policy to train more health service providers who can be posted to hospitals located near residential special schools in order to enhance access to specialised services.
h) Government through the responsible ministries should train and recruit more caregivers so that learners with PD can access quality and outmost care that they require.

i) School administration must find ways of modifying the existing vehicles to accommodate learners with severe physical disability.

j) Education standard officers in charge of Special Education and the school administration must intensify monitoring of teaching and learning in special and inclusive schools to enhance learners' access to the curriculum.

6.4 Suggestions for future research

The following were identified as areas that can be researched in the future:

a) This study looked at accessibility to specialised services mainly within a school environment. A study can be conducted to establish how accessible the outside environment is for learners with PD especially those with mobility impairments. For example to examine whether the routes from the homes to the schools are safe and whether they have mobility aids to use during vacations at their homes.

b) A study on accessibility to specialised services by learners with other disabilities can also be undertaken.

REFERENCES

ACPF (2011). *The Lives of Children with Disabilities in Africa: A glimpse into a hidden world*. Addis Ababa. The African Child Policy Forum (ACPF).

ACPF (2014). *The African Report on Children with Disabilities: Promising starts and persisting challenges.* Addis Ababa. The African Child Policy Forum (ACPF).

Addo, G. (2014). *Analysis of barriers to children with mobility impairment in basic education in Accra Metropolis*. Thesis, Kwame Nkrumah University.

Algozzine, B. and Ysseldyke, J.E. (2006). *Teaching Students with Medical, Physical and Multiple Disabilities: A Practical Guide for Every Teacher*, Thousand Oaks, CA: Corwin Press.

Alsnih, R. and Hensher, D.A. (2003). *The mobility and accessibility of seniors in an ageing population*. Transportation Research Part A. 37, 903-916.

Americans with Disability Act (1990). *Accessibility Guidelines for buildings and Facilities.*

Atijosan, O. (2009). The orthopaedic needs of children in Rwanda: results from a national survey and orthopaedic service implication. *Journal of Paediatric Orthopaedic*, 29- 948- 951.

AusAID (2013). *Accessibility Design Guide: Universal design principle for Australia's Aid Program*. Canberra: Blue Star Print.

Baker, K. and Donelly, M. (2001). *The social experiences of children with disabilities and the influence of the environment:* A framework for intervention. Disability and Society, 16, 71-85.

Berker, N. and Yalcin, S. (2010). *The Help Guide to Cerebral Palsy*, (2nd Ed.). Washington: Merrill Corporation,

Bob, T. (2014). *Access to Schools and the Learning Environment, Physical, Information and Communication*. Webinar 10-Companion Technical Booklet. New York. UNESCO.

Borg, J. (2011). *Assistive technology, human rights and poverty in developing countries.* Perspectives based on a study in Bangladesh. Thesis submitted to Lund University.

British Columbia Ministry of Education (2016). *Special Education Services: A Manual of Policies and Guidelines.* BC Ministry of Education, Canada.

British Healthcare Trades Association (2014). *The Economic benefits of the better provision of equipment for the disabled and terminally ill children*. Report for the British Healthcare Trades Association (BHTA): Cebr.

Bryman, A. (2008). *Social Research Methods*. New York: Oxford University Press

Cain, E. (2002). *Schools for All: Including Disabled Children in Education. Save the Children*. London. www.eenet.org.uk/resources/docs/schoolsforall.pdf Accessed: 24/10/2017

Carson, G. (2009). *The Social model of Disability*. Scottish Accessible Information Forum.

Case-Smith, J. (2002). Effectiveness of school-based occupational therapy intervention on handwriting. *The American Journal of Occupational Therapy*, 56, 17-25.

Casey, M.A. and Kueger, R.A. (2000). *Focus groups: A practical guide for applied research*. (3rd ed.). Thousand Oaks, CA: Sage.

Central Statistical Office (2012). *2010 Census of Population and Housing: National Analytical Report.* Lusaka, CSO.

Chimhenga, S. and Musarurwa, C. (2011). Educating children with special needs in the African context: Do teachers and parents subscribe to a common paradigm? *Academic Research International*. Volume 1 (3).

Chinombwe, J. (2007). *Challenges that teachers face when teaching children with Cerebral Palsy at the University Teaching Hospital, Cheshire Homes and Dagama school for the disabled*. Master Dissertation, University of Zambia.

Chiriacescu, D., Barker, M. and Botokro, R. (2010). *Access to services for persons with disabilities: Practical Guide.* Lyon Cedex: Handicap International.

Cohen, L. (2007). *Research Methods in Education.* London: Routledge

Cohen, L., Manion, L. and Morrison, K. (2011). *Research Methods in Education*. (7th ed.). London: Routledge.

Corbin, J., and Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage.

Creswell, J.W. (2012). *Educational Research: Planning, conducting and evaluating quantitative and qualitative research*. Boston: Pearson Education.

Creswell, J.W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. Los Angeles: SAGE Publication, Inc.

Degener, T. (2016). *Disability in a Human Rights Context*. Laws 5: 35.

Deon, L.L. (2001). *Assessment and Treatment of Movement Disorders in Children with Cerebral Palsy*. Chicago, North western University Press.

Denzin, N., and Lincoln, Y. (Eds.). (2005). *Handbook of qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.

Dixon, C. (Ed.), (2010). *Access to Services for Persons with Disabilities in Challenging Environments*. Handicap International.

Donald, K.A., Kakooza, A.M., Wammanda, R.D., Samia, P., Babak, H., Makewa, M., Fehlings, D., Bearden, D., Majnemer, D. and Shevell, M. (2015). Paediatric cerebral palsy in Africa: where are we? *Journal of Child Neurology* 30 (8): 963-971.

Driscoll, D.L., (2011). *Introduction to primary research, Observations, Surveys and Interviews.* Parlor Press.

Dykens, E.M., Rosner, B.A. and Butterbaugh, G. (2002). Exercise and sports in children and adolescents with developmental disabilities: positive physical and psychosocial effects. *Child Adolescent Psychiatric*, 7(4):757–771.

Eisenhardt, K.M., and Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. *Academy of Management Journal*, 50(1), 25-32.

Filmer, D. (2008). *Disability, Poverty, and Schooling in Developing Countries: Results from 11 Household Surveys*. The World Bank Economic Review 22(1): 141-163.

Grol, C.E. (2000). *The education of pupils with special educational needs in Africa, looked at within the African context*. International Special Education Congress 2000, University of Manchester

Hancock, B., Windridge, K., and Ockleford, E. (2007). *An introduction to qualitative research*. The NIHR RDS EM/YH.

Handicap International (2008). *How to design and promote an environment accessible to all.* Planter –Royan,

Hawkins, G., Jenkins, J., Watson, L., Foster, V., Ward, M. and Keeler, D. (n.d.). *Designing for disabled children and children with special educational needs: Guidance for mainstream and special schools*.

Huang, I-C, Sudgen, D. and Beveridge, S. (2009). Assistive devices and cerebral palsy: the use of assistive devices at school by children with cerebral palsy. *Child: care, health and development*. Volume 4, 698-708.

Individuals with Disabilities Education Act, 20 U.S.C. § 1400 (2004).

Kasonde-Ng'andu, S. (2013). *Writing a Research Proposal in Educational Research*. Lusaka: University of Zambia Press.

Kenya Ministry of Education (2003). *Report on Special Needs Education Appraisal Exercise*. Nairobi: Government Printer.

Kiarie, M.W. (2014). Educating students with physical disability in Kenya: Progress and promises. *International Journal of Educational Studies*, 01(02), 109 - 118.

Kielmann, K., Cataldo, F. and Seeley, J. (2012). *Introduction to Qualitative Research Methodology: A Training Manual*. Department for International Development (DfID), UK.

Kombo, D.K.S., and Tromp, D.L.A. (2013). *Proposal and thesis writing: An introduction*. Nairobi: Paulines Publications Africa.

Kothari, C.R. (2004) *Research Methodology: Methods and techniques*. New age international (P) Ltd. New Delhi.

Kristensen, K., Omagar-Loican, M., Onen, N. and Okot, D. (2006). Opportunities for Inclusion. The education of learners with special educational needs and disabilities in special schools in Uganda. *British Journal of Special Education*, 33 (3), 139-147.

Kumar, R. (2011). *Research Methodology: A step-by-step for beginners*, (3rd ed.). New Delhi: SAGE Publication limited.

Laura, M.B. and Gehrig, M.D. (2011). Orthopaedic Surgery. *The American Journal of Surgery*, 202, 364-368.

Lee, R.L.T. and Yip, K. (2014). The role of school nurses in delivering health services for children with special needs: A literature review. *Hong Kong Journal of Nursing*, 1(1), 1-25.

Leedy, P. and Ormrod, J. E. (2014). *Practical Research Planning and Design*. (10th ed). Edinburgh: Pearson Educational Inc.

Light for the World (2014). *Towards an Inclusive Learning Environment for students with Disabilities: Developing Architectural Design Guidelines for Accessible Education Facilities*. Light for the World.

Loebe, M.E., Eide, A.H. and Mont, D. (2007). Approaching the measurement of disability prevalence: The case of Zambia. *Alter-European Journal of Disability Research*, Volume 2, 32-43.

Maxwell, J. A. (2010). Using numbers in qualitative research. *Qualitative Inquiry*, 16(6), 475 – 482.

McConkey, A. (2001). *Understanding and Responding to Children's Needs in Inclusive Classrooms: A Guide for Teachers.* UNESCO.

Mckevitt, T. (2012). *Improving the accessibility of school buildings*. National Disability Authority.

McMillan, J.H. and Schumacher, S. (2010). *Research in education, evidence based enquiry,* (7th ed.) Virginia: Commonwealth University.

Merriam, S.B. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.

Mikkelsen, B. (2005). *Methods for Development Work and Research: A New Guide for Practitioners,* 2nd Edition. New Delhi: Sage.

Mitra, S., Posaraci, A. and Vic, B. (2011). *Disability and Poverty in Developing Countries: A snapshot from the World Health Survey*. SP discussion paper NO: 119. The World Bank.

Mittler, P., Mittler, H. and Mc Conachie, H. (2000). *Guidelines for partnership between professionals and parents of children and young people with disabilities.* UNESCO.

Moyi, P. (2012). Access to education for children with disabilities: Implication for education for All. *Journal of International Educational and Leadership*. Volume 2, issue 2.

Munday, B. (2002). *European Social Services. A map of Characteristics and Trends*. Council of Europe.

Muranda, A.Z. (2015). Challenges faced by Zimbabwean special schools in providing support services to learners with physical and motor impairments. *International Journal of Science and Research (ITSR),* volume 4(7), 406-410.

Mwaijande, T.V. (2014). *Access to education and assistive devices for children with physical disability in Tanzania*. Dissertation, Oslo and Akershus University College.

Najjingo, H. (2009). *Challenges of accessing all-inclusive education services by children with disabilities: A case of Mijwala Sub-County Ssembale* district. Dissertation, Makerere University.

National Policy on Disability (2015). *National Policy on Disability*. Ministry of Community Development, Mother and Child Health.

Ndhlovu, D. (2015). *Theory and Practice of Guidance and Counselling*. Lusaka: University of Zambia Press.

Ndinda, M.H. (2005). *Integrating the Physically disabled children into regular schools in Kenya. An analysis of causes of marginalization, the life situation of the disabled children and proposals for enhancing their inclusion and welfare: A case study of Machakos District*. Thesis, University of Osnabruck, Germany.

Neville, L. (2005). *The Fundamentals Principles of Seating Positioning in Children with Physical disability*. Thesis, University of Ulster.

New York City Department of Education (n.d). *Special Education Services as part of a Unified Service Delivery System.* Office of Special Education Initiatives.

Nind, M. and Wearmouth, J. (2006). Including children with special educational needs in mainstream classrooms: Implications for the pedagogy from a systematic review, *Journal of Research in Special Educational Needs,* 6(3), 116-124.

Njelesani, J., Cleaver, S., Tataryn, M. and Nixon, S. (2012). *Using a Human Rights-Based Approach to Disability in Disaster Management Initiatives, Natural Disasters,* Dr. Sorin Cheval (Ed.) Available from: http://www.intechopen.com/books/natural-disasters/usinga-human-rights-based-approach-to-disability-in-disaster-management-initiatives.

Nongola, D.N. (2011). *The effectiveness of the Ministry of Education's inspection tool in monitoring special education provision in Zambia*. Dissertation, University of Zambia.

Nthia, O.U. (2012). *Constraints facing Inclusive Education for Children with Special Needs in primary School in Embu East Districts*, Embu County, Kenya. Dissertation, Kenyatta University.

Olson, T. (2000). Numbers, narratives, and nursing history. *Social Science Journal*, 37, 137-144.

Oluka, B.N. and Okorie, G.O. (2014). Impact of Counselling on People with Special Educational Needs. IOSR *Journal of Research and Methods in Education* (IOSR-JRME), 4 (6), 97-100.

Orodho, J.A. (2005). *Techniques of Writing Research Proposals and Reports in Education and Social Sciences*. (2nd ed.). Nairobi. HP Enterprises

Ostensjo, S., Carlberg, E.B. and Vollestad , N.K. (2005). *The use and impact of assistive devices and other environmental modifications on everyday activities and care in young children with cerebral palsy*. 27, 849 - 861.

Pechak, C. and Thompson, M. (2007). *Disability and Rehabilitation in Developing Countries*. Dallas: Global Health Education Consortium.

The Persons with Disabilities Act (2012). *The Persons with Disabilities Act No. 6 of 2012.* Lusaka, Zambia, Government Printers. No. 6: 67-110.

PHOS (2005). *Accessibility for the disabled - a design manual for a barrier free environment*. Brussels: United Nations.

Pizza, J. (2008). Challenges of children with disabilities. *InSight: Rivier Academic Journal*, volume 4, number 1.

Quebec, Ministry of Education (2015). *Students with motor impairments: Looking beyond appearances. Using expert knowledge to help students achieve success.* Quebec.

Quinn, G., and Degener, T. (2002). *Human Rights and Disability, The current use and future potential of United Nations human rights instruments in the context of disability*. New York and Geneva: United Nations

Reddihoug, D. and Katherine, O. (ed) (2008). *Cerebral Palsy: An information guide to parents*. Royal Children's Hospital

Rigby, P.J. (2009). *Assistive technology for persons with physical disability: Evaluation and outcomes*. Thesis, Utrecht University, Netherland.

Roberts, D. (Ed.), (2004). *Adapted Physical Education: The Role of Physical and Occupational Therapists in PE for students with Disabilities. Regional and State wide Services for Students with Orthopaedic Impairments,* Douglas ESD.

Samantha, W. (2006). *Improving accessibility of schools*. Sri Lanka: John Grooms.

Sandelowski, M. (2001). Focus on research methods. Real qualitative researches do not count: The use of numbers in qualitative research. *Research in Nursing and Health*, 24, 230 – 240.

Saunders, M., Lewis, P. and Thornhill, A. (2012). *Research Methods for Business Students*, (6th ed.), Pearson Education Limited.

Shantha, R.B. (2011). *Barriers to Education for Children with Disabilities in Nepal*. Accessed on19/07/18/18from https://www.hrw.org/report/2011/08/.../barriers-education-children-disabilities-nepal

SIDA (2014). *Disability Rights in Zambia*. SIDA

Simuchimba, R.M. (2014). *An assessment of quality of special education needs provision in special education units in Muchinga and Northern provinces*. Dissertation, University of Zambia.

Smith, D.D. (2007). *Special Education: Making a Difference*. Boston: Pearson Alyn and Bacon Prentice Hall.

Spina Bifida and Hydrocephalus Association of Canada (2010). *Students with Spina Bifida and/or Hydrocephalus: A guide for Educators*, 4th edition. Winnipeg, Manitoba.

UNESCO (2007). *EFA global monitoring report: EFA. Strong foundations: Early childhood care and education.* Paris: UNESCO.

UNESCO (2009). *Embracing diversity: toolkit for creating inclusive, learning-friendly environments.* Bangkok, Thailand.

UNESCO (2009). *Policy Guidelines on Inclusion in Education*, Paris: UNESCO.

UNESCO (2009). *Towards Inclusive Education for Children with Disabilities: A Guideline*. Bangkok: UNESCO Bangkok.

UNESCO (2010). *Reaching the marginalised EFA Global monitoring Report 2010.* Paris: UNESCO.

UNESCO (2015). *Teaching children with disabilities in inclusive settings*. Paris: UNESCO.

UNICEF (2008). *Situation Analysis of Children and Women 2008*. Zambia: UNICEF

UNICEF (2016). *Education Budget Brief: Review of Budget Performance and 2016 Allocation*, Lusaka, Zambia,

United Nations (2006). *United Nation Convention on the Rights of People with Disabilities.* New York: United Nations.

United Nations (2015). *Global Statistics Report on Disability and Development prototype.* Department of Economic and Social Affairs. New York.

United Nations (2016). *Report of the Special Rapporteur on the rights of Persons with Disabilities on her visit to Zambia.* A/HRC/34/58/Add.2: UN General Assembly.

United Nations (2017). *Inclusive Education of Persons with Disabilities in Zambia. general Assembly*, A/HCR/32/NGO/133.

Wachianga, O.J.W. (2010). *An investigation into the provision of support services for learners with physical disability in the two selected schools in Kisumu Eastern District*. Thesis, Kenyantta University.

WHO (2007*). Improving Wheelchair provision in Developing Countries. The WHO Newsletter on disability and Rehabilitation*. Retrieved from http://www.who.int/disabilities/publications/ newsletter/1st Issue on 19/03/2018.

WHO (2008a). *International Classification of Functioning, Disability and Health* (ICF). Geneva: WHO.

WHO (2015). *Assistive Technology for Children with Disabilities: Creating Opportunities for Education, Inclusion and Participation*. A discussion paper. WHO/UNICEF. Geneva.

WHO/World Bank (2011). *World Report on Disability*. World Health Organization. Geneva, Switzerland.

Winnick, J. P. (Ed.). (2000). *Adapted Physical Education and Sport*. Champaign, IL: Human Kinetics. (RSOI Library # 516).

World Bank (2004). *Making Basic Services Work for the Poor People, World Development Report*. Washington: Oxford University Press.

Yilmaz, K. (2013). Comparison of Quantitative and Qualitative Research Traditions: epistemological, theoretical and methodological differences. *European Journal of Education*, Volume 48, Number 2, 1- 16.

Yin, R.K. (2003). *Case study research: Design and methods (3rd). Applied social research methods series*, Volume 5. Thousand Oaks, CA: SAGE Publications.

Yin, R.K. (2009). *Case study research: Design and methods (4th edition). Applied social research methods series*, Volume 5. Thousand Oaks, CA: SAGE Publications.

Zongjie, Y., Hong, D., Zhongxin, X. and Hui, X. (2007). *A research study into the requirements of disabled residents for rehabilitation services in Beijing. Disability and Rehabilitation*, 29:825-833.

APPENDICES

Appendix 1: Questionnaire for the Head Teachers

Dear Respondent

I am a postgraduate student pursuing a master's degree at the University of Zambia. I am carrying out a study on whether specialised services are accessible to learners with physical disability. This questionnaire is meant to collect information on the topic under study. You are therefore kindly requested to answer this questionnaire. Please be informed that the information you will provide shall be used for academic purposes only. However by answering this questionnaire, you are contributing to a body of knowledge on the topic under study. Please do not write your name for confidentiality purposes.

1. What is your gender?
   a. Male ☐ b. Female ☐
2. Are you a trained special education teacher?
   a. Yes ☐ b. No ☐
3. What is your highest professional qualification?
   a. Certificate ☐
   b. Diploma ☐
   c. Degree ☐
   d. Master ☐
   e. PhD ☐
4. How long have you been an administrator for the school?
   a. Less than 1 year ☐
   b. 1- 3 years ☐
   c. 4- 6 years ☐
   d. 7 or more years ☐
5. Approximately, how many learners with physical disability do you have in the school? ……
6. Does your school offer specialised services to your learners?
   a. Yes ☐ b. No ☐

7. If your response for question 6 is Yes, please indicate the type of specialised services provided by ticking
    a. Mobility aids for example. wheelchairs, crutches ☐
    b. Computers and software accessible to learners with disabilities ☐
    c. Prostheses/orthoses ☐
    d. Speech language pathology services ☐
    e. Counselling ☐
    f. Psychological services ☐
    g. Physiotherapy ☐
    h. Orthopaedic services ☐
    i. Occupational services ☐
    j. Curriculum differentiation ☐
    k. Adapted physical education ☐
    l. Teacher aide service ☐
    m. School based health services ☐
    n. Special adaptive equipment for example. special chairs ☐
    o. Adapted environment ☐
    p. Special transport for example. adapted bus ☐
8. Do the learners use specialised equipment such as mobility aids, computers?
    a. Yes ☐ b. No ☐
9. If your response in question 8 is yes, please indicate the type of devices/aids.
    ……
10. Who purchases the specialised equipment? ……..
11. How important are the services provided to the learners?
    a. Very important ☐
    b. Important ☐
    c. Moderately important ☐
    d. Of little importance ☐
    e. Not important ☐
12. How satisfied are you with the specialised services offered to the learners?
    a. Extremely satisfied ☐
    b. Satisfied ☐
    c. Somewhat satisfied ☐

d. Not satisfied ☐

13. Are the specialised services provided adequate?

a. Yes ☐ b. No ☐

14. Does the school receive any funding from the MoGE towards the provision of specialised services?

a. Yes ☐ b. No ☐

15 If your response in question 14 is yes, how adequate is the funding?

a. Very adequate ☐

b. Adequate ☐

c. Not adequate ☐

16 Does the school receive any assistance from the donors?

a. Yes ☐ b. No ☐

17 If your response in question 16 is yes, what type of assistance is provided?

……..

18 What challenges does the school face in its quest to provide specialised services?

……

19. What mechanisms have you put in place to try to address the gaps in the provision of specialised services at the school level?

……

20. Specialised services are very significant to learners with physical disabilities.

a. Strongly agree ☐

b. Agree ☐

c. Unsure ☐

d. Disagree ☐

e. Strongly disagree ☐

21. In what ways are the specialised services important?

……

22. Are the parents/families of the children with physical disability provided with any specialised services?

a. Yes ☐ b. No ☐

23. If the answer is yes, what services are provided?

Thank you so much for answering this questionnaire

Appendix 2: Questionnaire for the Teachers

Dear Respondent

I am a postgraduate student pursuing a master's degree at the University of Zambia. You have been selected to provide data to the research topic aimed at finding out if learners with physical impairments access the specialised services. You are therefore kindly requested to answer this questionnaire. Please be informed that the information you will provide shall be used for academic purposes only and that by answering this questionnaire, you are contributing to a body of knowledge on the topic under study. Please do not write your name for confidentiality purposes.

1. What is your gender?
   a. Male ☐ b. Female ☐
2. Are you a trained special education teacher?
   a. Yes ☐ b. No ☐
3. What is your highest professional qualification?
   a. Certificate ☐ c. Degree ☐
   b. Diploma ☐ d. Master ☐
4. How long have you been teaching learners with physical disability?
   a. Less than 1 year ☐ c. 4 – 6 years ☐
   b. 1- 3 years ☐ d. 7 years or more ☐
5. Do the learners have the IEPs?
   a. Yes ☐ b. No ☐
6. Are the learners provided with any specialised services?
   a. Yes ☐ b. No ☐
7. Tick in the boxes the specialised services offered to the learners?
   a. Mobility aids for example. wheelchairs, crutches ☐
   b. Computers/software accessible to learners with disabilities ☐
   c. Prostheses/orthoses services ☐
   d. Speech-language pathology services ☐
   e. Psychological services ☐
   f. Counselling services ☐
   g. Physiotherapy ☐
   h. Orthopaedic services ☐

i. Occupational therapy ☐
j. Adapted physical education ☐
k. Teacher aide services ☐
l. School based health services ☐
m. Adapted environment ☐
n. Special transport services for example adapted bus ☐
o. Adaptive furniture ☐
p. Other services …….

8. Do the learners use any specialised equipment for example wheelchairs, prostheses? a. Yes ☐ b. No ☐
9. If your response for question 8 is yes, who purchases the specialised equipment? ……
10. How important are the specialised services to the learners?
    a. Very important ☐
    b. Important ☐
    c. Moderately important ☐
    d. Of little important ☐
    e. Not important ☐
11. If the answer is very important or important, explain how they are important.

    ……

    ……
12. How satisfied are you with the specialised services offered to the learners?
    a. Extremely satisfied ☐
    b. Satisfied ☐
    c. Somewhat satisfied ☐
    d. Not satisfied ☐
13. The specialised services offered are **not** adequate to the learners.
    a. Strongly agree ☐
    b. Agree ☐
    c. Unsure ☐
    d. Disagree ☐
    e. Strongly disagree ☐

14. If your answer in question 13 is '**strongly agree or agree'** what challenges do learners face due to the inadequacy of specialised services?

    ……

    ……

15. Tick what you do so as to modify the curriculum

Description of curriculum modification	**Yes**	**No**
Learners are given adequate time to complete their academic tasks.		
Learners are given additional time to move from one class to the other.		
Tests and examinations are modified.		
Different teaching methods are used		
Learners have access to adaptive equipment for example. Computers and software accessible to learners with disabilities		
Home or hospital teaching is provided.		
Learners have access to writing aids.		
Learners have access to assistant scribes or not takers.		

16. What are the major barriers limiting learners with PD from accessing specialised services?

    ……

17. Are the parents/families to learners with PD provided with specialised services?

    a. Yes ☐ b. No ☐

18. If your response for question 17 is yes, what services are provided?

    ……

    ……

19. What challenges do you face in handling learners with physical disability?

    ……

    ……

Thank you so much for answering the questionnaire

Appendix 3: Interview guide for Education standard officers – Nation

1. What is your gender?
2. Did you have any training in special education?
3. How many years have you been working in the current position?
4. What percent of allocation from the national budget is given to Special Education?
5. Is this allocation adequate?
6. Does the donor community render any assistance towards the provision of specialised services for the physically disabled learners?
7. If your response in question 5 is Yes, what kind of help is provided?
8. Does the MoGE provide specialised assistive devices to learners with PD?
9. If your response in question 7 is Yes, name the devices?
10. If your response in question 7 is Yes, how frequent does the MoGE provide the assistive devices to schools?
11. If your response in question 7 is No, why?
12. Do you have a policy as a Ministry to ensure the health service providers are deployed to special schools to provide services?
13. If your response in question 11 is Yes, kindly explain how the service providers are deployed.
14. Does the ministry have mechanisms to monitor the provision of specialised services in the country?
15. If your response in question 13 is Yes, kindly explain.
16. If your response in question 13 is No, why?
17. What strategies has the MoGE put in place in order to enhance the provision of specialised services to the learners?
18. What challenges does the Ministry face in the quest to provide specialised services?

Thank you for your cooperation

Appendix 4: Interview guide for Education Standard Officers - Province

1. What is your gender?
2. Did you have any training in special education? Yes/No
3. What is your highest professional qualification?
4. How long have you been a Senior Education Standard Officer?
5. What is the approximate number of learners with physical disability in the province?
6. Do learners with physical impairments in the province access specialised services? Yes/No
7. Does the province receive any funding from the central government to use in the provision of specialised services? Yes/No
8. If your response in question 7 is yes, is the funding adequate? Yes/No
9. Does the province receive any assistive devices/aids such as computers, wheelchairs from the government? Yes/No
10. If your response in question 10 is yes, how frequent are they given to the schools?
11. Does the province receive any assistance from the donor community towards the provision of specialised services? Yes/No
12. If your response in question 11 is yes, kindly indicate the type of assistance.
13. Specialised services are important to learners with physical impairments.
    Strongly agree/Agree/Unsure/Disagree/Strongly disagree
14. The specialised services offered to the learners are **not** adequate.
    Strongly agree/Agree/Unsure/Disagree/Strongly disagree
15. What are the other major barriers preventing learners with physical disability from accessing specialised services?
16. What mechanisms have been put in place by the province to address the gap in the provision of specialised services to learners with physical disability?

Thank you so much for allowing me to interview you.

Appendix 5: Interview guide for the Education Standard Officer – District

1. What is your gender?
2. What is your highest professional qualification?
3. How long have you been an Education Standard Officer?
4. Do learners with physical impairments in the district access specialised services?
5. What common specialised services do learners with PD access?
6. Does the district receive any funding from the MoGE in the provision of specialised services?
7. If your response in question 8 is Yes, is the funding adequate?
8. Does the district receive any specialised equipment e.g. computers, wheelchairs from the MoGE?
9. If your response in question 10 is Yes, how frequent are devices given to the schools?
10. Does the district receive any assistance from the donor community towards the provision of specialised services?
11. If your response in question 12 is yes, kindly indicate the type of assistance.
12. Specialised services are important to learners with physical impairments.
    Strongly agree /Agree /Unsure /Disagree/ Strongly disagree
13. Does the MoGE collaborate with other line Ministries to enhance the provision of specialised services?
14. If your response in question 15 is yes, explain how the collaboration is done.
15. The specialised services offered to the learners are **not** adequate.
    Strongly agree/Agree/Unsure/Disagree/Strongly disagree
16. What challenges does the district face in its quest to provide specialised services?
17. What are the other major factors inhibiting learners with physical disabilities from accessing specialised services?

Thank you so much for your cooperation

Appendix 6: Interview guide for the Pupils

1. Gender
2. What grade are you?
3. How long have you been in the school?
4. Do you have an IEP?
5. Do you use a mobility aid?
6. What kind of mobility aid is it?
7. If you do, who bought it for you?
8. What specialised services are you provided with?
9. Are the services important to you?
10. How are they important?
11. Are the specialised services adequate?
12. Are you satisfied with the specialised services offered to you?
13. Do your parents help in the provision of specialised services?
14. If you agree, what help do they provide?
15. If not, why don't they help?
16. Are your families/parents provided with any specialised services?
17. Do the teachers differentiate your curriculum for example …
    a. Do they use different teaching methods when teaching?
    b. Are you given enough time to complete tasks in class or in the exam?
    c. Are you given additional time for transitions?
    d. Are the tests and examinations modified?
    e. Do you have access to computers and software accessible to learners with disabilities?
    f. Do teachers teach you individually?
    g. Do you have alternate teaching home/hospital?
    h. Do those who have challenges in writing provided with aids for writing?
    i. Do those who have challenges in writing have access to assistant scribe or note takers?
18. Answer the following questions

FACILITIES		YES	NO	NA
A	**Entry to school**			
A.1	Are the main entrance/exit routes accessible for all children?			
B	**Ramps**			
B.1	Is the slope of the ramps shallow enough for wheelchair users to use independently?			
B.2	Are the ramp surfaces firm, even and well maintained?			
C	**Corridors**			
C.1	Are the corridors wide enough to allow a child using a wheelchair to pass another child using a wheelchair?			
C.2	Are the surfaces of the corridors firm, even and well maintained?			
D	**Chalkboard**			
D.1	Are chalkboards mounted and located at a height low enough to be reached by smaller children and those who use wheelchairs?			
E	**Doorways**			
E.1	Are doors wide enough to allow a student using a wheelchair to enter?			
F	**Door handles**			
F.1	Are door handles mounted and located at a height low enough to be reached by smaller children and those who use wheelchairs?			
G	**Toilets**			
G.1	Are the toilets accessible?			
IH	**Classroom/dormitory floor surface**			
H.1	Is the floor surface even and non-slippery			
I	**Pathways**			
I.1	Are the pathways convenient for you?			

Appendix 7: Interview guide for Parents

1. What is your gender?
2. What is your highest education qualification?
3. What is your occupation?
4. Does your child access specialised services?
5. If he/she does, what types of specialised services does your child access?
6. Does he/she use any specialised equipment?
7. If he/she does, who bought them?
8. Do the specialised services help your child?
9. If they do, how?
10. Are there other professionals who help your child apart from teachers?
11. Do you support your child in terms of the provision of specialised services?
12. If you do, what help do you provide?
13. If not, why don't you help?
14. Are you yourself provided with any specialised services?
15. If yes, what specialised services are you provided with?
16. What challenges do you face in educating your child?

Thank you for your cooperation.

Appendix 8: Interview guide for the Service Providers

1. What is your gender?
2. What is your highest professional qualification?
3. What is your profession?
4. What specialised services do you offer to the physically disabled learners?
5. How often do you provide the specialised services?
   Weekly/After 2 weeks/Monthly/Every after 2 months/Once a year
6. How do the specialised services you provide help the learners?
7. The specialised services offered to the learners are **not** enough. Strongly agree/Agree/Unsure/Disagree/Strongly disagree
8. Specialised services are important to learners with physical disabilities? Strongly agree/Agree/Unsure/Disagree/Strongly disagree
9. Do you provide any specialised services to the family/parents of these learners?
10. If you do, what specialised services do you provide?
11. Do you find challenges in your quest to provide specialised services?
12. If the answer is Yes, what are the challenges?
13. How best do you think the challenges can be addressed?

Thank you so much for your cooperation

Appendix 9: Interview guide for the Caregivers

1. What is your gender?
2. What is your highest education qualification?
3. How long have you been taking care of learners with physical disability?
4. Were you trained to take care of the children with physical disability?
5. Are there other professionals who provide services to the children apart from teachers?
6. From your experience, who buys most of the mobility aids that the children use?
7. From your experience, do parents support their children for example buying them wheelchairs?
8. Do the children have special cutlery?
9. If they don't, what challenges do the face due to not having the special cutlery?
10. What challenges do you face in looking after the children with physical disability?

Thank you very much for your cooperation

Appendix 10: Observation checklist A

Item/Facility	Available	Comment on condition		Measurement	
Pathways					
Classrooms					
Corridors					
Doors					
Doorways					
Door handles					
Ramps					
Chalkboards					
Toilets					
Urinals					
Grab bars					

Appendix 11: Observation checklist B

Item	Available/modified/comment on condition
Handrails	
Special chairs	
Adapted cutlery /eating utensils	
Computers/software accessible to learners with PD	
Modified pencils/pens	
Adapted toilets	
Tables	

Appendix 12: Permission letter from the DEBS- Kasama District

Correspondence to be addressed to

DEBS Kasama

Telephone: 221345
Fax: 221345
Email: kasamadebs@zamtel.zm

In reply please quote

REPUBLIC OF ZAMBIA
MINISTRY OF GENERAL EDUCATION
OFFICE OF THE DISTRICT EDUCATION BOARD SECRETARY
P.O. BOX 410074
KASAMA

9th April , 2018

The Headteacher
Chileshe Chepela Special Secondary School
KASAMA

RE: FIELD WORK FOR MASTERS STUDENT: MUNANGA M. JOSEPH

The bearer of this letter has my authority to undertake field work at your school as long as the school programmes are not disturbed.

Manga M. Stephen
DISTIRCT EDUCATION BOARD SECRETARY (AOD)
KASAMA

REPUBLIC OF ZAMBIA
MINISTRY OF GENERAL EDUCATION
KASAMA DISTRICT EDUCATION BOARD
09 APR 2018
SENIOR HUMAN RESOURCE MANAGEMENT OFFICER
P.O. BOX 410074, KASAMA

Appendix 13: Permission letter from the DEBS – Lusaka District

All correspondence should addressed
to the District Education Board Secretary

Telephone: 0211 - 240250/240249/0955 623749
E-mail: desbsisk@yahoo.co.uk

In reply please quote

.....

REPUBLIC OF ZAMBIA

MINISTRY OF GENERAL EDUCATION

DISTRICT EDUCATION BOARD SECRETARY
P.O. BOX 50297
LUSAKA

17th May, 2018

The Headteacher
.....
LUSAKA

RE: REQUEST FIELD WORK FOR MASTERS / ~~PhD~~ STUDENTS: MR. JOSEPH M. MUNANGA

The above subject matter refers.

I write to introduce Mr. Joseph M. Munanga a student of University of Zambia, School of Education. He is taking a Masters ~~PhD~~ programme in Education.

Mr. Joseph M. Munanga would like to carry-out this field work for Masters / ~~PhD~~ in your School.

I am pleased to inform you that permission has been granted for you to carry out your programme. However, ensure that your programme does not interfere with the learning schedule.

B. Mwanza (Mr.)
DISTRICT EDUCATION BOARD SECRETARY
LUSAKA DISTRICT

*mn