

**FACTORS AFFECTING THE USE OF SIGN LANGUAGE IN THE LEARNING OF  
HEARING IMPAIRED PUPILS IN SELECTED UPPER PRIMARY SCHOOLS IN  
LUSAKA DISTRICT**

**BY**

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requirements for the award of Degree of Master of Education in Special Education of  
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## **DEDICATION**

This dissertation is dedicated to my late mother Julianne Mwewa, my late father Chama Kamukwamba (MTSRIP), my foster mother Sister Carmella Palladinno, Father Thomas Ursidio, my husband Simate Simate, my children Eugene and Kabaenda Simate as well as Mwape, Mushota and Sitali.

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## **DECLARATION**

I, **Kamukwamba L. Kapansa** do solemnly declare that this research dissertation is my own work and to my knowledge, it has not been previously submitted for a degree, diploma or other qualification at this University or other University anywhere in the world.

**Author's Signature:** ..... **Date:** .....

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## **CERTIFICATE OF APPROVAL**

This dissertation by **Kamukwamba L. Kapansa** has been approved as fulfillment of the requirements for the award of the degree of Master of Education in Special Education of the University of Zambia.

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## **ABSTRACT**

The study evaluated the factors affecting the use of Sign Language as a medium of instruction in the learning of the hearing impaired in upper primary schools of Lusaka District, Zambia. Working within the descriptive research design as it provides background data for a larger study. The study was based on Naomi Chomsky's theory of language acquisition of 1977. Fifty-seven (57) respondents participated in the study consisting of twenty teachers (20), thirty pupils (30), two (2) Curriculum specialists, two (2) lecturers, two (2) advocates for the rights of persons with hearing impairments and one (1) Principal Education standard officer from the Ministry of Education. The study was guided by the following objectives, (1) to establish Factors affecting the use of Sign Language as a language of instruction in the learning of the hearing impaired pupils. (2) To examine how these factors have affected the use of Sign Language as a medium of instruction in the learning of learners with hearing impairments. (3). to suggest measures that can be taken to improve the use of Sign Language as a language of instruction in the learning of the hearing impaired. Research instrument that were used in this study included observation checklist, individual interview guide for teachers, pupils and key informants from ministry of Education, CDC, lecturers from University of Zambia and Zambia institute of special education and Zambia National Association of the deaf. It is against this background this study sought to establish the factors affecting the use of Sign Language as a medium of instruction in the learning of the hearing impaired learners in Zambia. The study findings revealed that, there was a variation in the use of Sign Language which participants believed to affect the use of Sign Language in academic work. The study conclusion recommended that, Sign Language courses for teachers should be long enough and more practical to equip teachers with signing skills. The harmonization of Sign Language training for teachers should be a priority step to be taken in order to improve the education status of hearing impaired learners and that Sign Language instructors should include adult hearing impaired as demonstrators.

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## **LIST OF ACRONYMS**

<b>ACE</b>	Associate Certificate of education
<b>ASL</b>	American Sign Language
<b>BESSIP</b>	Basic Education Sub –Sector Investment programme
<b>CDC</b>	Curriculum Development Centre
<b>CODA</b>	Children of Deaf Adults
<b>CPD</b>	Continuous Professional Development
<b>CSEN</b>	Children with special Educational Needs
<b>CWDs</b>	Children with disabilities
<b>CRPD</b>	Convention on the Rights of Persons with Disabilities
<b>EFA</b>	Educating Our Future
<b>GRZ</b>	Government of the Republic of Zambia
<b>HI</b>	Hearing Impaired
<b>LOL</b>	Language of Learning
<b>MCDCH</b>	Ministry of Community Development Mother and Child
<b>MOE</b>	Ministry of Education
<b>PWD</b>	Person with Disability
<b>PESO</b>	provincial Education Standards Officer
<b>UN</b>	Unite Nations
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organizations
<b>UNZA</b>	University of Zambia
<b>ZAFOD</b>	Zambia Federation of Disability Organizations

**ZAMISE**

Zambia Institute of Special Education

**ZNAD**

Zambia National Association of the Deaf

**ZPC**

Zambia Primary Course



## **CHAPTER ONE: INTRODUCTION**

### **1.1 Overview**

Chapter one presents the background to this study which explores the factors affecting the use of Sign Language as a language of instruction in schools of the profound hearing impaired pupils. In order to contextualize the study, the term Sign Language is defined and its importance in the education of the hearing impaired students, their families and the nation in particular is explained. The Chapter further documents the impact of the Language on the education of the profound hearing impaired learners. The Chapter also includes the statement of the problem which was studied, the purpose and objectives of the study, Research questions, the significance of the study, the operational definitions as well as the limitations and delimitation of the study are also highlighted in the Chapter. It also outlined the organization of the study and finally a summary of the chapter was provided.

### **1.2 Background**

Historically, education of the hearing impaired in Zambia was pioneered in 1955 by the Dutch Reformed Church at Magwero Mission in Eastern province when a special class of hearing impaired pupils was started (Mbewe,1980). Eventually, a special School for hearing impaired pupils was established with the support of a local teacher, a Mr Shenard Chitsala Phiri. The School catered for hearing impaired children from all parts of Zambia and Malawi. The social welfare officers facilitated the children's travel to and from school. The Magwero School earned an international recognition as the only special school for the hearing impaired learners in Zambia until 1971 when Malawi established its own school for the hearing impaired (Mbewe, 1980, p 17).

Mbewe (1980) further states that the Department of Social Welfare (under the colonial government of Northern Rhodesia) supported the school with financial grants. In 1968, following Zambia's independence, the Zambia Council for the Handicapped was established as a Department of Social Welfare and functioned as a specialized agency responsible for the education and the welfare of persons with disabilities (PWDs). The department of African Education which was later named the Ministry of Education eventually took over the responsibility of education for all children in 1971. The medium of instruction for hearing impaired learners was oral or speech in which auditory and speech training were given

preference. Pupils were primarily taught life skills and vocational trades such as tin-smithing, carpentry and joinery, brick laying, gardening and knitting (Mbewe, 1980).

In 1966, the Zambian government appointed a commission of inquiry into the education of PWDs. The commission was headed by Mr. Gordon P. McGregor, a senior lecturer in English at the University of Zambia. The commission produced the report entitled, '*Educating the handicapped.*' And one of its major recommendations was the need to open a day unit for the hearing impaired at an ordinary school to compare its success with the residential Magwero School. The proposal facilitated for integration also known as mainstreaming of children with disabilities (CWDs) in mainstream schools (Mbewe, 1980).

Mbewe (1980), states that the first day unit was opened in Kitwe at Valley View Primary School and Mr. Phiri was transferred from Magwero to manage it 1968. However, the unit encountered a number of challenges as it was the only institution in the Copperbelt province. It attracted children from as far as Luanshya, Ndola, Kalulushi and Chambishi. After the Ministry of Education (MoE), Inspector of Schools a Mr. Salisbury, discovered the problem, he proposed for the establishment of a special school at a boarding school (Mbewe, 1980). Eventually St. Joseph's School Deaf was established in 1972 (Mbewe, 1980).

Then University of Zambia started working towards training more teachers in the education of the hearing impaired by offering an Associate Certificate of Education (ACE) for the Zambia Primary Course (ZPC). From 1969 to 1971, a Danish officer, a Mr. N.P. Scamris, who was Inspector of Schools in Special Education at the Ministry Headquarters conducted lectures in speech. Mbewe (1980) contends that the use of Sign Language was discouraged because it was perceived to hinder children's learning capabilities and instead oral work was emphasized in teaching of hearing impaired pupils.

The above effort to educate children with hearing impairments is reflected in the MoE policy which upholds the principle that every individual has an equal right to educational opportunities (MoE 1996). This means that every individual child regardless of personal circumstances or capacities has a right of access to and participate in the education system. Since independence in 1964, three major education policy documents have been developed, they are as follows:

Education Reforms (1977) which highlighted education as an instrument for personal and national development and policies that supported the development of special education in

Zambia. It also emphasized the need for equal access and equity to educational opportunities. The government declared interest in the educated population of Zambia including people with hearing impaired. This document was approved in 1996 and it brought hope to all national policies on education. However there has been little commitment in the implementation of these policies (Malunga, 2007).

Focus on learning (1992) which emphasized the need for mobilization of resources for the infrastructure development of schools. The document included strategies that would be used to respond to the educational needs of children in the country. This document emanated from the World Declaration on Education for All (EFA) which was made in 1990 in Tomtien, Thailand. The emphasis was on resource mobilization for materials and infrastructure which are user friendly to learners with disabilities (MoE, 1996).

The third policy document was a product of lengthy and broad based consultation processes involving various stakeholders, *Educating Our Future* was adopted in 1996, and its focus was on production of formal institutional education with emphasis on democratization, decentralization and productivity. The second area of focus curriculum relevance and diversification, efficient and effective management, was capacity building, cost sharing and revitalized partnership on the other. Flexibility, pluralism, responsiveness to the needs and the protection of quality were also themes which characterized the document (MoE, 1996).

In spite of the elaborate of being an elaborate document 1996 policy has no clear strategies to appropriately achieve the target themes. However the relevance of the document to this study is its recognition of learners with disabilities who encompass hearing impaired to have access to good quality education. The document stresses the need to accord them equal educational opportunities and it identifies them as pupils with special educational needs (MoE 1996). The principle mainstreaming them to the greatest extent possible is a prominent emphasis in their education yet little special provisions appears to be made to support their learning in mainstream classes. This has disadvantaged children with hearing impairments in Zambian schools. Kanyanta (2003) argues that the education Act of 1996 which was also the Handicapped persons' Act provides for the fact that education institutions shall use Sign Language as a medium of instruction to any learner who uses Sign Language as the learner's first language or who has special needs for Sign Language, but at teacher training level , the University of Zambia ( UNZA) and the Institute of Special Education (ZAMISE) which are the main institutions that provide special education for teachers of the hearing impaired, Sign

Language was not given the prominence it deserved in the curriculum. Infact Sign Language which was supposed to be taught is simply taught as a component of special education implying a medical view of the hearing impaired.

According to Wakumelo (2009), training at ZAMISE previously focused on specialization in different disabilities but that has changed. She noted that:

*“Previously when it was a certificate course the students specialized in one disability as a core course. But with the change to the Diploma course, students have to do courses in all types of disabilities. The Sign Language course was dropped as a core course and some students did not see the need for it.”*

The above statement indicates that most teachers of the hearing impaired graduate from universities and colleges with little or no knowledge on the use of Sign Language as a medium of instruction in the learning of hearing impaired pupils. A situation that has deprived hearing impaired children the opportunity to learn.

At UNZA, the Department of Educational Psychology, Sociology and Special Education (EPSSE) offers a degree study program that seeks to produce graduates who can teach learners with various types of disabilities in line with the MoE’s policy of inclusive education. The program is general as there is no specialization in content and most of the content is on Psychology. However, of late there were some efforts by EPSSE to focus the program on the educational needs of the hearing impaired learners. This was manifested in the recruitment of one lecturer specialized in the hearing impairment. However, the focus on Sign Language remains limited due to employment of tutors who are not conversant in Sign Language and this is evidenced by the inability of student graduates from UNZA to effectively teach hearing impaired pupils due to poor signing skills.

Since the famous work of William Stokoe in 1966, Sign Language has come to be accepted as a natural language. Not until then, educators of the hearing impaired refused to recognize Sign Language as a true language and hence tried numerous other methods of educating the hearing impaired. It was a common knowledge that actually Sign Language was banned and emphasis was placed on oral methods to train the hearing impaired in speech while others tried to come up with unnatural systems of signing such as pure signed English and signed exact English. These systems were manual representations of the English language. Today,

much linguistics has recognized the importance of the mother tongue in facilitating the learning of a second language (Lewis, 2013)

Several studies such as Cummins, (2000) and Drasgow, (1998) have shown that using the mother tongue in learning facilitates learning of literacy skills in the second language. Similarly, the MoE in 2003 embarked on a language policy called the New Breakthrough to Literacy (NBTL). In this Program, children were taught literacy skills in their first languages in the first year of schooling. The pupils were then expected to use their first language to learn the second language which is English. This involved learning the vocabulary, culture and grammar of their mother tongues before learning English. The above statement has a positive effect on children's schooling.

However this initiative did not apply to the hearing impaired pupils. In schools for the hearing impaired where this policy was attempted, what teachers taught was the local languages of the community such as Cibemba, Kikaonde or Cinyanja. What really happened in class was that teachers used signs to teach in a particular local language in that area. Hence in Cibemba speaking areas teachers taught the hearing impaired pupils using signed Cibemba (Wakumelo, 2010).

Wakumelo (2010), further states that the profound hearing impaired children learn concepts through Sign Language and not by using Sign Language which is used by the community they live in. She further holds that hearing children in speaking communities learn concepts through their verbal languages and not through the written words and/or spellings. From this observation arises the question as to "why subject the hearing impaired to learn the spellings of the spoken language right from the start?"

From the above argument, it follows that the hearing impaired children needed to be taught in their mother tongue which is Sign Language. This is especially the case for the profound hearing impaired children born of hearing parents since they are deprived of any form of language during the most critical phase of language development between the ages 0 to 3 years. Hence they need longer time to learn their natural language to compensate for the period they had no access to any meaningful language which they were supposed to use to form concepts ( Wakumelo 2010).

Some countries such as Sweden recognized this need and introduced the use of Sign Language as a medium of instruction in the education of the hearing impaired children

(Chupina, 2006). He further argued that hearing impaired children or pupils enter school with different types of knowledge and therefore teachers are required to know that hearing impaired pupils are very capable as the hearing impairment only affects their hearing not their minds, a hearing impaired child's mind is as good as that of the hearing child and just to hold them to the same expectation as they would any child put in their care. Hearing impaired children entered school with different types of knowledge. For example, some children with hearing impairments perform very well in the class room while others are average and below average. Children with hearing impairment in rural areas, compounds and urban areas also have different types of experiences. Children who grow up in rural areas have limited Sign Language experience due to limited interaction with the other hearing impaired persons. When such children enter school, their performance tends to be expectedly low (Elwan, 1999).

To the contrary children with hearing impairments from the urban areas tend to have good experience in signing due to exposure to Sign Language in their environment because they interact with other hearing impaired people. This helps them to learn many concepts that help them to perform well in class. The situation is even better for children whose parents manage to learn Sign Language in order to communicate with their hearing impaired children at home.

Thus for the teachers to effectively teach deaf children, he or she must know the background of the children it plays an important role to the children's day-to-day schooling. Teachers need to know about the deaf culture and what that brought with it to the child as well as hearing impairment itself. They also need to know about the mode of communication that the child uses in learning as this helps to ensure that the child does not miss out in the lessons (ZNAD, 1980: 34).

The introduction of the *Zambian Sign Language Dictionary* by Zambia National Association of the Deaf (ZNAD) was an idea which was as a result of the rejection of oralism in favour of manualism. Neisser (1983) defines Oralism as the education of deaf children through oral language by using lip-reading, speech and mimicking the mouth shapes and breathing patterns of speech instead of using Sign Language within the class room. Oralism came into popular use in the United States of America around the late 1860s while manualism is defined as the method of educating deaf students using Sign Language within the class room. Manualism arose in the late 18<sup>th</sup> Century with the advent of free public schools for the deaf in

Europe. These teaching methods were brought over to the United States where the first school for the deaf was established in 1817.

ZNAD (1980) believes that oralism limits the access of knowledge and impaired the relationship between the hearing impaired learners and their teachers (ZNAD, 1980).

Mbewe, (1980 ) observes that, Sign Language enables children with hearing impairments to excel academically and as such teachers who are assigned to teach the hearing impaired need to not only be trained in special education but also in Sign Language . Sign Language should be taught as a course to enable teachers to communicate effectively with their learners in the classroom (ZNAD, 1980). He further holds that Sign Language does not only bridge the communication gap but also creates an emotionally secure social environment.

However, there are factors that seem to affect the use of Sign Language as a language of instruction in the education of the hearing impaired in Zambia. This is the basis upon which this study was conducted it is hoped that the study findings will help the MoE and other stakeholders to formulate appropriate strategies and policies with regard to the use of Sign Language in the education of pupils with hearing impairments in Zambia.

### **1.3 Statement of the Problem**

There was concern by MoE and other stakeholders on the learning of hearing impaired especially with regard to the factors affecting the use of Sign Language as a medium of instruction which need investigating (Mbewe, 1980). Since little was known about factors that could have affected the use of Sign Language as a medium of instruction in schools for the hearing impaired, hence there was need to explore through the present study the factors affecting the use of Sign Language in the learning of hearing impaired in upper primary school classes of Lusaka District without which the rich literature on factors affecting the use of Sign Language in the learning of the hearing impaired pupils would not have been known.

### **1.4 Purpose of the Study**

The purpose of the study was to investigate the factors that affected the use of Sign Language as a medium of instruction in the learning of the hearing impaired pupils in upper grades of selected upper primary schools in Lusaka district of Zambia.

## **1.5 Objectives of the Study**

The study was guided by the following objectives.

- (i) Establish the factors affecting the use of Sign Language as a medium of instruction in the learning of hearing impaired pupils
- (ii) Examine how these factors have affected the use of Sing Language as a medium of instruction in the learning of the hearing impaired
- (iii) Suggest the measures that can be taken to improve the use of Sign Language as a language of instruction in the learning of the hearing impaired.

## **1.6 Research Questions**

The study sought answers to the following research questions:

- (i) What factors affected the use of Sign Language as a medium of instruction in the learning of the hearing impaired?
- (ii) How have these factors affected the use of Sign Language in the learning of pupils with hearing impairments?
- (iii) What measures can be taken to improve the use of Sign Language as a mode of instruction in the learning of the hearing impaired pupils?

## **1.7 Significance of the Study**

The researcher hopes that the study will provide latest information to education policy makers and other stakeholders to develop appropriate actions to address the challenges they encounter in using Sign Language as a medium of instruction and therefore improve the learning of the hearing impaired.

## **1.8 Limitations of the Study**

The study required a wide range of coverage in terms of targeted schools that were to participate in the study to provide data. However the study was confined to Lusaka urban schools only. In this study the researcher did not have control on some respondents' unwillingness to respond to questions. In addition, the researcher encountered problems with some teachers for refusing to be observed using Sign Language as a medium of instruction in



the class room. This was a major limitation to the study. However, the researcher assured respondents that the data was used for academic purposes only. This ensured they answered questions without fear. The researcher guided teachers in interpreting questions, some gave answers that are acceptable hence affected the reliability of the data.

### **1.9 Delimitations of the Study**

The study was conducted in Lusaka district and covered three (3) upper primary schools. The main areas addressed by the study were: factors affecting the use of Sign Language in the learning of the hearing impaired pupils, the school environment that affects the use of Sign Language, teachers' qualification to teach learners with hearing impairments, teaching and learning materials used to affect the use of Sign Language in Lusaka District thus the views of other stakeholders were overlooked.

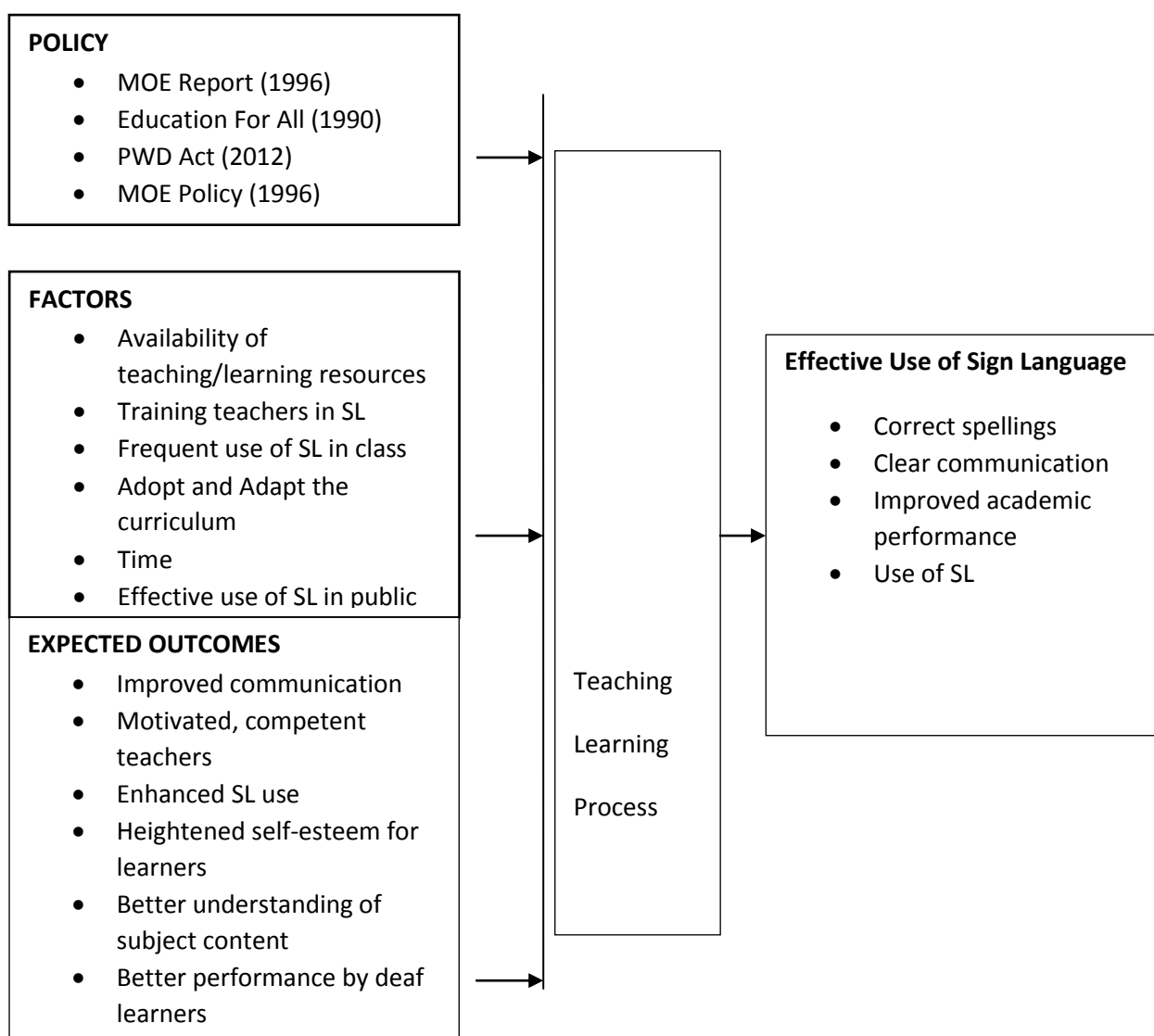
### **1.10 Theoretical Framework**

The study was guided by Noam Chomsky's theory on language acquisition of 1977. This theory emphasizes that everyone has an inborn fault for first language acquisition. At birth children always have brains whose neural circuits have linguistic information. If nurtured well first language acquisition and use is realized within the expected period. This theory also emphasizes that children think in their first language and therefore they should be exposed to rich environments that enhance their language early in life. Chomsky contends that the child possesses an innate capacity for dealing with linguistic universals. The child generated a theory of grammar to help understand and produce an infinite number of sentences. He further emphasizes that the child is biologically predisposed to learn language as the brain matures. Humans were believed to be "powered" for language development and the environment simply triggered its emergence. This theory was used to advocate for the use of Sign Language which was the first language for learners who are deaf. When entering school the children are taught indigenous Sign Language which is a common language used by the deaf and hearing people who have learnt it and slowly move to learn a national system of Sign Language (Chomsky, 1977).

## 1.11 Conceptual Framework

The conceptual framework explains the effect of independent variables on dependent variable. Thus the availability of learning resources could lead to enhanced use of Sign Language in teaching and learning. The main variables under study are reflected in the Figure below.

### A summary of factors that affect the use of Sign Language (SL) in the learning among Hearing Impaired pupils



Sign Language was affected by independent variables like policy, factors like availability of teaching and learning resources and if these factors were affected there would be effective use of Sign Language in Upper Primary Schools for the hearing impaired.

## 1.12 Operational Definition

The following terms were used in relation to this study.

**Disability** – The term ‘Disability’ features prominently in this paper and it is important to place it in its proper perspective and context. The Convention on the Rights of Persons with Disabilities (CRPD) states that people with disabilities include those with long – term physical, mental, sensory or intellectual impairments which in interaction with various barriers may hinder their full participation in society on equal basis with others.

**Factor** - Any element that contributes to a particular result or situation. The Merriam Webster’s unabridged Dictionary also defines a factor as something that helps produce or influence a result or causes something to happen. For instance, hearing impairment is a factor that causes people with hearing impairments to use sign language as a medium of communication.

**Impairment** - Any loss or abnormality of physiological, psychological or anatomical structure or loss of function. People with impairments have trouble doing something. For instance, if one had a hearing impairment, he or she could not hear and if someone had a visual impairment, he or she could not see. Some impairment are temporal while others are permanent.

**Hearing impairment** - Is a partial or total inability of the ear to perceive sound. A hearing impaired person has little or no hearing. Hearing impairments can occur in one or both ears and can be caused by a number of factors including genetics, aging, and exposure to noise, some infections, birth complications, trauma to the ear and certain medication or toxins. A common condition that results in hearing impairments is chronic ear infection while also certain infections during pregnancy such as syphilis and rubella may also cause hearing impairments. Hearing impairments can affect the ability to learn.

**Language of communication** - The language that human beings use to communicate with one another which can either be signed or spoken language.

**Medium of instruction** - The language used by the teacher to teach, which may be English or any other language that can be understood by pupils. For the hearing impaired, the medium of instruction is Sign Language.

**Sign Language** - a visual language that uses a system of manual, facial and body movements as a means of communication.

**Special Education** - is the practice of educating learners or pupils with special educational needs to address their individual differences and needs. Ideally, this process involved the individually planned and systematically monitored arrangement of teaching procedures, adapted equipment and materials and accessible settings. These interventions were designed to help the individuals with special educational needs to achieve higher levels of personal self-sufficiency and success in school and in their community that may not be available if the student were only given access to a typical classroom education.

### **1.13 Summary**

This Chapter highlighted the background of the study on factors affecting the use of Sign Language as a medium of instruction in classes for the hearing impaired pupils. It had discussed the statement of the problem, purpose, objectives, research questions, significance, limitations, and delimitation and ended with operational definitions. The next Chapter will review the literature related to factors affecting the use of Sign Language as a medium of instruction for learners with hearing impairments.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Overview**

This Chapter review reading which pertains factors affecting the use of Sign Language as a medium of instruction in the learning of hearing impaired pupils. The Chapter is divided into two parts. The first part discusses the use of Sign language in the education of hearing impaired learners while the last one highlights measures that have been taken to improve the use of Sign Language in teaching hearing impaired pupils.

### **2.2 Factors Affecting the Use of Sign Language as a Medium of Instruction in the Learning of hearing impaired pupils**

Benson (2004) observes that hearing impaired persons are generally known to be persons who are unable to hear and this often led to their preference of the use of Sign Language as a medium of communication as a compensatory measure for inability to use spoken or verbal language. The author also argues that, Sign Language by design is a language of the hearing impaired which uses manual communication to convey meanings as opposed to acoustically conveyed sound patterns. This form of language is used in the day to day communication among the hearing impaired as well as a medium of instruction in education cycles. In the past most people thought that Sign Languages were simply manual representations of spoken languages while others thought it was a collection of meaningless gestures and therefore attempted to suppress it in many ways (Wakumelo and Miti, 2010).

Sign Language involves a combination of hand shapes, body movements and facial expressions. It contains structures and processes that spoken languages does not have and they have grammatical structures which are suitable to the visual medium (Wakumelo and Miti, 2010). Similarly, Smith (2000), states that Sign Language is rich and complex language as any oral language despite the common misconception that it is not a real language. This misconception may be at this stage regarded as an important factor that affect the use of Sign Language as a medium of instruction in the learning of the hearing impaired learners in the school system. This is in tune with what is happening in Zambia, hence the basis of this study.

In addition to the above scholarly, ZNAD (1980) also elaborates the special features of Sign Language in comparison to spoken English. ZNAD (1980) argues that Sign Language largely follows the sentence structure of object, subject verb (OSV) for example, the English OSV sentence “*the girl is cooking food.*” may be written as “*girl food cook.*” Tenses are established by signing the time at the beginning of the sentence. For example, “*the men arrived yesterday.*” may be signed as “*yesterday men arrive.*” With regard to pronouns, they are shown in Sign Language by simply indexing or pointing to the people as in you, he, she or the item referred to as in, it. The adjustment in the arrangement of words in the sentence may have its own effect in the way a teacher communicates to learners in the classroom hence the effect on learning outcomes.

Apart from misconceptions about the status of Sign Language in communication, human rights have influenced the use of Sign Language in the education of the hearing impaired. In every effort to support the rights of the hearing impaired, removal of linguistic barriers was of paramount importance. Global advocacy on the rights of persons with disabilities have consistently stressed the right of hearing impaired persons to use Sign Language as their primary means of communication in any given situation. Of late, the Convention on the Rights of Persons with Disabilities (CRPD) which came into force in 2008 recognizes the right of hearing impaired people to use Sign Language. This is enshrined in Article 24 of the Convention which requires States Parties to the Convention to:

*“Facilitate learning of Sign Language and the promotion of the linguistic identity of the hearing impaired community. These articles are provided in order to help educators and the community to understand that Sign Language is as important in the education of the hearing impaired as spoken language is to the hearing”.*

The Convention further states that:

*“The Sign Language used by the hearing impaired should be a widely accepted Sign Language, which implies the language of the adult hearing impaired persons in community of a particular country”.*

However, in Zambia it is not clear as to whether or not Sign Language as a medium of communication has assumed a national character to support its uniform usage in classrooms. ZNAD (1980) contends that it is important that hearing impaired children are exposed to Sign

Language at an early age because it is their mother tongue which they can use to learn in a bilingual or multi-lingual education system.

Besides being a first language, Sign Language is the only language that a hearing impaired child can acquire without necessarily being formally taught (ZNAD, 1980). For example, children who were born to deaf adults (CODA) start using Sign Language as a medium of communication within their homes without anyone teaching them. Equally, hearing impaired children born of hearing parents start using Sign Language in the same way as the CODAs did without being taught. Hearing impaired children learn to use Sign Language from their environment as the hearing children learn to use spoken language by hearing their parents and other members of the community speak. In view of this, Sign Language is an important tool for communication and it is for this reason that it should be used in the education of the hearing impaired and outside classroom communication (ZNAD, 1980). The study found that Sign Language has affected instruction during learning. However, despite this argument and advocacy, it remains unclear what has affected the use of Sign Language in the education of the hearing impaired learners which forms the basis of this study.

The status of Sign Language varies in each country. For instance, a 2008 World Federation of the Deaf survey conducted in southern and east African countries on the status of Sign Language established that only ten out of nineteen countries involved in the survey had a policy or law on deaf education. These ten countries including Zambia were able to provide the specific names of the legislation related to deaf education. As regards educational settings for the deaf, only four countries namely Burundi, Kenya, Malawi and South Africa had educational settings from early intervention and early childhood right through to university education as well as vocational education and training for the deaf. In Mozambique and Rwanda, the education of the hearing impaired is only limited to primary school while Eritrea, Madagascar and Seychelles it was stated that there were no educational settings for the deaf except for vocational education and training ( Allen, 2009). Thus, this shows that the education of the hearing impaired is not given the prominence it deserves and this means that these children were receiving lower education as compared to hearing children.

In respect of the use of Sign Language as a subject, Chupina (2006) reports that the Swedish Sign Language became the language of instruction as well as a taught subject itself in 1995. Since then, special schools and mainstream schools use the same curriculum which includes Sign Language as a subject. The hearing impaired students are able to study Sign Language

along with other subjects in written Swedish Language. Chupina (2006) also says classes of hard of hearing students also learn Sign Language and spoken language as well as Swedish and that this has greatly contributed to good literacy for hard of hearing and hearing impaired students.

In Zambia it is yet to be seen how legislators and government policy makers are slowly beginning to understand the importance and role of Sign Language in the education of the hearing impaired. For example, Sign Language was recognized in the formulation of the Breakthrough to Literacy (BTL) program which required that children in Grade One were taught to read in a familiar language preferably their mother tongue. Secondly, the Sign Language Bill of 2015 and the introduction of Sign Language in institutions of higher learning by MoE are indicators of a slow recognition of the Language by the Zambian government. The most notable initiative to recognize the formal use of Sign Language is its legal recognition in the revised Persons with Disabilities Act No. 6 of 2012 under Part V which encourages the facilitation of the learning of Sign Language and the promotion of the linguistic identity of deaf people.

The above developments have the potential to influence the use of Sign Language as a medium of instruction in the learning of learners with hearing impairments. For instance, the Sign Language Bill has the potential to make education policy makers aware of the importance of Sign Language in the lives of hearing impaired persons. However, the Bill is yet to be enacted into law. The introduction of Sign Language courses for college and university students who are studying to be teachers for the hearing impaired can equip graduating teachers with the skills to communicate with hearing impaired pupils using Sign Language in the classroom. This in turn will also improve access to education for hearing impaired learners hence enabling them to enjoy their right to education. The above developments are what the study is focusing on.

From the above discussion, it follows that any effort to suppress the use of Sign Language in the education of the hearing impaired persons is a violation of their right to access to public information and self-determination. The control or development of Sign Language in any society needs to be left to any local social group where such a particular Sign Language is used (Ahlgren, 1994: 91). Therefore, the present study highlights the role of educators and the community of the hearing impaired in promoting the right to use Sign Language which is acceptable to the majority of hearing impaired persons. This contradicts any effort by hearing



persons to imposing a sign language on them. This is because Sign Languages differ according to locality (Ahlgren, 1994). This situation is what is obtaining in Zambia, hence the need to have them established.

Research has also helped to influence the use of Sign Language in the education of the hearing impaired (Yule, 2004: 175). Research has helped to correct various misconceptions about Sign Language and its role in the life of hearing impaired persons. Research has explored and determined other optimal conditions that accompany Sign Language in the successful education of hearing impaired (Jessica, 2016). For example, more investigations have been done to establish the prerequisite abilities of hearing impaired children's success in the acquisition and use of the manual system as well as inter individual variations of acquisition of manual communication (Jessica, 2016). In view of the little knowledge that is available on the use of Sign Language in education of the hearing impaired persons which in turn explains attitudes and behavior patterns towards its usage, research can help to fill up this knowledge gap. This can in turn give a more understanding of the effect that Sign Language has in the education of the hearing impaired. (Jessica 2016).

Furthermore, research in Sign Language can help policy makers to make an effort to develop indicators related to the use of Sign Language as a medium of instruction in the learning of the hearing impaired so as to analyze the problems involved and plan programs accordingly (Frazer, 2004). Hence the study intended to explore how research into the factors affecting the use of Sign Language can help give more understanding into the use of Sign Language as an instructional language in the learning of learners with hearing impairment.

Locally, ZNAD (1980) lamentably observes that:

*“In Zambia, however there has been very little research that has been done on Sign Language due to the following reasons: lack of knowledge about the importance of the language as a medium of communication among people with hearing impairments, People are not willing to commit their time and resources to something that they do not understand, Lack of funding to carry out research activities, Lack of commitment as people view Sign Language as a language of a minority group, hence they don't see the reason to waste resources on something they believe is of no benefit to the general populace.”*

The above statement indicates that the lack of research into the factors affecting the use of Sign Language in the learning of the hearing impaired learners is what has led to little information on the use of Sign Language as a language of instruction in the learning of learners with hearing impairment. Hence, the basis for this study.

In recent years, professionals have shown interest in carrying out research on Sign Language especially on its role in educational instruction among the hearing impaired. Research on Sign Language started in the early 1960s in the United States, Netherlands and has spread to other parts of the globe. For instance, it is linguistic research which confirmed that sign languages were complex natural languages and part of the culture of the hearing impaired. It has also demonstrated that Sign Languages have natural properties of any spoken language and that Sign Languages evolve independent of spoken languages which surrounded them. (Gerhold 2000). A situation which may tune in with the current study that it is focusing on.

Research has further proved that the visual gestural, which was tactile and sign medium was biologically normal and universal (Chaudron, 1988). The author also states that every known group of non-speaking people around the world use some sort of Sign Language and even some isolated hearing impaired individuals were observed to have developed a Sign Language to communicate with other people around them. Hence, the aim of this study to establish how Sign Language has developed as a language of instruction in the learning of the hearing impaired learners.

A similar research conducted by ZNAD (1980) also revealed that Sign Languages have been in existence as long as spoken languages. Based on this research, it is argued that no one invented Sign Languages but that they had arisen spontaneously through time by unrestricted interactions among people who used them as a primary communication system.

Additionally, ZNAD (1980) observes that these Sign Languages differed from devised or derivate Sign Languages that were intentionally invented by some particular individuals who were educators of hearing impaired children. According to ZNAD (1980) unlike natural Sign Language, the invented Sign Languages represent spoken language such as the manual coded English and signed English. They were used in classrooms and spontaneously spread to the wider community or to broader employment in everyday communication which brought about confusion among the hearing impaired because they failed to follow instructions in the classroom when used as a medium of instruction (ZNAD, 1980). The hearing impaired learners should instead be taught purely in Sign Language (Allen, 1986). This research aims

at documenting the current status of Sign Language in the classrooms which also has a bearing on the study on factors that affecting the use of Sign Language as an instructional language in Zambia.

### **2.3 Establishing the level at which Factors Affect the use of Sign Language as a medium of instruction in the learning of the hearing impaired**

A study carried out by ZAFOD in 2010 showed poor academic performance and progression rates among the hearing impaired. Good examples are surveys done by the Centre for Assessment and Demographic Studies at Gallaudet (Bowe (1998). Other researchers such as Stuckless and Birch (1966) and Vernon (1967) have also shown depressing performance patterns which confirmed that hearing impaired students in the United States of America struggle to reach third or fourth grade reading levels by the age of 13 or 14. On the other hand, hearing students achieved 7<sup>th</sup> or 8<sup>th</sup> grade levels. The studies further revealed that during high school years, the hearing impaired students tended to remain at third or fourth grade instead advancing further. Similarly in China, Biggs (2004) observed that most hearing impaired learners left school regardless of whether they attended special or mainstream school with an academic achievement well below that of their hearing peers and were unable to communicate fluently in any language including Sign Language. Poor education translated into poor job prospects and subsequently a lower standard of life among adult deaf persons in China. This perpetuated the misconception that the hearing impaired were underachievers, a situation which would not happen if Sign Language was used as a medium of instruction in the classroom system (Biggs, 2004). This observation is motivation of this study. Therefore the aim of this study was to call for the promotion of Sign Language in the learning of the hearing impaired.

In Kenya, Global Deaf Connection (2010) which was conducted in Kenya in 1998 reports that there were over 14,000 children with hearing impairments. However, only a small percentage of these children attended schools and received limited resources because of an assumption that the education of the hearing impaired children was a waste of time and money and that the hearing impaired children would not become productive members of society. To substantiate this, Kenya had 41 schools for the hearing impaired children with over one hundred students at each school. However, most teachers for the hearing impaired did not know how to use Sign Language nor did they understand the deaf Culture (Global

Deaf Connection. 2010). They wrote lessons on the board and used pointing as the primary teaching method. This negatively affected the learning of the hearing impaired and as a result only a few of these children progressed to secondary school and there was no mechanism to help them attend college thereafter.

Globally speaking, Hover (2008) argues that, in the world's hearing impaired people only 5 per cent of profound deaf persons are able to read and write. The World Federation of the Deaf (WFD) attributes this mainly to the fact that hearing impaired people are not taught in Sign Language, a situation which appears to be obtaining in Zambia.

In China, there has been an ongoing debate over the use of natural Chinese Sign Language (CSL) or Sign Supported Chinese (SSC) causing communication problems both inside and outside the classroom. According to Biggs (2004) findings of a study done by Lianing Normal University, more than half of the students interviewed at a school for the hearing impaired could not understand any of the SSC that was used by their hearing teachers. The study states that only 20.8 per cent could understand completely while teachers said they were too baffled by their students' preference of natural Sign Language which was preferred by the deaf community. The study further established that most teachers of the hearing impaired who were predominantly hearing preferred SSC because they believed that it would help children to make the transition from Sign Language to spoken language. The lack of consensus could also affect the linguistic development in the classroom (Briggs, 2004).

A formal consistent signing system is beneficial but an incorrect and inconsistent use of Sign Language would prove detrimental to not learning anything at all (Wakumelo, 2010). The situation in China is replica of the Zambian situation where American Sign Language (ASL) seems to be more preferred for use in schools by teachers at the expense of local Sign Language.

A research carried out by ZNAD (1980) showed that in many situations parents' random language patterns and inconsistent linguistic input resulted in children being unable to utilize completely the linguistic forms in the correct manner. Thus many children might be exposed to language patterns and inconsistent input from teachers in educational settings in addition to irregular forms from parents at home. All these experiences tended to cause confusion in the mind of a hearing impaired child and present a challenge in language development (ZNAD, 1980). It is a well-known fact that children acquire their language from their homes in infancy.

According to a research done in Kenya by Adoyo (2002: 83) children acquire the first patterns language from their homes in their infancy but this is not the case for 95 per cent of hearing impaired children born from hearing families. These children did not have access to the acquisition of the first language early enough. They reached school with restricted linguistic and social preparation. The impact of this on the structure of the school was that the school was to prepare the children for the acquisition of a first natural language for a second language acquisition, socialization and development of world knowledge. These tasks generally undertaken naturally in their infancy at home will take place in school. This might imply that schools might not have the additional time and resources needed to undertake this task of educating the hearing impaired in their mother tongue right from the scratch. Situations which may tune in the schools' current study that it seem to be focusing on.

Adoyo (2002) earlier observed that in Kenya, teachers lacked competence in Kenyan Sign Language while (Okombo 1994: 5) explains that lack of Sign Language experts in schools emanated from the teacher training institutions. Most teacher training institutions lack Sign Language lecturers. Okombo (1994) cites lack of interest in Sign Language by teachers as one of the reasons why Sign Language is not used as a medium of instruction in teaching hearing impaired learners in Kenya. Although Kenyan teachers interacted with children who were native Kenyan Sign Language users and who could provide an ideal environment for signing, there was still a negative attitude towards the indigenous language as a language of instruction in the class room of hearing impaired pupils.

The findings by Odoyo (2002) and Okombo (1994) are also prevalent in Zambia where most teachers for the hearing impaired lack knowledge of communicating with their hearing impaired pupils in the classroom which was among other things this study intended to investigate.

Teachers were constantly looking for new ways to engage their students with hearing impairments in the learning process. Using Sign Language in the class room was such one solution to reach out to all learners. however, most teachers of the hearing impaired in Zambian schools lacked the linguistic knowledge to communicate with their hearing impaired pupils in the class room and thus lacked the ability to impart knowledge and skills to their hearing impaired pupils (Kanyanta, 2003). Teachers in schools for the hearing impaired were required to impart knowledge through the various subjects they taught, however in the situation of the hearing impaired, teachers were handicapped linguistically and therefore little

or no learning took place in the class room. This was because the hearing impaired used a visual medium of communication, the teachers, most of whom were hearing used the oral medium of communication, expecting the hearing impaired to lip-read which led to poor classroom performance among hearing impaired learners (Kanyanta, 2003).

Lip-reading is a method of communication where a hearing impaired person reads lip-patterns of the person speaking however it is hard to tell how much speech can be understood by a hearing impaired person because many speech sounds were not visible on the lips and lip patterns also varied from person to person (ZNAD 1980). There were a number of other factors that affect lip-reading for a person with hearing impairment. For example some teachers moved around the classroom while speaking thereby making it difficult for a pupil with hearing impairment to see the face of the teacher and lip-read. If a teacher stands in front of a bright light or in a dark spot his or her facial features may not be clearly seen by a pupil with a hearing impairment. Beards, moustaches and chewing whilst speaking also makes it difficult for hearing impaired pupils to see the mouth movements of the teacher clearly (Kanyanta, 2003).

Similarly, Svartholm (1994: 81) also argues that, a poke language usually worked well only for a child with some residual hearing or for a child who lost his or her hearing after acquiring speech. A child might find it difficult to read lips because many sounds look the same on the lips but represent different words. That is, some words were homophonous and difficult to read (Svartholm, 1994). For example, the following pairs of words: *pale and pail*, *mound and pound*, *watch and wash*, *round and ground*, look the same on the lips but sound differently therefore they can confuse the lip-reader unless the teacher is prepared to repeat the same words over and over for the child with hearing impairment which was also time consuming because so much effort went into learning to speak and learning to understand what other people were saying. A child might miss learning more about the world. The unreliable nature of lip-reading make hearing impaired miss a lot which in most cases result in most hearing impaired children failing their examinations due to the inability to understand classroom instructions taught in oral language (Mbewe, 1980). This explains why Sign Language is a better option in the teaching of hearing impaired learners especially the profound hearing impaired who were born without any residual hearing. This study sought to establish the extent to which this has seen a change in the learning of hearing impaired learners.

Besides, lip reading, the assimilation approach in teaching also affected the learning of the hearing impaired learners as it tends to discourage hearing impaired pupils from communicating in Sign Language. The belief that Sign Language hinders the academic progress of pupils (Chaudron, 1988) explains the reason for relying on lip-reading and assimilation. This approach means teaching the hearing impaired pupils how to speak (oralism) in an attempt to make them as 'normal' as those without a hearing impairment. Chaudron (1988) argues that it is important to note that a person born with a hearing impairment or profoundly hearing impaired had no ability to learn a spoken language especially to speak it as implied by the oralism approach.

It should be noted however that hearing impaired people have the ability to learn a spoken language in order to be able to read silently and to write if the approach used for teaching was appropriate (Chaudron, 1988). This means that any approach appropriate to the education of the hearing impaired should realistically be visual. The hearing impaired could not hear and therefore should not be expected to speak. Teachers must also realize that for hearing impaired persons to learn a second language, in this case spoken language, they must be competent in the first language which is Sign Language. Therefore no hearing impaired should be expected to learn English or any spoken language by hearing through graphic or writing entirely (Chaudron, 1988). However, the expectations of teachers of learners with hearing impairments in the study seemed to be rather unknown hence the need to have them established.

Teachers of the hearing impaired have an important role to play in making sure that hearing impaired pupils are competent in their mother tongue which was Sign Language to enable them learn other languages and academic content (Wakumelo, 2009). Ideally, Sign Language should be used not only as a medium of educational instruction. It should also be used throughout the school days' in instruction and other subjects too. However, this is a challenge that needed solutions in the Zambian scenario where the teachers are the ones who are incompetent signers due to limited training opportunities in Sign Language. They were not competent in the education of the hearing impaired and thus failed to prepare the hearing impaired child for full integration in the real world (Wakumelo, 2009).

Wakumelo (2009) further observes that in Zambia teachers mainly depend on their pupils on learning Sign Language by writing words on the board and asking pupils to give signs. The pupils who are supposed to be learner instead assume the role of the teacher which is strange.

This is notwithstanding a situation in a country where special schools and education for the hearing impaired has been in existence since the 1950s.

Wakumelo (2009) further observes that in some cases, some teachers resort to the use of aids, objects or apparatus for the children to see what they are referring to. The author also says that the success of such an approach depends on whether pupils know what a picture or object represents because if they do not know the concept being represented, they cannot give a sign to the object. The other problem is an acute limited level of knowledge of vocabulary by teachers in Sign Language in the subject they teach. Wakumelo (2009) cites teachers of and mathematics as the best examples of teachers who admitted not having adequate technical vocabulary in Sign Language in their subjects. As a result teaching of this subject becomes difficult and slow. This situation might be the similar to what might be going on in the study schools.

From the above discussion, it can be said that hearing impaired children in Zambia currently use subtractive than the additive approach to learn a second language (English) which they acquire without much regard to the already developed language skills of their first language which is Sign Language (Benson, 2004). This has a negative impact on second language because a hearing impaired child who does not have skills in Sign Language will find it very difficult to learn a second language especially a spoken language Wakumelo (2010). This situation was similar to what happened in the study schools hence the need to have them established.

#### **2.4 Measures to be taken to improve the Use of Sign Language as a Medium of Instruction in the learning of the Hearing Impaired pupils**

Jokinen (2010) conducted a survey in the education of the hearing impaired in twenty-three countries and established that the bilingual approach in the education of hearing impaired children was the most common of all in all the countries under investigation. However only one country, Venezuela admitted that the bilingual approach was the only educational approach used for the hearing impaired children. Many traditional special schools for the hearing impaired are not truly bilingual and bicultural. Bilingual and bicultural education of the hearing impaired is the education which allows children with hearing impairments to use their mother tongue, which was Sign Language as their first language and a verbal language such as English as their second language. Deaf culture evolves by the use of Sign Language



as a medium of communication shared by the students at home and in the school system. Deaf Culture also helps the hearing impaired children and adults to learn about themselves and other hearing impaired people.

This promotes hearing impaired children to identify with Deaf Culture that has a common language instead of identifying themselves as a deficient of hearing and spoken language (Baker et al., 1997).

In supporting bicultural in education of the hearing impaired, Drasgow (1998) argues that the bicultural aspect of education emphasizes Deaf Culture and creates confidence in students with hearing impairments by exposing them to the deaf community. Most of the world's special schools for the hearing impaired or general educational systems do not fulfill the high standard that the CRPD sets for the education of hearing impaired children. The bilingual approach requires Sign Language to be used as the principle instructional language together with spoken Sign Language users and the learning material used need to be bilingual and culturally appropriate. It requires qualified teachers in Sign Language including native in written form. All this requires a well-established academic research in Sign Language itself as a first and second language and other areas of successful bilingual approach (Jokinen, 2010).

Zambia is a multi-lingual society which many people speak different language. However, (Mbewe, 1980) argues that on closer examination many Sign Language users are not included in the above assertion.

Mbewe (1980) also argues that most of the hearing impaired people in Zambia are monolingual in the sense that they can only use Sign Language for effective communication. Some might even have no knowledge of Sign Language let alone any spoken language. Those who do not have any language simply use gesture which can be also said to be survival signs which may be meaningless because they are linguistically unstructured. Often the hearing and other hearing impaired people who used Sign Language had to guess what their intended message is (Hornby, 1977). The above observation is very significant in the education of hearing impaired because there are some children who enrolled into school when there was no formidable language upon which to build their learning. Hence this study intends to explore the measures that could improve the use of Sign Language as a medium of instruction in the learning of the hearing impaired in Zambian schools.

Zambia's national policy on disability should aim at integrating persons with hearing impairments in the mainstream society. The objectives of the policy include measures to promote awareness on disability issues, to facilitate the provision of education and other services to persons with hearing impairments, to promote equal rights and opportunities for and to eliminate all forms of discrimination against persons with hearing impairments and to create an enabling environment for the full participation of persons with hearing impairments. The strategies to achieve these objectives should include achieving integration of persons with hearing impairments into school and vocational training system, the provision of devices to promote their inclusion in the work place and the education system.

However, the policies do not refer to the use of Sign Language as a medium of instruction in the learning of the hearing impaired pupils. There must be clear language policy that recognizes Sign Language as the mother tongue of the hearing impaired people. In effecting this measure, the hearing impaired should be educated through Sign Language as a medium of instruction.

As already stated in Section 2.1, there exists a legal provision that protect the right of persons with hearing impairments' right to Sign Language in Zambia. The Persons with Disabilities Act as amended in 2012 provides for right to access to information through Sign Language and the right to reasonable accommodation which includes the use of Sign Language to access education.

With specific reference to education, the 1996 Education Policy, *Educating Our Future*, also includes strategies that the Ministry of Education should implement in order to meet the children with disabilities' learning needs who include children with hearing impairments. This is reflected in the new syllabi developed by the Ministry of Education in 2013, which states that the medium of instruction for the hearing impaired children should be Sign Language.

Despite these developments in the education policies, the use of Sign Language as a medium of instruction in the learning of the hearing impaired has not been seriously implemented because the policies seem to more intentional than being specifics action. This seems to be confirmed, ZAFOD (2010) which says that, 'the disability among various stakeholders is on what it entails.' This implies that people view disability issues such as Sign Language as only the responsibility of disability organizations and the Ministry of Community Development Mother and child Health (MCDCH).

The current policy put in strategies to ensure equality of education for all that was the education which had seen the equality for ready access or increased access to education for children with especial education needs (MoE, 1996). However, it did not for instance take into consideration the unique needs of each disabled group. For example, the needs for one who had a physical disability but who could hear were different from one who was lame but was hearing impaired. A person with visual impairment might need a cane and braille in school for the purpose of learning, but a deaf-blind might need much more than that. Lumping persons with disabilities in one group and having one policy to manage their needs did not effectively address the needs of each group with their disabilities. A realistic policy should be cognizant to the unique needs of each group. For instance, the hearing impaired needed interpreters or teachers who were proficient in Sign Language for them to understand instructions in the class room. The visually impaired needed braille and large print, the physically impaired needed ramps on stairs and doors that were wide enough to allow in wheel chairs, this was an indication that different disabilities have different needs which needed to be addressed by policy formulators. For the hearing impaired, who were the subjects of this study for example, Sign Language as a medium of instruction in their learning must be taken into consideration. Most hearing impaired people were fully capable of performing well academically when satisfactory medium of instruction was developed (Mindess, 2006). It was therefore unrealistic to plan the same kind of special education for children with different disabilities. It seemed that those involved in the educational planning assumed that special education was education for persons with disabilities and did not consider the differences between the disabilities. It was not enough to come up with high sounding vision and mission statements as amplified in Zambia's national policy on disabilities. These were high sounding ideals but the reality on the ground was totally different. It was unfair to start with grouping together persons with disabilities with others who only had special needs, but were not disabled. This was a pointer to lack of understanding of the issues by the policy makers who in most instances were not disabled themselves (ZAFOD, 2010).

The mentality of these policy makers was that they were helping persons with disabilities. persons with disabilities did not need help per se, what they needed was the implementation of policies that also involved them in identifying and proposing what would give them equal opportunities like their able bodied and hearing counterparts.

On the same ‘helping’ mentality captured in the lack of implementation of clear – cut policy on the use of Sign Language as a medium of instruction in the learning of hearing impaired pupils. Gok (1976) argued that the language used in schools’ catchment areas should be the medium of instruction in lower primary school from grade one to three and that same subjects should be taught as school subjects from grade four onwards while English should take over as a medium of instruction and would not cover the hearing impaired pupils ( Gok, 1976).

According to ZAFOD (2010), it appeared that the policy was formulated with non – hearing impaired persons in mind. In the case of the hearing impaired, they ideally require the use of their mother tongue as a medium of instruction in the class room from nursery to college and university. At the same time Sign Language should also be taught as an optional language in the curriculum. Currently, there is no language policy to promote the use of Sign Language as a medium of instruction in schools for the hearing impaired. Any language for the hearing impaired should be taken into consideration teaching academic content in Sign Language. In regular schools the recommendation was that academic content should be taught in two languages, thus Sign Language from grade one to three and English thereafter. This being a form of transitional bilingualism used for English acquisition only. For the hearing impaired, the medium of instruction in the class room should be Sign Language which was also their mother tongue. However in grade Three when pupils in regular classes were switching from one spoken language to another as a medium of instruction, the hearing impaired should continue to use Sign Language as a medium of instruction and use it to learn the second, third or more spoken languages. This means that hearing impaired children transfer linguistic skills which they acquire in their mother tongue to a second language. This could be referred to as late – exit or developmental bilingual education. This occurred in situations where education happened in the child’s native language for an extended duration. In this case, children with hearing impairments in Zambia should use Sign Language throughout their academic life (Zambia Country Profile, 2006).

## **2.5 Summary**

This Chapter has outlined an overview of the literature related to the study on the factors that affect the use of Sign Language as a medium of instruction in the learning of the hearing impaired pupils. It also established effects of Sign Language as a medium of instruction on the learning of the hearing impaired pupils in the classroom. This was followed by highlights

of measures that should be taken to enhance the use of Sign Language as a medium of instruction in the learning of hearing impaired pupils. It is important for teachers of the hearing impaired to have knowledge of Sign Language in order for them to be able to impart knowledge and skills in the learners with hearing impairments. The next Chapter will deal with methodology of the study. It will outline how the study was conducted in terms of research design, the population and its sample, data collection and analysis procedure.

## **CHAPTER THREE: METHODOLOGY**

### **3.1 Overview**

This Chapter presents the methodology of the study the research design, the target population, the sample population and the sampling procedure used. It further addressed ethical issues that were considered and the data collection instruments that were used. Additionally, the Chapter explained how the data was presented and analyzed before giving a summary of the Chapter.

### **3.2 Research Design**

According to Kombo and Tromp (2003), a research design can be considered as the structure of the research. However, Ordho (2003) defines it as the scheme, outline or plan that is used to generate answers to research problems. It is also viewed as the conceptual structure within which research is conducted.

In this research, a case study design was used. This involved three (3) Upper Primary Schools for the hearing impaired. Lusaka district was the study area and the three (3) selected primary schools were the cases studied. A case study design was selected because it focused on a smaller unit, group or community (Merriam and Simpson, 1995). The other reason for this preference of research design was that it provided background data for a larger study (Yin, 2003).

In addition, a single research methodology was used in this study comprising of qualitative research. Qualitative research method was selected because it was particularly suitable for gaining an in-depth understanding of underlying reasons and motivations. It provided insight into the setting of a problem (Mason, 1994). This technique was also used because it was not based on unstructured or semi-structured but methodologically flexible techniques, for example, individual depth interviews or group discussions. It was suitable for eliciting great detail and comprehensive view (Punch, 1998). Therefore qualitative research strategy was employed because there was need to capture only a single facet of the study, which would not be possible if different strategies of research were to be used.

### **3.3 Target Population**

A target population refers to a large group of objects, people or events that have at least one thing in common, from which the study sample is taken (Kombo and Tromp, 2006). It is also a set of people or entities to which findings are to be generalized (Merriam and Simpson, 1985). The target population for this study consisted of teachers, pupils from each school, Curriculum Development (CDC) specialists, standard officer from the Ministry of Education Head Quarters, lecturers from Special education teacher training institutions and advocates of the rights of persons with hearing impairments from ZNAD, Lusaka District.

### **3.4 Sample Size**

A sample is a subset of the sampling units from the target population (Ghosh, 1992). It is also defined as the strategically and systematically identified group of people or events that meets the criteria of representativeness for a particular study (Merriam and Simpson, 1995). Sampling involves coding which is the process by which data is broken down, conceptualized and put back together in new ways (Corbin and Strauss. 2008). It further, ‘means categorizing segments of data with short name that simultaneously summarizes and accounts for each piece of data’ (Charmaz, 2008).

The sample population was drawn from the teachers and pupils in selected primary schools of Lusaka district. The study gave the sample size of fifty-seven (57) respondents of which twenty (20) were teachers, of whom eight (8) were males and twelve (12) females. Two (2) CDC specialists, one ( 1) standard officer, two (2) advocates for the rights of the hearing impaired, two (2) lecturers from special education teacher training institutions and thirty (30) pupils who purposively participated in the study. The learners were picked from classes 5 – 7 because they understood Sign Language better because of longer exposure.

### **3.5 Sampling Procedure**

Sampling is a process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire group (Orodho and Kombo, 2002). Therefore, the sampling procedure is simply the method used to select these individuals or objects from a population which contains the elements representative of the characteristics found in the entire group.

In this study, purposive sampling procedure was used to select pupil and teacher-participants. This method was referred to as purposive sampling which is a non – probability sampling method and it occurs where the elements selected for the sample are chosen by the judgment of the researcher. Therefore, this was done in order to give all the schools in the three Lusaka district school zones and all the teachers in the selected three schools a chance of being selected.

Furthermore, purposive sampling was also used to select teacher-trainers, CDC specialists. Standard officers and advocates for the rights of hearing impaired people. This was a rich sample where the researcher chose a few individuals who were considered to be knowledgeable about the issue under study (Morten, 1997). Purposive sampling depended on the researcher to choose these individuals, raising the question, how does someone choose some individuals and exclude others? In light of this, if properly used, purposive sampling can be a powerful tool in research to obtain necessary knowledge of the problem under study (Mortens, 1997) as it appeared to be in this study.

### **3.6 Research Instruments**

A number of techniques were employed in data collection, these included focus group interviews, interview guide for teachers, pupils, MOE standard officers, CDC specialists, lecturers from special education teacher training institution and advocates for the rights of persons with hearing impairments from ZNAD. Observations checklist were used to generate required data on factors that might have affected the use of sign language in the learning of learners with hearing impairments.

#### *(a) Interview guide*

Interview guides are an important aspect of qualitative studies. They are a means of verbally interacting with participants or respondents in conducting research. Before conducting interviews, a researcher need an interview guide he or she can use to help him or her direct the conversation towards the topics and issues he or she wants to learn about. Interview guides vary from highly scripted to relatively loose, but they all share certain features. They help the researcher know what to ask about, in what sequence, how to poses his or her questions and how to pose follow ups. They provide guidance about what to do or say next after the interviewee has answered the last question.



### *(b) Observation checklist*

The observation checklist was included in order to understand the level of preparedness among teachers to teach using Sign Language as a medium of instruction in the classroom of the hearing impaired pupils, to use resources at their disposal and teaching methods as well as pupil participation and comprehension. The study also applied participant observation technique during data collection process. According to Kawuli (2005), Participant observation is the process that enables a researcher to learn about the activities of people under study in their natural setting through observation and participating in the activities. The process was an activity to examine what was happening in class. This enabled the researcher to gather data on the physical human interaction settings and programme of learning. An observation checklist is a list of things that an observer is going to look at when observing a class. This list may have been prepared by the observer or the teacher or both. Observation checklists not only give an observer a structure and framework for an observation but also serve as a contract of understanding with the teacher, who may as a result be more comfortable and will get specific feedback on aspects of the class. For example, the teacher has asked the observer to look at the issue of timing so the observer's checklist includes the questions:

- (i) Does the teacher follow the timings on the lesson plan?
- (ii) Does the teacher tell learners how much they have for an activity?
- (iii) Does the teacher tell learners when time is ready up?

In the class room it is important that learners understand the functions of the observer and are pre-warned about the observation. If not, the observer may intimidate the class and the data gathered may not be accurate. The observation checklists provided good insight on how different participants behaved and interacted and see things that are taken for granted by participants in the learning and teaching context. This observation is motivation of this study.

### *(b) Focus group interview*

A focus group is a small but demographically diverse group of people whose reactions are studied especially in educational research or political analysis in guided or open discussion about something to determine the reactions that can be expected from a large population (Maxwell et al, 1999. P.115) it is a form of qualitative research consisting of interviews in which a group of people are asked about their perceptions, beliefs and attitudes towards a

concept or idea. Questions are asked in an interactive group setting where participants are free to talk with each other group members. During this process the researcher either takes notes or records the vital points he or she is getting from the group. Researchers are required to select members of the focus group carefully for effective and authoritative responses. Focus group interviews helped researcher obtain useful information and group feelings, perceptions and opinions that the study is focusing on.

### **3.7 Piloting the Study**

The data collecting instruments that were used were subjected to a pilot study before being used in this study. This aimed at testing the instruments on how well they were to support the collection of data and the identified weaknesses in the instruments were attended to thereafter they were used in the main study.

### **3.8 Validity of Data Collection Instruments**

The researcher took long time in collecting data with a following observation and interviews so as to collect rich and valid data. Both long term and involvement of interviews enabled the researcher to collect data that was detailed and varied enough that it provided a full and revealing picture of what was going on (Maxwell, 2003). After collecting data the researcher gave feedback to the people who were studied to reduce misinterpreting the meaning of what they have said and done, and perspectives they have about the use of Sign Language as a language of instruction in the learning of learners with hearing impairments in Lusaka district.

### **3.8 Data Collection Procedure**

Before data collection, written permission was sought from the assistant Dean Post Graduate Studies which were presented to the providers of the research information. The head teacher was presented with an introductory letter before proceeding with the issuance of questionnaires with closed- and open-ended questions for all the respondents. The closed ended questions contained 'Yes' and 'No' check boxes while the open-ended questions provided spaces to elaborate on responses. The closed-ended questions were helpful because they provided uniformity in the responses and eased the procession of results. The open-ended questions were used to collect the information that required a wide range of answers.

These questions also helped in getting more detailed information from the respondents. The data collection was by way of interview guides, observation checklists and focus group interviews. This was done to explain the purpose of the study and to win the respondent's trust. The other reason was to ensure prompt and timely return of questionnaires and also to eliminate the tendency of irregularities that would crop up during mailing. Respondents were asked to complete and return the questionnaires within one week or the researcher would wait there and then for them to complete and hand them over the questionnaires the same day.

### **3.9 Data Analysis**

Data analysis is a systematic way of arriving at conclusions. It is a process of bringing order, structure and meaning to the mass of collected data (Marshall and Rossman, 1985; Corbin and Strauss 2008). According to Mungenda and Mungenda (1999), data obtained from the field in raw form is difficult to interpret. Such data must be cleaned, coded, keyed or punched into a computer and analysed. It was from the results of such analysis that researcher was able to make sense out of the data. The data of this study was analysed through detailed descriptions and explanations which were given by the respondents. Contradictory and similar views were particularly analysed and categorised into themes and patterns in order to draw conclusions. In qualitative studies, researchers obtain detailed information about the phenomenon being studied and then they try to establish patterns, trends and relationships from the information gathered. It involved reduction and editing of data in readiness for analysis. Information derived from interviews, observation checklists and focus group guides were analysed and put into themes as they emerged. These themes are presented as subheadings of findings.

### **3.10 Ethical Issues in Data Collection**

Resnik (2011) defines ethics as rules for distinguishing between right and wrong. There are several reasons why it is important to adhere to ethical norms in research. First, norms promote the aims of research such as knowledge, truth and avoidance of error. For example, prohibitions against fabricating or misinterpreting research data. Promote the truth and avoid error. Secondly, since research often involves a great deal of cooperation and coordination among many different people in different disciplines and institutions, ethical standards promote the values that are essential to collaborative work, such as trust, accountability,

mutual respect and fairness. Permission was sought from education authorities to enable the researcher undertake this study in their institutions and they were at liberty to accept or not. In this vain, those who accepted the request allowed the researcher to conduct the study while those who did not accept were not forced to do likewise. The respondents were assured of confidentiality of the information they would give, their identity and that of the schools. They were assured that the information they would give would be for academic purpose only and their names as well as those of the school would not be disclosed. They were also not to be forced to provide the information when they did not want to do so. They were informed that they could withdraw from the research if they opted for that.

### **3.11 Summary**

This Chapter focused on the methods that were employed in the collecting, presenting and analyzing of the research information from the three study schools, MoE, CDC, advocates on the rights of persons with hearing impairments and the two teacher training institutions. The Chapter also included the discussion on research design employed which in this situation was a descriptive study. The other area that was dealt with included the target population, sample size, piloting of the data collecting instruments, ethical issues and the data analysis procedures that were involved in the study. The next Chapter will deal with presentation of findings from the study.

## **CHAPTER FOUR: PRESENTATION OF FINDINGS**

### **4.1 Overview**

As already adhered to, the study was to investigate the factors that affect the use of Sign Language as a medium of instruction in the learning of the hearing impaired in Zambia with particular focus on schools in Lusaka district. This Chapter presents the findings of the study according to the following research questions:

- (i) What factors affected the use of sign language as a medium of instruction in the learning of the hearing impaired pupils?
- (ii) How have these factors affected the use of Sign Language in the learning of pupils with hearing impairments
- (iii) What measures should be taken to improve the use of sign language as a language of instruction in the learning of the hearing impaired?

#### **4.1.1 What factors have affected the use of Sign Language as a medium of instruction in the learning of hearing impaired pupils?**

In order to establish the factors affecting the use of Sign Language as a medium of instruction in the learning of the hearing impaired, it was important to find out whether or not learners with hearing impairments received their instructions through sign language as a medium of instruction in the classroom.

#### **4.1.2 Views of participants on whether Sign Language was used as a medium of instructions in the learning of the hearing impaired pupils**

Participants reported that, Sign Language as a language of the hearing impaired was significantly used to convey classroom instructions while it was observed that teachers used mostly total communication during lessons and as a result they experienced problems handling pupils with hearing impairments in the classrooms as reported by one learner participant who said:

*“Sometimes teachers use a variety of Sign Language alone and at times use both Sign Language and oral language which sometimes confuse us.”*

It was evident from the study that most teachers of the hearing impaired had no expertise in the use of Sign Language as a medium of instruction in the learning of the hearing impaired as shown by the table below.

**The table 1: Teachers' expertise in Sign Language**

level of competence	number of teachers
Very good	4
Good	3
Not good	7
Poor	1
Total	15

In support of this view, one female hearing impaired teacher from school 'B' made the following observation:

*“For us who are deaf, it is very difficult to learn when Sign Language is not used in the classroom. Most teachers do not know Sign Language. They only write notes on the board and ask pupils to copy without explaining to them. Very few teachers know Sign Language.”*

The teacher-participants attributed the failure by teachers to use Sign Language to inadequate training in Sign Language as medium of instruction in the classroom of the hearing impaired which resulted in pupils' failure to follow classroom instructions. The level of qualification for teachers of the hearing impaired from the three schools of study ranged from degree, Diploma and Certificate. However, despite these qualifications teachers lacked skills in Sign Language. This is reflected in the table below.

**Table 2: Tertiary qualification for teachers**

Tertiary qualification	Number of teachers
University graduate	3
Diploma	6
Certificate holder	-
None	1
Total	10

One male Grade 6 pupil from school ‘C’ supported the feeling by saying:

*“Teachers use too much oral language making it difficult for us to participate in lessons.”*

This view was also echoed by the curriculum specialist for the hearing impaired who stated that there was need to introduce Sign Language as a subject and as a language of instruction in the learning of the hearing impaired in schools. The same curriculum specialist-participant went on to say that the Ministry of Education was aware of the gap and that it was in the process of preparing a draft curriculum in Sign Language as a subject as indicated in the 2013 curriculum framework. The curriculum specialist further noted that the work of designing the curriculum for Sign Language was delayed due to lack of funds as he seemed to be saying in the following statement:

*“we are aware of teachers’ lack of Sign Language skills and we want to introduce Sign Language as a medium of instruction in the learning of the hearing impaired to help them learn but we are limited by availability of finances to do so”.*

A female officer from ZNAD also supports the use of teaching Sign Language as a subject and a language of instruction in the learning of the hearing impaired. In line with this view, she said:

*“We have been urging all stakeholders to advocate for the rights of the hearing impaired, the right to better education through the use of Sign Language and force the Ministry of Education to teach Sign Language as a subject to both learners with and without hearing impairment to improve communication.”*

Another male participant from ZNAD contributed by saying:

*“Sign Language is a recognized language at international level (UN CRPD 2000). It is a language hearing impaired use due to deaf culture compared to spoken languages. Hearing impaired people can perform well academically if their language is used in the classroom as a medium of instruction and more hearing persons learn it.”*

On the whole, participants felt that use of Sign Language as a medium of instruction had the potential of improving the academic work of pupils with hearing impairments because learners are able to follow class room instructions.

#### **4.1.3 Why do hearing impaired pupils prefer to be taught in Sign Language?**

Twenty-five out of the thirty pupils with hearing impairments who took part in the study said that Sign Language was their language since they could not hear and therefore they wanted to be taught by teachers who were hearing impaired because of their increased capacity to use more Sign Language than total communication in class work. One Grade 7 female learner from school ‘C’ had this to say:

*“Hearing impaired teachers are much better because they use largely Sign Language to explain lessons. They write notes on the board, and then they explain before they ask us to copy. That is why we hearing impaired pupils*



*want hearing impaired teachers to teach us because we understand what they teach”*

Another Grade 6 male learner from school ‘B’ said:

*“Teachers use oral language when teaching their classes. When we tell them that pupils not following lessons, they do not change. That is why we want hearing impaired teachers to teach the hearing impaired alone.”*

These views were echoed by the two male participants from ZNAD who observed that most teachers in classes for the hearing impaired did not use Sign Language as a medium of instruction, making it rather difficult for learners to follow instructions. One male teacher participant also added by saying:

*“Hearing impaired pupils need Sign Language as a medium of instruction. However, most teachers use oral language thereby making it difficult for pupils to follow lessons. For this reason, there is need for the ministry to post teachers with the knowledge of Sign Language to schools for the hearing impaired.”*

Further, hearing impaired teacher participants also complained that most teachers of the hearing impaired were not fully competent in Sign Language. On the question whether Sign Language should be used as a medium of instruction in the learning of the hearing impaired, the study found out that all twenty (20) teacher-participants said that they wanted Sign Language to be used more in their lessons than total communication as it helped pupils follow classroom instructions. One male teacher from school ‘C’ in support of this view said:

*“Because Sign Language is the language of the hearing impaired, it should be used as a medium of instruction in their learning because they follow lessons.”*

Another female teacher participant from school ‘A’ said:

*“The use of Sign Language in the learning of the hearing impaired is a human right, therefore it is the language which should be used as a medium of*

*instruction in their learning for them to understand classroom instructions better.”*

These findings were supported by a male curriculum specialist who equally stated that:

*“There was need for teachers of the hearing impaired to teach their learners in Sign Language for them to understand lessons better.”*

On the whole non-pupil participants felt that pupils with hearing impairment preferred to be taught in Sign Language than in any other mode of instruction since it gave them more chances of accessing classroom instructions.

#### **4.1.4 Views of pupil-participants on whether they would like to be taught in Sign or Spoken language**

When pupils with hearing impairments were asked as to which mode of instruction they would like to be used in their learning, nearly all the thirty (30) pupil participants from the three study schools responded that they would like more Sign Language to be used as a medium of instruction. One of the participants, a grade 7 male pupil from school ‘A’ stated that:

*“We are deaf, if teachers use spoken language in the classroom, we cannot hear anything that is why most of us even fail tests and examinations. We need to be taught in Sign Language, which is our language.”*

Other two grade 7 pupils from schools ‘B’ and ‘C’ also had this to say:

*“We need Sign Language as a medium of instruction in the classroom. This helps us understand classroom instructions unlike when oral language is used. Teachers need to go for further training in Sign Language so that they teach us in our language.”*

The study also revealed that teachers were also in support of the use of Sign Language as a medium of instruction in the learning of the hearing impaired. Most teachers believed that it would help pupils understand what was being taught as well as express themselves well.

#### **4.2 How have these factors affected the use of Sign Language in the learning of the Hearing impaired?**

It was important to hear from both teachers and pupils on the effect of Sign Language as a language of instruction in the learning of hearing impaired learners. Since both groups were stakeholders in the learning process. Pupils in schools generally play a very small role in defining or governing the school system that educates them. Although preparing pupils for their future is the whole point, it is generally agreed that teachers and school administrators run the show, while pupils are expected to focus on learning. This study offered an opportunity to have a say on the effect of Sign Language as a medium of instruction in the classroom and to suggest possible ways of accessing quality education through the use of Sign Language as a medium of instruction in the classroom. Thus, it is often the teacher- led model of schooling and thereby opened room for their participation, an opportunity they had been missing, given that one of the roles of our schools is to prepare young people for their roles as citizens in a democracy.

##### **4.2.1 Views of pupil-participants on the effect of Sign Language in the classroom**

###### *(i) Teachers' competence in sign language.*

Pupils attributed their poor performance in the classroom to poor communication skills by their teachers. They said that a good number of teachers said that they did not know what to do with them because they do not know the language to use to effectively communicate with them. One Grade 6 male pupil from school 'C' said:

*“We cannot understand, some teachers just write things on the board and ask us to sign what is on the board, so we sign if we know the word, but if we don't know it, the word will be left like that without explanation.”*

Another Grade 7 pupil from school 'A' contributed by saying that:

*“Most teachers do not know Sign Language, we are the ones who teach them signs, so it is difficult to communicate with them and also to understand what they are saying. Sometimes they use wrong signs and confuse us.”*

Five other Grade 7 learners from school ‘A’ said that some of their teachers learn sign language from them, so the time to learn other things was reduced as part of the time was used to teach teachers the signs. They further said that they did not even ask teachers questions when they did not understand the lesson because teachers often failed to understand their questions and as a result they failed to provide correct answers.

*(i) Lack of learning materials in Sign Language*

It was evident from the responses of pupils that most of the materials required for effective learning to take place were inadequate and as a result teachers rarely used them. A Grade 5 female pupil from school ‘C’ said that:

*“We are deaf, we don’t hear and as a result we use our eyes to understand concepts. Therefore teaching materials and Sign Language should be used”*

Another grade 6 male pupil from school ‘A’ had this to say:

*“We need learning materials to use since teachers do not use sign language in the the class room, but most of the time our teacher never use learning materials.”*

*(ii) Slow to grasp concepts*

Some learners admitted that they were slow to understand lessons and therefore they needed their teacher to at least repeat the explanations. Two Grade 6 pupils from schools ‘C’ and ‘B’ complained on the pace of learning and one of them had this to say:

*“The teacher is too fast, he doesn’t take time to explain. So some times when he asks us if we understood the lesson we just say, ‘yes’ so that he continues and goes away.”*

Another grade 6 male pupil had this to say:

*“We are slow to grasp concepts, hence teachers should try to be slow when teaching us.”*

#### 4.2. 2 Feedback from Focus Group Discussions

In order to consolidate on the information collected from learners through interviews, pupils were engaged in group discussions to get first-hand information. Learners were able to give in-depth information about their experience during lessons. When they were asked what effect Sign Language had on their learning in the classroom. Their responses were generally that their performance in the classroom was poor due to teachers' inability to effectively use Sign Language as a language of instruction. Pupil participants said that teachers do not explain lessons using Sign Language and the learning materials were not adequate as indicated by one of the learners who stated that:

*“Sign Language is rarely used by teachers in the classroom and learning materials were few and rarely used this has affected our classroom performance.”*

It was clear that classroom performance for pupils with hearing impairments ranged from fair to poor or bad in most cases. Participants felt that fair and poor performance was due to lack of teachers' knowledge of Sign Language, lack of teaching and learning materials, lack of qualified teachers and limited attention from teachers. Pupil- participants pointed out that some teachers complained about teaching children with hearing impairments mainly because of inadequate signing skills. One grade 6 pupil from school 'A' said:

*“Some teachers just walk into the classroom and talk, they do not know what to do or know how to communicate with us who are hearing impaired, some even tell us that it is hard to teach hearing impaired pupils.”*

The participants however were positive that their performance could improve if certain measures such as provision of qualified teachers who could handle learners with hearing impairments and adequate teaching and learning resources were made available. One respondent, a Grade 7 female pupil from school 'C' said:

*“We need teachers who know Sign Language, learning and teaching resources and enough time to learn.”*

#### **4.2.3 Views of teacher-participants on the effect of Sign Language as a language of instruction in the learning of pupils with hearing impairments in the classroom**

On whether hearing impairment hinder a pupil from performing well in class, teacher-participants who responded to the questionnaires believed that learners with hearing impairment could perform just as good as their hearing peers so long appropriate language was used during classroom instruction. Teacher-participants cited use of Sign Language as one of determining factors in pupils' academic success. Two teachers handling Grade 5 and 6 classes at School 'C' went on to say that they had taught the hearing impaired learners who performed even better than their hearing peers when appropriate language was used in classroom communication. On the other hand, learners also had their own observation and these views were reflected in response to questionnaires.

#### **4.3 What measures can be taken to improve the use of Sign Language as a language of instruction in the learning of the hearing impaired in the class room?**

The study was aimed at finding out measures that can help improve the use of Sign Language in the learning of the hearing impaired. It was important that they had a say on how best they could improve the use of Sign Language in the learning of the hearing impaired in order for their classroom performance to improve for the better. The following were some of the measures suggested by the participants.

##### *(i) Availability of trained teachers and learning materials*

The majority of pupil - participants felt that there was a need for teachers who were competent in Sign Language to handle classes for learners with hearing impairments. There was also the need for trained teachers with the ability to handle more difficult topics, use of assorted teaching and learning resources and create more time to teach so as to help pupils understand topics which seem too difficult for other teachers to handle.

One Grade 5 female pupil from school 'B' put in this way:

*"I need a teacher who knows Sign Language for me to learn effectively."*

Another female Grade 6 pupil from school 'C' said:

*“We are happy that some teachers use teaching materials to help us understand lessons, although not adequate it is also important for us to have teachers who understand us and know how to handle us pupils with hearing impairments.”*

The findings appeared to suggest that teachers needed to have teaching and learning materials, needed to have a passion for the hearing impaired and needed to understand their culture as well as keeping on encouraging those lagging behind. One male Grade 7 pupil had this to say:

*“We need teachers who understand us and know our language to help us prosper academically.”*

On the issue of inconsistency in the use of Sign Language, pupil-participants had mixed feelings. There were those who felt that Sign Language needed to be used daily in the classroom. While there were those who felt that total communication was adequate in the learning of learners with hearing impairments in the classroom. The response on the use of total communication in the classroom came from pupils with residual hearing.

On the issue of revision of the curriculum for the hearing impaired to have Sign Language taught as a subject in order to strengthen its usage as a mode of instruction, twenty (20) teacher-participants felt that the curriculum was overloaded and suggested that it should be revised to accommodate Sign Language as a subject in the learning of the hearing impaired. One male teacher from school ‘C’ had this to say:

*“There are too many subjects to teach, that is why we seem not to have Sign Language taught as a separate subject. It is unfair to us since we are teachers for the hearing impaired and would like to use it in the classroom so that our learners follow class room instructions.”*

#### **4.3.1 Views of teachers on measures that can be taken to improve the use of Sign Language in the learning of the hearing impaired pupils**

##### *(i) Provision of signed teaching and learning materials*

Teacher-participants were asked whether or not they had relevant materials to support their use of Sign Language in classes, most of them felt that there was lack of teaching and

learning materials to support use of Sign Language in the learning of pupils with hearing impairments. One male teacher from school 'C' said:

*"We use initiatives, sometimes we draw diagrams to help us explain certain topics otherwise no relevant materials to promote increased use of Sign Language in the classroom."*

As a result teachers were of the view that the Ministry of Education needed to provide adequate teaching and learning materials to encourage use of Sign Language in classes. The teachers observed that the performance of hearing impaired pupils would improve if appropriate signed teaching and learning materials were provided to support learning. One female teacher from school 'A' said:

*"Teaching the hearing impaired can only be effective if the ministry provided the necessary visual or signed teaching and learning materials to help learners follow classroom instructions."*

#### *(ii) Teaching at a Pupils' Pace*

Majority of teacher-participants suggested that one way of overcoming some of the difficulties they were facing was the need to encourage teaching at a slower pace and sometimes repeating the same lesson twice or more times. Teachers said that when one appeared to be fast when teaching hearing impaired, learners found it difficult to grasp concepts and they complained when such a teacher rushed through the work. One Grade 6 female pupil from school 'C' had this to say:

*"Our teacher is too fast and does not use Sign Language. We find it hard to understand what he is saying to us. He just rushes through work. May be if she can be a bit slow, we can understand what she is saying."*

#### *(iii) Modification of pupils' work*

Teachers reported that they made modifications to topics in the syllabus to suit the learning needs of the learners with hearing impairments. One female Grade 7 teacher from school 'A' said:

*"Some topics in the syllabus are too difficult to teach in Sign Language. We try to modify them so that they are easily explained to pupils."*



*(iv) Sharing ideas on how to teach difficult topics*

Teachers revealed that one way of improving the use of Sign Language in the learning of the hearing impaired learners was by sharing ideas during Continuous Professional Development (CPD) on how best to handle learners with hearing impairments. One male teacher from school 'B' reported that:

*"We hold CPD meetings on how best to handle learners with hearing impairments."*

*(v) Enhancing monitoring by standard Education officers*

Teacher-participants also suggested monitoring in schools must be strengthened in order to improve the quality of education for learners with hearing impairment. It was reported that teachers were not monitored regularly by Education standard officers hence had limited interactions with other professionals on issues of using Sign Language in pupils' learning.

*(vi) Improving Sign Language skills*

The need for improving Sign Language skills for special education teachers offering lessons for the hearing impaired was emphasized during teacher-participant interviews. Some teachers suggested that preparation programmes should start preparing all pre- service special teachers to possess basic Sign Language skills in early years of training and through period of teacher education as a way of providing enough practice in Sign Language. The teachers noted that well trained instructors in Sign Language communicated well because they tended to demonstrate strong communication skills to support the learning of children at classroom level, employed cognitive strategies, were usually up to date, had passion for teaching, worked collaboratively and created independent learners. One teacher suggested that teachers should improve on their Sign Language skills during training so that there is effective communication between them and learners when they are finally deployed in schools to handle classes of hearing impaired learners. They also said:

*"More teachers should encourage polishing up their Sign Language skills when teaching hearing impaired learners. It is just fair that Sign Language is effectively used to teach hearing impaired as it is their mode of communication."*

Another suggestion was that Sign Language should be revised to include more words. One teacher indicated that:

*“There is need to revise Sign Language Dictionary to include more words.  
This can help improve teachers’ efficiency when teaching different subjects.”*

(vii) *Teachers’ deployment should be appropriate*

Teachers stated that qualified teachers performed well. It was further stated that qualified teachers also promote inquiry and problem solving skills, have a passion for teaching and show respect and understand their pupils better. Some teachers are not competent in Sign Language and others have no idea about Sign Language. It was therefore suggested that:

*“School communicators should consider teachers competence in Sign Language before they are placed in classrooms for the hearing impaired.”*

(viii) *Providing different curriculum for hearing impaired learners*

Some teachers felt that, the government should consider providing different curriculum for the hearing impaired that exclude certain topics that seem irrelevant to the hearing impaired as well as including Sign Language when preparing examinations for hearing impaired pupils. The purpose of having specific core curriculum for pupils with hearing impairments is to be a resource for the Ministry of Education when developing educational plans for such pupils. This curriculum will be learner friendly and address those identified areas that are either not taught or require specific or direct teaching in Sign Language. Hearing impaired pupils have the same curriculum as pupils without hearing impairments and like others, pupils with hearing impairments have specialized needs not covered in the general curriculum. Hearing loss adds a dimension to learning that often requires explicit teaching such as information gained through incident learning.

#### **4.4 Summary**

The raw data generated from the field was analyzed by coding it and the codes are the three research questions, categories and classification of participant’s responses. The findings indicated that the teacher factor affected the use of Sign Language in the learning of pupils with hearing impairments. It also revealed that the majority of teachers are professionally qualified however, their training to handle learners with hearing impairments is inadequate.

The study revealed that whereas proficiency in Sign Language among teachers of the hearing impaired plays a significant role in the education of learners with hearing impairments. It is not sufficient in offering quality education to learners with hearing impairments. The data also showed the three schools of study did not use a dialectic teaching approach that encourages learners to participate in class room activities in their own language. The next chapter will therefore discuss the above analysis in detail and include the researcher's personal interpretation of what has been presented and the conceptual framework on hearing impairment, Sign Language and learning.

## **CHAPTER FIVE: DISCUSSION OF RESEARCH FINDINGS**

### **5.1 Overview**

This Chapter discusses the research findings after analysing the raw data which was generated from the field. Discussion of findings also includes data interpretation. Since this is a qualitative study, the researcher is required to make convincing arguments with qualitative data (Mason, 2002) by showing the route of the interpretation, explaining assumptions, justifying logic and data connections and providing sufficient contextual and reflexive material for the reader to assess how convincing the argument is (Mason, 2002). The researcher made narrative discussion of the findings according the research objectives. The following objectives guided this research work.

- (i) Establish the factors affecting the use of Sign Language as a medium of instruction in the learning of the hearing impaired
- (ii) Examine how identified factors affect the use of Sign Language in the learning of hearing impaired pupils.
- (iii) Suggest the measures that can be taken to improve the use of Sign Language as a language of instruction in the learning of pupils with hearing impairments.

The voices of the respondents were documented in research in order to make convincing arguments for any new ideas and insight advanced.

#### **5.1.2 Establish the factors affecting the use of Sign Language as medium of instruction in the learning of pupils with hearing impairments**

The first objective the study sought to achieve was to establish the factors that affect the use of Sign Language in the learning of hearing impaired learners in the classroom. Twenty (20) teachers of hearing impaired pupils and thirty (30) hearing impaired pupils from schools 'A', 'B' and 'C' and key informant from the following departments: ZAMISE, UNZA, CDC, Teacher Education Directorate, Education Standards and ZNAD gave various opinions as to why Sign language is perceived to be one of the factors affecting academic performance of hearing impaired learners. The opinions or responses of the respondents to this question were categorized and presented accordingly.

### 5. 1.3 Views of Teachers and Pupils

In the first place, eighteen of the teachers explained that the majority of the pupils in their classes were profound hearing impaired and preferred primarily the use Sign Language in the classrooms. They also explained that most children with residual hearing (hard of hearing) preferred to use sign language even if they could hear for fear of being excluded from the deaf community. The study revealed that some pupils in the schools studied felt that they came to school with hearing aids but eventually stopped using them preferring to use Sign Language as a language for communication. This was found out to be true because in the community of the hearing impaired, those with hearing aids and used spoken language due to having some residual hearing were perceived to be hearing hence unfit to be in the community of the hearing impaired.

During the focus group discussion some pupils with residual hearing from school 'A' explained that they were compelled to abandon speaking and resorted to signing in order to be accepted by their deaf counterparts who were the majority. A Grade 6 male pupil from school 'A' said:

*"Besides, wearing a hearing aid is cumbersome, attracts attention makes one look very different from the rest. If I can communicate with everyone in the classroom and during break time using Sign Language that is fine for me."*

Another reason related to the above was that hearing aids were used for pupils who are hard of hearing as they have some residual hearing. For the profound hearing impaired, hearing aids do not help in any way. some teachers who did not know Sign Language preferred pupils with hearing impairment to use hearing aids so as for them to use oral language as a medium of instruction in the class room. This caused confusion in the class room as some pupils could not follow instructions in the class room because they were profound hearing impaired. A teacher from school 'B' had this to say:

*"Teachers who had no knowledge of Sign Language preferred pupils to wear hearing aids so that they could use oral language as a medium of instruction in the class room of hearing impaired. What they did not understand was that some pupils had profound hearing impairment and as such, they could not hear even when using hearing aids. Therefore it was important to use Sign*

*Language as a medium of instruction in the learning of hearing impaired learners.”*

In addition, there was a general consensus among all teachers that it was easier and faster to convey concepts to profound hearing impaired learners in Sign Language than through the use of hearing aids as some pupils miss out on lessons when the teacher uses oral language expecting pupils to hear or lip read. A female teacher from school ‘B’ observed:

*“Most if not all pupils resent hearing aids as some of them are profound hearing impaired. they also resent lip reading as it is time consuming because the teacher has to repeat, worse some pupils don’t even make anything out of what the teacher is saying and as a result miss out on the lesson.”*

These findings are similar to the observations of Svartholm (1994), when he stated:

*“Lip-reading is a method where a hearing impaired reads lip- patterns of the person speaking, however it is hard to say how much speech can be understood by a hearing impaired person by just relying on lip-reading as many speech sounds are not visible on the lips and lip patterns also vary from person to person.”*

During a focus group discussion, it was indicated that most hearing impaired pupils did not like hearing aids as they were of no help to those with profound hearing impairment, instead they wanted teachers to use Sign Language as a medium of instruction in the class room. The class room observation by the researcher indicated that hearing impaired pupils who used hearing aids had problems following class room instructions as they could not hear teachers when they used oral language as a medium of instruction. This was shown by pupils’ failure to respond to teacher’s questions in the class room. This is an indication that Sign Language was the best medium of instruction in the learning of pupils with hearing impairment.

The findings also revealed that the employment of profound hearing impaired teachers who also did not have speech especially in government schools was cited as one of the major reasons why they used Sign Language in classrooms for hearing impaired schools and less of total communication. This view was supported by a female profound hearing impaired teacher from school ‘C’ who observed:

*“For us who do not hear, we find it not only difficult but also very unfair for anyone to expect us to speak while teaching deaf pupils. Children understand us easily and we understand them perhaps even better than hearing teachers just as we understand our fellow deaf adults better than hearing persons in the community.”*

Further, the above assertion was supported by more than half of the hearing teachers who participated in the study also emphasized that pupils understood lessons taught by deaf teachers than when taught by hearing teachers because hearing impaired teachers communicated mostly with Sign Language which they were familiar with. These views were supported by Svartholm (1994) when he argued that teachers in schools for the hearing impaired were required to impart knowledge through the various subjects they taught. However, in the situation of the hearing impaired, teachers were handicapped linguistically and therefore little or no learning took place in the classroom. This was because the hearing impaired used a visual mode of communication, the teachers, most of whom were hearing used the oral mode of communication expecting the hearing impaired to lip-read rendering it a challenge for the hearing impaired to follow the lessons in the classroom. This has led to the preference by hearing impaired teachers over hearing ones.

The study revealed that most hearing impaired pupils wanted to be taught by teachers who were hearing impaired because they communicated better Sign Language. These views were echoed by the two advocates for the rights of the hearing impaired people from ZNAD. Their observations were that most teachers in schools for the hearing impaired lacked the knowledge of Sign Language as a medium of instruction in the learning of the hearing impaired pupils. All the six key informants from ZNAD, MOE, CDC, UNZA and ZAMISE stated that the use of Sign Language in classes for hearing impaired learners had virtually replaced other modes of instruction namely speech and total communication. The major reason was that most hearing impaired children easily learn new concepts when they are taught in Sign Language than in other modes of instructions. This view was supported by one male Ministry of education standards officer (PESO) who noted:

*“The education policy recognizes the special learning needs of hearing impaired learners. The use of Sign Language in classrooms of hearing impaired learners is being promoted and encouraged by this ministry. That is why UNZA and ZAMISE which are the two largest teacher training*

*institutions for teachers of children with special educational needs have introduced a Sign Language course in their teacher education syllabus. It is a very effective tool of communication in teaching the hearing impaired pupils.”*

Besides the inclusive policy requirement, the need to increase literacy competence among all learners in Zambia through the use of a first language (Zambian) language was cited as having an influence on the development of Sign Language. The two specialists from CDC saw the need to teach hearing impaired in Sign Language as mother tongue for deaf children before they can learn spoken or written English. A male teacher from school ‘A’ said the following:

*“The hearing children learn their mother languages [Chinyanja, Chibemba, Silozi, Chitonga, etc] which they use as foundation to learn English but for deaf children they have nothing apart from Sign Language”,*

These findings were in line with the findings of Stanley (2005), who argued that many children were exposed to language patterns and inconsistent input from teachers and sign language interpreters in educational settings in addition to irregular forms from parents at home. All these experiences tended to cause confusion in the mind of a hearing impaired child and pose a challenge in the language development. The study revealed that most hearing impaired pupils were born with the hearing impairments while others lost their hearing at a tender age before language development hence had difficulties in learning through spoken language apart from Sign Language. One male Grade 7 female pupil from school ‘B’ said:

*“I lost my hearing when I was 4 years old, I cannot speak any language a part from Sign Language.”*

#### **5. 1.4 Sign Language and its Implication on Learning**

It was evident from the study that hearing impairment was an obstacle because pupils had problems understanding classroom instructions from the teacher without the aid of Sign Language. There were teachers who did not know or communicated in Sign Language, teaching and communication were sometimes not effective. It was revealed that teachers who mainly used spoken language when teaching without supporting it with Sign Language communicated less work to learners with hearing impairments in class. It was difficult to



teach the hearing impaired with less use of Sign Language. This was attributed to the limitations in pupils' experience in the use of oral language hence their preference for Sign Language. Some pupils further noted:

*“Some topic were difficult to understand in Sign Language and certain words were no there in Sign Language hence teachers opted to use of oral language which was difficult for us to understand. Others just finger spelled such words without providing meaning or just ignored them.”*

Stain (2013) reported that the hearing impaired were sometimes slow to grasp concepts. Similarly, there were other studies that had shown hearing impaired children's reading developed slowly and that pupils with hearing impairments made approximately a third of the reading process each school year when compared with their hearing peers in the same grade (Moore, 1998). As a result, this caused Matthews' effects because the severity of their reading delay increased as they progressed through schooling, culminating in the average hearing impaired school leaver having a reading age equivalent to that of a 9-year old hearing child yet might be at an age of 15 years. This idea was also shared by Stain (2013) who argued that having a hearing impairment or being hearing impaired could adversely affect a student's ability to learn unless appropriate mode of communication was used. Not only was it difficult to communicate but since most teaching was done through speaking, the barrier of hearing impaired student seemed insurmountable unless more Sign Language was employed in the learning of the hearing impaired as observed by Hudson (1993) who stated:

*“Language is a cultural artifact. The way in which we use it for remembering, reasoning, evaluating, communicating and so on are socio culturally determined and have to be learned. Diversity of mother tongue, the language of the subject being taught (specialized terminologies, use of every day words in specific restricted contexts and style of written communication) the stylized language of the classroom interaction in general and the use of language based activities to bring about learning.”*

Arising from the above statement, most hearing parents and teachers found it difficult to communicate with their hearing impaired children and learners. As a result children got no forms of language input until they started school. By this stage, it was often too late for the hearing impaired child to acquire that natural language foundation (Zambian Sign Language) needed for other languages such as English (South Africa Deaf Association, 2006 ).

Hudson (1997) adds that learners with limited linguistic skills could become frustrated when faced with an early insistence of precise terminology (vocabulary) and formal writing style. This could lead to withdrawal or even alienation from learning. Some subjects had abstract ideas that could not always be communicated in Sign Language. However, accommodation that addressed both the environment and the teaching or learning styles could bridge the gap and enable the hearing impaired students to be successful. A substantial number of students in the many styles shared the view that the hearing impaired had a capacity to excel academically just like their hearing peers so long as appropriate language such as Sign Language was introduced early enough. This view was also supported by teachers, especially the experienced ones in the present study. Conversely, Nunes and Mores (1998) also argued that hearing loss could not be treated as a root difficulty in the education of the hearing impaired but a risk factor that placed hearing impaired children at risk to learn unless necessary steps were taken towards the use of their natural language which was Sign Language.

The general poor academic performance in public examinations among learners with hearing impairments was also identified in the present study as a contributing factor to the need to use Sign Language in teaching the hearing impaired as indicated by one male Ministry of Education official (PESO Special Education) who complained:

*“It is not fair for hearing impaired children to be examined in the language they do not understand. The examination council is now exploring how to transcribe examinations in Sign Language for the hearing impaired.”*

It was also interesting to see the efforts of the Ministry of Education through the Curriculum Development Centre in developing literacy among hearing impaired pupils as reported by a male CDC specialist who said:

*“In response to the new breakthrough to literacy policy, the Curriculum Development Centre has embarked in the publishing of books in Sign Language for primary schools as a pilot programme. We hope this will help the hearing impaired learners to acquire better literacy skills in their own language which they can transfer to English.”*

However in view of these pronouncements from the Ministry of Education and Curriculum Development Centre, ZAFOD (2010) reports that the use of Sign Language in the learning of

the hearing impaired has not been taken in consideration. The Ministry of Education has tried to address this issue, but the policies seem to be long on intentions, but short on specifics. The findings revealed that although there are a number of pronouncements from the Ministry of Education on the examination of Zambia offering examinations to pupils with hearing impairments in Sign Language, hearing impaired are still being subjected to the same examinations as pupils without hearing impairments. This situation resulted in most pupils with hearing impairments failing their examinations. It was unfair for one to be subjected into writing examinations in a language one did not understand. This therefore needed to be reversed so that examinations for the hearing impaired could be prepared in Sign Language, a language they understood better. Sign Language acquisition was also seen to be inseparable from hearing impaired people and their community in this study. This view was supported by male participant from ZNAD who had this to say:

*“People with hearing impairments use Sign Language to communicate among themselves and hearing people through the use of sign language interpreters in order to compensate for the loss of their sense of hearing. It is also part of their culture and identity in the community. That is why we have been advocating for the use of Sign Language in the media, public gatherings and in other services such as education. Hearing impaired children have a right just like their hearing counterparts to be educated in their own culture which also include Sign Language. Because of our long term advocacy for the recognition of Sign Language as one of the official languages in Zambia, the government has included it in the Disability Act of 2012. Look now Sign Language is used in the Zambia national Broad Casting Corporation (ZNBC).”*

Arising from the above, it seemed to imply that the communication needs of the overwhelming majority of profound hearing impaired learners surpassed those of the minority hard of hearing with verbal speech when the groups of learners were placed in the same classes. But there seemed to be no measures taken to promote the communication needs of learners whose communication totally depended on the use of Sign Language. Because of that, hearing impaired learners appeared excluded thereby contradicting the aim of inclusive education. Sign Language just like oral language ought to have equal space in the education of children with hearing impairments. These findings were supported by what was happening in Sweden where Sign Language was used as a medium of instruction in the learning of

hearing impaired and played a significant role in their performance (Chupina, 2006). It was therefore evident from the present findings that increased use of Sign Language in the learning of the hearing impaired had the potential to increase their academic performance in the classroom. Further, teachers and standard officers observed that Sign Language was used in the learning of the hearing impaired for the purpose of ensuring that all pupils used the same signs and learnt standardized Sign Language.

The findings were in line with the views of Robert (2015) who observed that the school system played an important role in the standardization of Sign Language. In societies where Sign Language was standardized and was well developed such as in the case of American Sign Language (ASL). This then resulted into the use Sign Language in the school system. This was because the use of Sign Language in the education system promoted the desire by society to develop and standardize such a language (Robert, 2015). With regard to Sign Language, reference could be made to the situation where the development and standardization of Sign Language emanated from its use in the education system. Therefore, the use of Sign Language as a mode of instruction in the learning of the hearing impaired in Zambia could bring about this standardization because everyone in the school system would learn through the use of the same signs (Zambian Sign Language Dictionary, 2001).

From the reasons given by some of the respondents on why Sign Language was a more preferred language in the learning of the hearing impaired and as a mode of instruction, there was a strong recognition of the fact that this was a fully-fledged language like all other languages used in the Zambian education system. (Mbewe (1990) argued that there was also recognition of Sign Language because it was the only means of communication for hearing impaired children. Hence, Sign Language was the central mode of instruction in schools in teaching learners with hearing impairments which needed to be promoted in order to make their learning more meaningful.

It was also interesting to note that even though most of the teachers advocated for the use of Sign Language as a medium of instruction in the learning of the hearing impaired, these were the same teachers that earlier on revealed that they did not undergo any comprehensive training in Sign Language. It was viewed that teachers perceived their knowledge and skills in basic Sign Language grammar and vocabulary coupled with competence would be all that they needed to teach the hearing impaired pupils. Hence even with the advocacy for the introduction of Sign Language as a language of instruction there would still be need to

strengthen the teaching of Sign Language in teacher training institutions in Zambia to match the learning needs of hearing impaired learners in the school system.

## **5.2. To examine how identified factors have affected the use of Sign Language in the learning of the hearing impaired**

With regard to the factors affecting academic performance of hearing impaired pupils in the classrooms, the study established several factors. The responses to this question ranged from individual teacher and pupil limitations to inadequate educational policy on the use of Sign Language in the education system. These included the following:

### **5.2.1 Variations in Signs in Sign Language**

The study revealed that there were a lot of variations in signs which affected the use of Sign Language in academic work while a minority said that different signs did not pose a challenge. There was a general feeling among teachers, pupils, education administrators and advocates for human rights of persons with hearing impairments that the variations in the use of Sign Language among hearing impaired pupils themselves make it difficult to use Sign Language as a means of instruction in the teaching and learning. The variations were largely seen by the use of different vocabulary to denote the same concepts or phenomena and increased the use of foreign signs from developed sign language system such as ASL system. In support of this view, one female teacher from school 'A' said:

*“You find some pupils giving you different signs from others but for the same word. For example some pupils tap their right hip side and make a sound with their fingers to refer to the word ‘dog’ while others keep their open palms together near the chest and then move them up and down to refer to the same word. It is very confusing because we rely on pupils to learn Sign Language.”*

A further probe of the above assertion by the researcher confirmed that many pupils in Upper School grades came from their homes with different signs for the same concepts. For example, no common sign was used to denote the word ‘bird’ as some pupils were imitating a flying bird with their arms flapping up and down while others were making a sign of a beak with their right thumb and index finger at their mouths. Worse still, there were some who imitated a bird’s movement by moving their heads up and down hence, contributing to the

confusion in the classroom arising from variations in signs used in Sign Language. A male advocate for the rights of deaf persons also confirmed the above observation and justified his observation in a conversation by saying the following:

*“Even among adult deaf persons you find variations in the use of Sign Language because signs are made according the situation or cultural background of the user and sense an individual user makes out of what he or she see or feels.”*

On the whole, all respondents except pupils stated that the absence of an officially approved or adopted Sign Language for use in Zambian schools makes it difficult to instruct learners with hearing impairments during learning and teaching. The study also revealed that there was no national Sign Language syllabus, teaching manuals and textbooks in Sign Language for pupils to use and to help have a standard Sign Language for classroom work. It was further noted that teachers from various training institutions used different signs to refer to the same concepts in their usage of Sign Language during classroom instructions as acknowledged by one female teacher from school ‘B’ who reported:

*“Each teacher is a master of his or her teaching because there is no standard of communication to children in class. The head or even inspector of schools cannot tell you that you are teaching children wrong signs because there are no approved Sign Language materials. In the end, this confuses pupils and teachers themselves.”*

The above challenge was also mentioned by the advocates on the promotion of the use of deaf culture and Sign Language in Zambia who said:

*“We are developers of Zambian Sign Language but we cannot claim that we have developed a national Sign Language for all hearing impaired people in Zambia. Dialects in Sign Language cannot be avoided just like in spoken language that is why there are opposing views over the signs used by Sign Language interpreters on national television and teachers in schools.”*

A further probe to this situation by the researcher also confirmed that there were occasional disagreements among hearing impaired persons in Zambia as to what was the correct Sign Language used in the national media and schools. These findings are similar to the views expressed by Biggs (2004) who reported that in China, there is an ongoing debate over

natural Chinese Sign Language (CSL) versus Sign Supported Chinese (SSC) causing communication problems both in and outside classroom. According to Biggs (2004), findings of a study carried out by Lianing Normal University showed that more than half of the students polled at a school for the hearing impaired could not understand any of the SSC that was used by their hearing teachers. Only 20.8 per cent said they understood completely, while teachers said they too were baffled by their students' preference of natural Sign Language. Personal classroom observation revealed that some words were actually signed differently by both pupils and teachers. For instance the word 'talk' was signed as 'soft' by one of the teachers from school 'A.' one male teacher from school 'B' had this to say:

*"When I was new here and I was using the Sign Language from the Copperbelt where I had been transferred from, I had a lot of problems with my pupils. They could not understand my signs, I also failed to understand some of their signs. However, as time went by I learnt from them and now I do not have any problems with communication."*

Another teacher from school 'C' said:

*"One time I was teaching the words 'cup' and 'glass' in English. My signs and those of my pupils were too different so there was confusion somehow, but I called someone who knows Sign Language very well and corrected us all."*

Another teacher from school 'A' said:

*"just when I was a month in employment, a pupil came and signed that he wanted to go to the 'toilet,' I did not understand the sign for 'toilet' so I just nodded and told him to go back to his seat as I thought he was asking me if he could start writing. I only realized he wanted to go to the toilet after he had wetted his uniform."*

During group discussion pupils were asked whether the signs they were using were the same as those used by pupils and teachers from other places. They all said they were not the same. A male grade 5 pupil from school 'A' said:

*"When I came here from the Copperbelt, I found that my friends and teachers here were using different signs. Sometimes my friends laughed at my signs"*

*which they thought were wrong, but now I have learnt from them. I have no problems.”*

Another grade 6 pupil from school ‘B’ said:

*“When teachers are new, we face a lot of problem because they come with signs that are different from what we use here. But we teach them our signs.”*

Although it was established that there is variation in the use of Sign Language in the study, the extent to which this was so could not be accurately established as some hearing impaired persons complained of lack of ethical observation among some sign language users including teachers in the use of Sign Language for learning purposes.

The Ministry of Education also admitted that it had not adopted a national Sign Language for use in schools. There was still a heavy dependence on local and blended with ASL which was prominently used by pupils in upper grades and hearing impaired teachers themselves. This was confirmed by one male education official from the Ministry of Education as quoted below:

*“The challenges of variations in Sign Language cause confusion in signs used when communicating. There are also challenges encountered by book writers as they do not know which Sign Language they can use.”*

These findings are in line with the views of Biggs (2004) who noted:

*“The lack of consensus whether to use natural Sign Language or SSC as a medium of instruction in the classroom can also affect the linguistic development in the classroom.”*

### **5.2.2 Teachers’ Lack of Competency**

In respect to competency in the use of Sign Language by teachers, 14 out of 20 teacher respondents admitted being incompetent signers. Few said they use Sign Language, others said they used total communication while others said they used oral language indicating confusion in surrounding communication in classes for the hearing impaired pupils. They said they heavily depended upon pupils in their use of Sign Language due to lack of competency. A good number of pupils confirmed their preference of Sign Language as a



medium of communication and language of instruction. Yet teachers seemed to be ill-prepared to communicate effectively through use of Sign Language. Although some hearing impaired pupils indicated being taught correctly in Sign Language, challenges with communication were there as they reported helping their teachers learn some aspects of Sign Language. The medium of instruction strongly affected the ability of children to comprehend and learn. Teachers needed therefore to acquaint themselves with the language so as to facilitate effective learning. The researcher learned that teachers who taught in the Upper Primary classes had poor Sign Language skills because some children were young and had limited Sign Language skills and therefore could not help their teachers improve in Sign Language.

It was further established that teachers in non-residential or special schools for hearing impaired learners were poor in Sign Language because they had limited hours to learn the signs from their children. Some teachers reported that they had limitations in their teaching because they lacked the knowledge to handle pupils with hearing impairments. One male teacher from school 'A' said:

*"I am not trained to handle pupils with hearing impairments. I am just helping because of the knowledge I have in Sign Language."*

The inability by teachers to handle learners with hearing impairments using Sign Language was a major barrier to learning. This study revealed that some teachers were not proficient in Sign Language while learners relied on it to understand the subject matter. Thus these teachers had little or no knowledge of handling pupils with hearing impairments. One teacher said:

*"I do not know Sign Language so I am totally misplaced here."*

These findings were similar to a research conducted by Simalalo (2006) in Zambia which revealed that some teachers who worked with SEN learners had inadequate training to handle such learners. During the study, teachers commented that they felt incompetent to handle learners with SEN and desired to go for in-service training or work shop to improve their skills in teaching the hearing impaired learners. More studies such as the study carried out by Chikopela (2013) still indicated that teachers teaching the hearing impaired were incompetent as they had inadequate signing skills.

### 5.2.3 Lack of competency among pupils

A comparative observation was made by the researcher during focus group discussion during which it was confirmed that children from schools 'C' were not as competent signers as their counterparts from schools 'A' and 'B.' besides it was established that pupils who were taught by hearing impaired teachers themselves were better signers than their counterparts who were taught by hearing teachers because hearing impaired teachers were better at Sign Language as it was their language unlike hearing teachers most of whom learnt signs from pupils who in most instances gave them wrong signs. Another reason was that the resources available were inadequate to meet the requirements of training for teachers to become successfully conversant in Sign Language. The incompetent use of Sign Language by teachers was also confirmed by lecturers from the two training institutions who admitted that they were not satisfied with the poor standards of Sign Language training provided or taught. Teachers graduated from these institutions without any knowledge of Sign Language. Despite having good Sign Language instructors, it was learnt that the training was not adequate enough to make teachers competent enough to handle pupils with hearing impairments due to inadequate signing skills they acquire. One female senior lecturer from hearing impairment Department said:

*“The time for training is too short and we do not have appropriate materials for training in Sign Language. There is also the need for fresher courses for teachers to enhance their signing skills.”*

Similarly, at one of the teacher training institutions, the study established that there were no competent Sign Language instructors. The study also revealed that one of the special education training institutions has full time Sign Language lecturers while the other has only part time tutors. It was also revealed that the Sign Language course was too short considering the practical nature of Sign Language. This was supported by the views of one male lecturer who observed:

*“Despite the developments in training institutions that have strengthened the component of Sign Language by making it a full year course and introducing an elective course on Sign Language, there was need for the course to begin from first up to fourth year to enable student teachers to have enough time to train in Sign Language. There is also the need to have full time Sign Language lecturer for student teachers to be proficient in the language. ”*

These findings were in line with the views of Adoyo (2002) and Okombo (1994) who reported that teachers lacked the competency in Kenyan Sign Language. Reasons for this were many. Lack of Sign Language experts emanated from the teacher training institutions. Most teacher training institutions lacked Sign Language lecturers. Another reason was lack of interest in Sign Language. This resulted in the lack of competence in Sign Language among pupils with hearing impairments.

#### **5.2.4 Non-involvement of adult sign language users**

The question of non-involvement of adults with hearing impairments, who also regarded themselves as custodians of Sign Language and deaf culture, most of the respondents saw it as a challenge in the use of Sign Language in schools. Schools were not open enough to the use of adult Sign Language users to complement their efforts in the use of Sign Language at classroom/ school level. This view was supported by one male respondent from ZNAD who observed:

*“we were the first to advocate for Sign Language courses at UNZA and ZAMISE, and we produced a Sign Language Dictionary to support our initiative with funding from Finland, but both UNZA and ZAMISE do not want to involve us in their programmes, that is why they are failing to train competent teachers to teach children with hearing impairments because of limited information on what our original line of thinking were.”*

On the non-involvement of hearing impaired sign language users, the study revealed that the training institutions are willing to involve adult Sign Language users in the training of Sign Language to teachers for the hearing impaired, for instance, ZAMISE has two adult Sign Language users. The challenge has been that most adult Sign Language users lack qualifications required by these teacher training institutions for one to train teachers in Sign Language. This view was supported by one female lecturer who said:

*“We have two adult Sign Language users who train teachers in Sign Language and they are doing very well as can be evidenced from teachers graduating from here with good signing skills, however we need Sign Language instructors who at least possess a degree or masters in special education.”*

One qualification required for adult Sign Language users, the lecturers stated:

*“The college required that lecturers to acquire a Bachelor’s degree before they could train teachers in sign Language.”*

These findings were in consistence with Biggs (2004) who reported that there were very few qualified teachers with hearing impairments in China and most of these only taught non-academic studies such as art or work as teaching assistants. He further stated that at Beijing University most hearing impaired students would prefer to be taught by hearing teachers because they were better qualified to teach. However, in Zambia the situation is different. Most hearing teachers in colleges and universities prefer to be trained in Sign Language by hearing impaired adults because they were proficient signers. Even hearing impaired pupils prefer to be taught by hearing impaired teachers because of their ability to communicate in Sign Language. However, Zambia had very few hearing impaired teachers who were qualified enough to train teachers in universities and colleges. Equally ZNAD indicated that they were not satisfied with the quality of Sign Language training at the country’s two highest institutions of learning as most teachers of the hearing impaired were graduating with little or no Sign Language knowledge. One male respondent from ZNAD indicated:

*“The point of someone being required to obtain a degree before they could be involved in the training of teachers in Sign Language in colleges and universities is unfair, besides there are some adult Sign Language users with such qualifications yet they are not being involved in the training of teachers of the hearing impaired in Sign Language.”*

The researcher also assumed the resistance to allow adult Sign Language users as instructors or demonstrators on Sign Language was meant to protect the teaching positions of Sign Language instructors who are hearing.

Similarly, while most teachers agreed that they lack adequate signing skills to teach hearing impaired pupils, only advocated for the rights of hearing impaired and hearing impaired pupils themselves suggested that only teachers who passed in Sign Language would be employed to teach hearing impaired pupils. The reason not to entertain such a recommendation was given by a male education officer as stated below:

*“If such a rule is introduced, there will be very few teachers who will be willing to teach hearing impaired children. This will disadvantage children.”*

*Let teachers undergo Sign Language training and improve their signing skills in the field.”*

However the researcher assumes that although it was true that such an implementation would lead to a critical shortage of teachers of the hearing impaired pupils, part of the reason advanced not to support this recommendation was also to protect the employment of teachers of hearing impaired pupils from losing their job opportunities. This did not seem to promote competence and professionalism in the education of the hearing impaired pupils. This statement is also supported by ZAPD (1996) who argued that Sign Language was critical for persons with hearing impairment to be able to communicate, express themselves and learn. Depriving hearing impaired persons of the opportunity to learn through the use of Sign Language can condemn them to devastating isolation. Therefore, teachers for the hearing impaired should be teachers who are well trained in the language of the hearing impaired, Sign Language. Those training teachers of the hearing impaired should also be conversant in Sign Language so as for them to handle children with hearing impairments professionally. One male participant from ZNAD had this to say:

*“In countries like Japan, teachers who do not have the skills to handle pupils with hearing impairments are not even allowed to teach such pupils, which is not the case with Zambia, where anyone can teach as long as they have papers from the university or college. This has put hearing impaired pupils at a disadvantage as they miss out on class room instructions.”*

### **5.2.5 Negative attitudes towards the use of Sign Language**

Negative attitude towards Sign Language among some teachers was also cited as one of the major challenge in using Sign Language as a medium of classroom instruction. The following complaints registered by pupils from the three study schools over the incompetent use of Sign Language illustrated teachers’ attitude towards the language itself. Here is what one Grade 7 female pupil from school C had to say:

*“Many teachers are poor users of Sign Language and just speak to us as if we hear. They just write things on the board and ask us to copy a thing which we do not understand. They sign word by word instead of sentences. It is difficult to understand the sentences. When we ask the teacher to sign, she gets upset and says she is not deaf to know Sign Language.”*

A verification of some of the above complaints from pupils was made. Many teachers admitted that they lack signing skills because they are not adequately taught Sign Language for teaching instruction and some of them justified their incompetence by basically, refusing to learn it even when an opportunity was given as one male graduate observed:

*“We only did introduction to Sign Language in the third year and for only for 4 weeks. The only thing I can say I learned was the Sign Language Alphabet and how to greet in Sign Language. The one who was teaching us did not know Sign Language because some of the students even knew the language better than her. ”*

The researcher found it difficult to establish negative attitude towards Sign Language by teachers as one of the challenges to its use in instruction of learners with hearing impairments. This was due to lack of a neutral respondent as the claim was made by pupils and teachers who were themselves hearing impaired while all hearing teachers attributed their poor signing skills to inadequate training. A further investigation established that the teachers who regarded themselves as competent signers were hearing impaired and they used Sign Language as their first language. A study conducted by Mandyata (2011) on teachers' perception towards teaching in inclusive schools revealed that some teachers had negative attitude towards the mode of communication used by learners such as Sign Language. This situation therefore called for the government to improve on the preparation of teachers in the area such as Sign Language for the purpose of creating positive attitudes towards use of specialized mode of communication such as Sign Language in classrooms.

#### **5.2.6 Nature of topics taught and use of Sign Language**

The findings revealed that hearing impaired pupils had challenges with some topics that they were taught. For instance most pupils said that they had challenges learning mathematics and science due to their abstract nature compounded with the language demands of mathematics and science instruction. Hearing impaired pupils found it difficult to understand verbal and written instructions in mathematics and science. Pau (1998) stated that in order to solve written instructions correctly, hearing impaired pupils needed to correctly interpret every one of the problems contained in the problem text. In terms of verbal problems, hearing impaired children attempted to simplify the problem by converting them into understandable linguistic

forms, Sign Language therefore appeared to be limited in structure and vocabulary to support effective learning as Pau (1998) suggested:

*“It is therefore vital that any teaching programme designed to improve the child’s learning should include general text comprehension, a feature not quite characteristic of Sign Language.”*

This view was supported by all teachers as one male teacher from school ‘B’ said:

*“As teachers, we encounter many challenges as some subjects have words that have no signs, sometimes you find a teacher struggling to go through the Sign Language Dictionary in an effort to find a sign for the word, only to find that the dictionary also does not have such a word. This makes it difficult teach certain topics and slows learning.”*

The challenges expressed by teachers on the difficulties they encountered when teaching certain topics were echoed by one male standard officer from the ministry of education who said:

*The main challenges faced by teachers is lack of subject related Sign Language Dictionary for reference purposes to the subjects they teach. Also there is no standardized Sign Language used in schools. Schools have their own Sign Language.”*

These views were in line with the views of Wakumelo (2009) who observed:

*“Teachers mainly depend on their pupils where they write words on the board and pupils give them the signs. The pupil who is supposed to be the learner now becomes the teacher. This happens due to lack of knowledge of proper signs for the words on the part of the teacher.”*

From the research findings it was obvious that pupils and teachers faced challenges in understanding each other. This emanated from lack of proper signs for certain words in some topics. Others said that the Sign Language dictionary had limited entries of signs to help the advancement and use of Sign Language as a language of instruction in schools for the hearing impaired pupils. An examination of the Sign Language Dictionary revealed that there were only 1,000 signs in the Zambian Sign Language Dictionary.

### **5.3. Measures to improve the use of Sign Language in schools of the hearing impaired**

#### **5.3.1 Sign Language as an academic subject**

In view of the above challenges, the study was also tasked to generate practical measures that could be used to address the challenges identified. All categories of respondents apart from pupils suggested that Sign Language should be introduced as a compulsory subject first language for hearing impaired pupils in the school curriculum. Respondents felt that this would enhance their literacy skills in both their first language and spoken English. This was in line with the New Break through to Literacy Policy of the Ministry of Education (2013), the new language policy requires that children in Grade One were taught to read in a familiar language preferably their mother tongue and that a shift was made in Grade Two. This was meant to enhancement of initial literacy in Zambian languages including Sign Language by teachers in primary and secondary schools. The medium of instruction policy was reviewed in all necessary documents especially in the education policy and the education curriculum framework. In Sweden, Chupina (2006) reported that Swedish Sign Language became the language of instruction as well as a taught subject itself in 1995, since then, special education schools used the same curriculum which included Sign Language as a subject. The hearing impaired students at school study with lessons in written Swedish. Classes of hard of hearing students also learnt Sign Language and spoken language as well as Swedish. This contributed to good literacy for Swedish hard of hearing and hearing impaired students. In Zambia however, this was not the case as the Ministry of Education had not officially approved Sign Language as a taught subject in schools for the hearing impaired.

Thus hearing impaired pupils were expected to transfer the first language (Sign Language) skills to the second language (spoken English). When exposed early enough to basic elements in Sign Language. This recommendation was supported by the researcher who observed that although hearing impaired children exhibited good Sign Language skills, they were not able to express themselves in writing either in Sign Language or spoken English. This implied that most hearing impaired pupils were illiterate in their first language and the second language. The pupils were not asked to express their views about this suggestion which was assumed that the subject was beyond their comprehension.



### 5.3.2 Learners suggestions to improve performance in Sign Language

Learners gave a variety of suggestions that could help them improve their performance in Sign Language usage. Among the suggestions, learners said there was need to simplify some aspects in signs for easier explanations of certain topics more clearly so that comprehension would become much easier. Some wanted the teachers to be slow, use familiar and proper Sign Language and understand the culture of the hearing impaired. There was also the need for more trained teachers who would be able to handle more difficult topics in Sign Language and use assorted teaching and learning materials. It was suggested that teachers should use more examples and encourage pupils lagging behind. There were some hearing impaired pupils who felt that the syllabus was over loaded and suggested that it should be revised to suit the educational needs of the hearing impaired learners. These entire suggestions boil down to the need for more qualified teachers who are conversant in Sign Language and more time to learn. As long as the situation remained the way it was, the high levels of failure rates among pupils with hearing impairments would continue. This view was supported by Jokinen (2010) who reported that the bilingual approach required Sign Language to be used as the principle instructional language together with spoken language in written form. The education of the hearing impaired required qualified teachers in Sign Language including native Sign Language users and the learning materials used need to be bilingual and culturally appropriate. When pupils were asked how they overcome the challenges they faced in their learning, a Grade 7 male pupil said:

*“We use Sign Language, help teachers learn Sign Language and make efforts to be attentive in class. We also seek for assistance from teachers who know Sign Language and fellow pupils whenever we encounter difficulties in learning.”*

Another male Grade 5 pupil who was not very good in Sign Language said:

*“I am making an effort to master Sign Language.”*

From these findings, it was obvious that most teachers are not conversant in Sign Language as evidenced by pupils claim that they are the ones who help them learn Sign Language. The study also revealed that there was lack of teaching and learning materials and those that are there are not being used during lessons. It is important that teachers of the hearing impaired

use Sign Language and learning materials during lessons for pupils to understand lessons better.

### **5.3.3 Teachers suggestions to improve the performance of pupils in the use of Sign Language**

#### *(i) Provision of teaching and learning materials*

The findings also revealed that teachers had challenges with teaching and learning materials in Sign Language and that the way of overcoming these challenges was by improvising. Teachers made teaching and learning materials using local materials available in the school such as charts from old calendars and counters from beads and sticks. One major finding from lesson observation revealed that teachers used various methods of teaching different topics. Some teachers used the same charts and objects whenever they could not find a sign for what they are teaching while others abandoned certain topics because they were perceived too difficult and impossible to teach in Sign Language, hence opted to move to other topics. In another class however the teacher successfully taught using improvised materials where a diagram was drawn on an old calendar and Sign Language was used as a medium of instruction. These findings were in consistent with the views of Wakumelo (2009) who pointed out that some teachers resort to use of aids, object or apparatus for the children to see what they were referring to. The success of such an approach depends on whether pupils know what was in the picture because if they did not know they had no concept hence no sign for the object. Many teachers from the schools of study complained of lack of learning materials hence felt the need to avail them with learning materials as they felt this was hindering teaching. However, the curriculum specialist had this to say:

*“Many attempts have been made to produce Sign Language materials for teaching and learning. We have produced Sign Language materials for lower primary schools in partnership with ZNAD and hearing impaired teachers. However there is very little use of these materials by teachers. I think it is because no official position or directive has been made for teachers to use the materials. It is not possible to issue a directive where there is still no nationally adopted Sign Language.”*

(i) *Improve Sign Language skills*

Teachers expressed lack of knowledge of the language of the hearing impaired, Sign Language. These findings were similar to the views expressed by Wakumelo (2009) who pointed out that teachers of the hearing impaired had an important role in making sure that hearing impaired learners were competent in their mother tongue which was Sign Language to enable them learn other languages and academic content. Ideally, Sign Language should be used not only as a medium of educational instruction but it should also be used throughout the school days as a medium of instruction and subjects too. However, there is a challenge that needed solutions in the Zambian scenario where the teachers were the ones who were disabled since in most cases they were not linguistically equipped to impart knowledge using Sign Language. Global Deaf Connection (2010) also reported that in Kenya there were about 41 schools for the hearing impaired with about 100 students in each school but most teachers did not know Sign Language or understand the Deaf Culture. They wrote lessons on the board and used pointing as the primary teaching method. This assertion was supported by most teachers and one female teacher from school 'C' had this to say:

*"I do not know Sign Language, I have challenges teaching hearing impaired pupils as I mostly use teaching aids to help me explain lessons in class. I would like to go for training or work shop to help me improve in Sign Language."*

On the question whether the institutions responsible for training teachers for the hearing impaired had received any complaints about the performance of the graduates, one male lecturer said:

*"We receive complaints on lack of practice in Sign Language, I think this is due to shortage of time."*

These views were also supported by the researcher who observed that teachers of the hearing impaired needed to improve in the use of Sign Language for them to communicate more effectively with their learners in the classroom. These observations seemed to be the reason for the need for teachers of the hearing impaired to go for training in Sign Language to improve their signing skills.

#### **5.3.4 Summary**

This Chapter presented the findings of the study. The study established that most teachers in the three (3) schools investigated lacked signing skills as they did not undergo any comprehensive training in Sign Language. It also revealed that although Sign Language was the medium of instruction it was not formally taught by the schools. The study also revealed that teachers were not consistent with any one signed mode as they randomly changed between Sign Language, oral, gestural and total communication. The study also noticed that teachers faced a number of challenges in teaching pupils with hearing impairments and that they had come up with their own coping mechanisms. Finally the study revealed that the majority of respondents would want Sign Language to be introduced as a taught and examinable subject.

## **CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS**

### **6.1 Overview**

This Chapter concludes the study and also makes recommendations based on the findings of the study.

### **6.2 Conclusions**

This study established that most teachers of the hearing impaired did not undergo comprehensive training to prepare them to adequately teach children with hearing impairments. This seemed to be due to the fact that training institutions took the medical model where Sign Language was not considered as a full-fledged language for the hearing impaired but considered simply as a remedial measure of communicating with the hearing impaired. On the question of how Sign Language was used, the study established that sign vocabulary was taught in lower primary grades.

The study also established that teachers used a mixture of Sign Language, spoken language and total communication interchangeably. Although teachers had a good reason for mixing the signing systems, it was detrimental to the language development of the hearing impaired children especially if competence had not been developed in any language.

With respect to how the factors had affected the performance of hearing impaired pupils in the classroom, the study had found out that because of inadequate Sign Language training for teachers of the hearing impaired, there were challenges which teachers faced in teaching the hearing impaired. These challenges included signing words wrongly at times and the notion that sign language was a shallow language. The question of inadequate training for teachers of the hearing impaired also led to some pupils blaming the teachers, especially those who were hearing saying they were not teaching them in Sign Language which they understood as seen by their overwhelming preference of teachers with hearing impairments over hearing ones.

There was also a challenge of lack of resources for Sign Language as most teachers were seen using stones, beads and old calendars as learning materials.

As regards coping strategies, most teachers simply learnt Sign Language from pupils themselves they also heavily relied upon the chalk board and pointing. Where they came across new signs, which were unknown to both teachers and pupils, they simply created a new sign. However the challenge was that the newly created sign would only be known to that particular class.

The study also revealed that language was the biggest challenge faced by pupils. Most of the pupils interviewed revealed that they could not write or comprehend the English language very well. The teachers also attested to the fact that the way the hearing impaired sign was the way they wrote. The teachers seemed ignorant about Sign Language grammar.

On the question whether Sign Language was used as medium of instruction in the learning of the hearing impaired, there was confusion as to whether Sign Language was used as a medium of instruction. While some teachers claimed that they used Sign Language at lower grades, what they used was simply sign vocabulary. Despite these weaknesses, the study also found out that the majority of the teachers wanted Sign Language to be introduced as a medium of instruction and examinable subject at least up to Grade 12.

### **6.3 Recommendations**

1. Introduction of Sign Language as a compulsory subject or first language of the hearing impaired pupils in school curriculum to enhance their literacy skills in both their first language
2. There should be national Sign Language which should be adopted and used in the education of the hearing impaired in Zambia.
3. Adult deaf persons and teachers should be actively involved in the production of Sign Language educational materials for pupils and teachers.
4. Hearing impaired pupils should be examined in Sign Language for easy understanding of examination questions
5. Both the curriculum Development Centre and Examination Council of Zambia should have Sign Language specialists
6. There must be one Sign Language syllabus for all teachers of the hearing impaired learners,

7. The Sign Language course for teachers should be long enough and more practical to equip teachers with adequate signing skills.
8. Only teachers who pass Sign Language courses should be employed to teach hearing impaired learners.
9. Sign Language instructors should include hearing impaired persons as demonstrators.

## **SUGGESTIONS FOR FUTURE RESEARCH**

Since the study on the Factors affecting the use of Sign Language in the learning of the hearing impaired learners was covered in special schools in Lusaka District only, it is important that other studies be carried out in other regions in order to make comparisons on the use of Sign Language as a medium of instruction in the learning of the hearing impaired as this has the potential of assisting policy makers, other stakeholders, teachers and education administrators on the importance of the use of Sign Language as a language of instruction in the learning of the hearing impaired in Zambia.

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## **APPENDICES**

### **Appendix: i**

#### **THE UNIVERSITY OF ZAMBIA**

#### **SCHOOL OF EDUCATION**

#### **DEPARTMENT OF EDUCATIONAL PSYCHOLOGY, SOCIOLOGY AND SPECIAL EDUCATION**

Focus Group Discussion Interview Guide for learners with hearing impairments

Dear Respondents,

My name is **Kapansa L. Kamukwamba**, a student of the University of Zambia studying for MA special education and I am conducting a research on the ‘Factors affecting the use of sign language in the learning of hearing impaired pupils’ in selected upper primary schools in Lusaka. I kindly request your participation in the research by providing answers to the questions I will ask you. Your responses will remain confidential and there is no risk involved in participating as the research is purely academic. You are free to ask questions at the end of the interview on anything with regard to my research.

## **RESPONDENT'S IDENTIFICATION**

No. of Respondents: ..... Male: ..... Female: .....

Time of Interview: .....

Duration: ..... Date: ..... Organization.....

Position: .....

1. How do you communicate with your parents and other people at home and in the neighbourhood?
2. Do you, your parents and other people understand the message you communicate to them?
3. If your parents and other people at home and in the neighbourhood know sign language, how did they learn it?
4. How do your teachers communicate to you?
5. Do you fully understand the instructions from your teachers during learning?
6. Do your teachers understand the message you communicate to them?
7. How do you communicate with your friends?
8. Do you fully understand what your friends communicate to you?
9. Apart from school, where else do you use sign language to communicate?
10. Is the sign language you use at school the same as the sign language you use in other places?
11. Do you think poor communication between you and your teachers makes you perform poorly in the school work?
12. Do you think that all hearing impaired children in Zambian schools use the same sign language?

**Thank you for your time and you are free to ask any question about the interview**

**Appendix: ii**

**THE UNIVERSITY OF ZAMBIA**

**SCHOOL OF EDUCATION**

**DEPARTMENT OF PSYCHOLOGY, SOCIOLOGY AND SPECIAL EDUCATION**

Individual interview Guide for teachers of the hearing impaired

Dear respondent,

My name is Kapansa Kamukwamba, a student of the University of Zambia studying for MA special Education and I am conducting a research on the ‘Factors affecting the use of sign language in the learning of hearing impaired pupils’ in selected upper primary schools in Lusaka. I kindly request your participation in the research by providing answers to the questions I will ask you. Your responses shall remain confidential and there is no risk involved in participating as the research is purely academic. You are free to ask any questions at the end of the interview on anything with regard to my research



## RESPONDENTS' IDENTIFICATION

No. of Respondents: ..... Male: ..... Female: .....

Time of Interview: .....

Duration: ..... Date: ..... Organization.....

Position: .....

1. What mode of communication do you use when you teach the hearing impaired?

Sign language [ ] spoken language [ ] total communication [ ]

Lip-reading [ ]

2. Was the mode of communication you have mentioned above officially approved/ adopted by the education authority in Zambia?

3. Can you briefly explain your reason for the mode of instruction you have mentioned?

4. Is there any officially approved/ adopted mode of instruction for hearing impaired pupils?

.....  
.....  
.....

5. Can you describe the level of knowledge of sign language among the hearing impaired at your school?

Very good [ ] good [ ] fair [ ] poor [ ]

6. What challenges do hearing impaired learners encounter in the use of sign language?

.....  
.....  
.....

7. How competent do you think you are in the use of sign language as a mode of instruction for hearing impaired learners?

Competent [ ] incompetent [ ]

8. If you are competent enough to use sign language as a mode of educational instruction for hearing impaired learners, where did you learn?

UNZA [ ] ZAMISE [ ] ZNAD [ ] hearing impaired people [ ]

9. Do you think the sign language you underwent was adequate to effectively make you to teach hearing impaired learners?

Yes [ ] No [ ]

10. What should be done to help other teachers who are not competent in the use of sign language?

.....  
.....  
.....

11. What limitations do you experience when teaching the hearing impaired learners?

.....  
.....  
.....

12. How can the learning of sign language as a subject for hearing impaired learners improve their literacy and general academic performance in verbal English and other subjects respectively?

13. Who do you think are the major stakeholders in the development of sign language and making it a national mode of educational instruction in Zambia?

UNZA [ ] ZAMISE [ ] ZNAD [ ] MOE [ ]

**Appendix : iii**

**THE UNIVERSITY OF ZAMBIA**

**SCHOOL OF EDUCATION**

**DEPARTMENT OF EDUCATIONAL PSYCHOLOGY, SOCIOLOGY AND SPECIAL  
EDICATION**

Individual Interview Guide for Key Informant (SCS – SE – CDC, PEO- SE Teacher Education)

Dear Respondents,

My name is **Kapansa L. Kamukwamba** a student of the University of Zambia studying for a MA special education and I am conducting a research on the ‘Factors affecting the use of sign language in the learning of the hearing impaired pupils’ in selected upper primary schools in Lusaka. I kindly request your participation in the research by providing answers to the questions I will ask you. Your response shall remain confidential and there is no risk involved in participating as the research is pure academic. You are free to ask questions at the end of the interview on anything with regard to my research.

## RESPONDENT'S IDENTIFICATION

No. of Respondents: ..... Male: ..... Female: .....

Time of Interview: .....

Duration: ..... Date: ..... Organization.....

Position: .....

1. What has the Ministry of education done to overcome this challenge of communication barrier for learners with hearing impairments in Zambian schools?
2. What legal and policy guidelines is the Ministry using to provide intervention in the communication barriers which hearing impaired learners are experiencing?
3. How adequate are current policy and legislation in Zambia to guarantee active participation of hearing impaired learners?
4. Is educational instruction of hearing impaired learners through sign language one of the mechanisms this Ministry is using to ensure their inclusion in learning?
5. How can the learning of sign language as a first language by hearing impaired children improve their academic performance across the curriculum?
6. If sign language is used as a mode of educational instruction in Zambian schools, has the ministry developed and adopted any national instruction manual for teachers and pupils?
7. What prompted the use of sign language as a means of educational instruction for hearing impaired learners in Zambia?
8. If the ministry has developed and adopted a national sign language instruction for the hearing impaired in Zambia?
9. If there any variations in the use of sign language as a mode of educational instruction for hearing impaired learners, what do you think are the challenges in such variations?
10. Does the ministry have qualified and competent sign language instructors to train teachers of hearing impaired learners in the case of sign language?
11. If the ministry has qualified and competent sign language instructors, where did they train to be instructors?
12. Which other institution/ organization does this ministry collaborate with in developing sign language for teachers?
13. How do you think hearing impaired adults can contribute to the development of sign language for use in schools?

**Appendix: iv**

**UNIVERSITY OF ZAMBIA**

**SCHOOL OF EDUCATION**

**DEPARTMENT OF EDUCATIONAL PSYCHOLOGY, SOCIOLOGY AND SPECIAL  
EDUCATION**

Individual Interview Guide for Key Informant (Principal of ZAMISE Dean School of Education at UNZA)

Dear Respondent,

My name is **Kapansa L. Kamukwamba**, a student of the University of Zambia studying for MA special education and I am conducting a research on the ‘Factors affecting the use of sign language in the learning of the learning of the hearing impaired pupils’ in selected upper primary schools in Lusaka. I kindly request your participation in the research by providing answers to the questions I will ask you. Your responses shall remain confidential and there is no risk involved in participating as the research is purely academic. You are free to ask questions at the end of the interview on anything with regard to my research.

## RESPONDENT'S IDENTIFICATION

No. of Respondents: ..... Male: ..... Female: .....

Time of Interview: .....

Duration: ..... Date: ..... Organization.....

Position: .....

1. How long has this institution been training teachers of the hearing impaired in using sign language?
2. What prompted the introduction of sign language course at this institution for teachers of the hearing impaired learners?
3. What are the major components of the sign language course for teachers of the hearing impaired learners?
4. How adequate is the sign language content for teachers of the hearing impaired learners?
5. Is the sign language based on a legally/officially adopted national sign language?
6. What is the qualification of the current sign language instructors in sign language instruction at this institution?
7. Where did the sign language instructors obtain their qualifications to be sign language instructors for teachers of the hearing impaired?
8. What complaints have you received about the performance of the graduates from this in handling hearing impaired learners?
9. What other institutions do you collaborate with in developing and implementing the sign language course for teachers of the hearing impaired?
10. What should be done to improve the use of sign language as a mode of educational instruction in Zambia?

**Appendix: v**

**UNIVERSITY OF ZAMBIA**

**SCHOOL OF EDUCATIONAL PSYCHOLOGY, SOCIOLOGY AND SPECIAL  
EDUCATION**

Individual Interview Guide for Key Informants (Leaders/Advocate of the Rights of Hearing Impaired Persons)

Dear Respondents,

My name is **Kapansa L. Kamukwamba** a student of the University of Zambia studying for MA Special Education and I am conducting a research on the ‘Factors affecting the use of sign language in the learning of the hearing impaired pupils’ in selected upper primary schools in Lusaka. I kindly request your participation in the research by providing answers to the questions I will ask you. Your responses shall remain confidential and there is no risk involved in participating as the research is purely academic. You are free to ask questions at the end of the interview on anything with regard to my research.

## RESPONDENT'S IDENTIFICATION

No. of Respondents: ..... Male: ..... Female.....

Time of Interview: .....

Duration: ..... Date: .....Organization: .....

Position: .....

1. What legal and policy mechanisms support your advocacy activities to promote the recognition of sign language?
2. Do you think the current legal and policy mechanisms are adequate to secure full inclusion of hearing impaired persons in society especially education?
3. What has your organization done to ensure the official recognition of sign language as a mode of educational instruction hearing impaired learners in Zambian schools?
4. What variations are there in the use of sign language among hearing impaired persons in Zambia?
5. How do such variations negatively affect the adoption of sign language as a means of teaching hearing impaired learners in Zambia?
6. What has this organization done to develop a national sign language that can be adopted for educational instruction for hearing impaired learners in Zambia?
7. What challenges do you think can arise in producing a national sign language for use in Zambian schools?
8. How can the learning of sign language improve the general academic performance among the hearing impaired learners?
9. Do you know any country especially in Africa which has adopted a national sign language which hearing impaired learners learn as a first language?
10. Has your organization participated in the development of sign language courses for teachers being provided by UNZA and ZANISE?
11. Does your organization provide sign language courses?
12. What qualifications do you recommend for sign language instructors?

Do you think hearing impaired should be part of the sign language instruction team for teachers of the hearing impaired learners?14.Can you suggest what role your organization should play in the development of sign language as a means of teaching hearing impaired learners in Zambia?



## **Appendix: vi**

### **Observation Checklist**

**The observation checklist was used in different classes grade 5 to 7.** The observation schedule was used to establish the most popular instructional method used in classes. These were Sign Language, Total communication and oral communication.

#### **Characteristics to look for:**

- (1) The signing system used by teachers
- (2) The signing system used by pupils when talking to teachers
- (3) Signing system used by pupils among themselves
- (4) Teachers' ability to understand pupils' signing system
- (5) Pupils' ability to understand signs used by teachers
- (6) Teachers' ability to understand pupils' signing at once
- (7) Pupils' ability to answer questions immediately after the lesson
- (8) Ability to express and comprehend abstract and generic concepts
- (9) Teaching and learning materials such as charts, books, concrete objects and other materials
- (10) Any physical signs of teaching Sign Language e.g. time table