

**A SITUATIONAL ANALYSIS ON THE USE OF SIGN LANGUAGE
IN THE EDUCATION OF THE DEAF IN ZAMBIA: A CASE OF
MAGWERO AND ST JOSEPH SCHOOLS FOR THE DEAF**

BY

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AUTHOR'S DECLARATION

Except where otherwise indicated, this dissertation is my own original research work. It has not been presented in whole or part for examination for any other degree and that all sources used or quoted have been indicated and acknowledged by complete reference.

Signed _____

Date _____

DEDICATIONS

This dissertation is dedicated to my dad, Manyando Mumbuwa, my late mum, Mutumba Mwenda Manyando, my dear wife, Martha Kapila Manyando and my first born son, Mulonda Manyando.

CERTIFICATE OF APPROVAL

This dissertation of Manyando Mulonda is approved as fulfilling part of the requirements for the award of the degree of Masters of Education in Special Education of the University of Zambia.

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ABSTRACT.

This study was aimed at conducting a situational analysis of how Sign Language is used in the education of the Deaf. Among others the study tried to establish the levels of training for teachers of the Deaf, and challenges which teachers, pupils and parents face in the education of the Deaf. The study was also meant to find out how Sign language is used in the education of the Deaf children as well as to determine whether Sign language should be taught as a subject.

The study adopted the case study design. The population comprised two schools from which a sample of 40 teachers and 40 pupils was chosen. However, only 35 teachers gave responses to the questionnaires distributed. The study used purposive sampling procedures where schools for the Deaf which run the full cycle of the education system from Grade 0 to Grade 12 were selected. Also key informants such as Nongovernmental Organizations (NGO) leaders working with the Deaf, lecturers that train teachers of the Deaf, standards officers in special education and parents were also purposively chosen for the study.

Information was gathered through questionnaires administered to the teachers, lecturers, parents, standards officers and NGO leaders. Deaf pupils were interviewed using face to face interviews owing to their difficulties in understanding the English language. Focus group discussions with the teachers, observations and document reviews were also employed to crosscheck information. The data was then analyzed qualitatively by coming up with categories of responses, themes and sub themes. Also where necessary simple quantitative techniques such as percentages and frequency tables were used.

The study revealed that the majority of the teachers teaching in the two Deaf schools investigated never underwent comprehensive training in Sign language. It also revealed that Sign language (mainly sign vocabulary) is taught at primary school from Grade 0 to Grade 4 and after that it is mainly used as a medium of instruction. It was discovered that teachers use both Sign language and signed English in which they code switch naturally. The study revealed that the major challenges which teachers and pupils face are lack of knowledge of Sign language, limited vocabulary of Sign language and limited learning

and teaching materials in Sign language. The study also revealed that teachers try to overcome these challenges by learning from the learners, consulting from more experienced teachers of the Deaf, and creating new signs for words which are new to both the teachers and the pupils. Lastly the study revealed that the overwhelming majority of the teachers and pupils want Sign language as a taught and examinable subject.

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LIST OF ACRONYMS

ASL: American Sign Language

CSL: Chinese Sign language

CRPD: Convention on the Rights of Persons with Disabilities

DEBS: District Education Board Secretary

ECZ: Examinations Council of Zambia

EPPSE: Department of Educational Psychology Sociology and Special Education

MCE: Manually coded English

NGO: Nongovernmental organizations

NSL: Norwegian Sign Language

OVS: Object Verb Subject

SSC: Sign supported Chinese

SVO: Subject Verb Object

UNZA: University of Zambia

ZAMISE: Zambia Institute of Special Education

ZNAD: Zambia National Association of the Deaf

ZSLD: Zambian Sign Language Dictionary

DEFINITION OF TERMS

In this study the following terms were used as follows:

- Deaf people: people who may be Deaf or hearing impaired but predominantly manifest the deaf culture through their use of Sign Language.
- Mother tongue: The language that one is first exposed to and is his or her main language of communication.
- Zambian Sign Language: Sign language used in Zambia by the Deaf people.
- Hearing teacher: A teacher who can talk and hear trained in special education to teach Deaf pupils.
- Deaf teacher: A teacher who cannot talk and hear trained in special education to teach Deaf pupils.
- Fluency: Correct usage of any language such as Zambian Sign Language which involves paying due attention to the rules of grammar and culture of the language.
- Unit: a section or department in a mainstream school which caters for the affairs of the Deaf.
- Signed Exact English: An artificial signing system designed by teachers that follows the English syntax.
- Sign mode: any method of signing that can be used to communicate with the Deaf.
- Sign language: the natural language predominantly used by the Deaf which has its own distinct vocabulary and grammar predominantly used by the Deaf.
- Print language: language that has been put in written form.
- Spoken language: language whose mode of expression is oral or vocal.
- Appropriate age of language exposure: the optimum period at which children should start learning a language.
- Community language: a language which is predominantly used by people of a particular area especially in places like homes, markets, health centers and streets.

CHAPTER ONE

INTRODUCTION

1.0 Background to the Study

According to the Zambia Ministry of Finance (2000) census report, there are about 256,000 disabled people in Zambia. Out of this number, 6.2% are deaf. This translates into about 15,915 while 12.4% are hard of hearing translating into about 31,830. This means that the estimated number of deaf and hearing impaired people in Zambia in 2000 was 47,745. Available data also shows that the Deaf people are one of the least educated people in Zambia. In 2000, there were 14,233 Deaf persons who were five years old and above. Out of these, only 28.1% had been to primary school, 8.2% had reached secondary school, 0.4% had O level education while only 1% had done any form of higher education (Ministry of Finance 2000). Ten years later the enrolment figures have significantly changed. According to the Ministry of Finance (2010) census report, about 65.5% of the Deaf who are five years and older have been to primary school. The report also indicates that 24.1% of the Deaf have been to secondary school while 8% of them have been through tertiary education. The above data shows that although there has been a marked improvement in the overall number of the Deaf accessing education, a critical look reveals that there is a big problem of progression. Out of the 65.5% that enter the education system only 8% of them make it to higher education. The data also represents a higher dropout rate of the Deaf in comparison with people with other disabilities. For instance while 65.5% of the Deaf were in primary school, 64.4% of the blind had been to primary school. 24.1% of the Deaf had been to secondary school compared to 22.6% of the blind people who had been to secondary school. However, while 11.3% of the blind had done some form of higher education only 8% of the Deaf population had done higher education (Ministry of Finance 2010). The evidence of high drop rate is further augmented by figures from the Ministry of Education. The 2005 Ministry of Education statistical bulletin indicates that there were about 22,610 Deaf pupils in basic schools. But only 557 were enrolled in high school as at 2005. The situation is far worse for the Deaf in comparison with the blind population that had 17,172 pupils in basic schools and 1,899 in high school during the same period.

The Government of the Republic of Zambia through the Ministry of Education recognizes the rights of persons with disabilities, the Deaf inclusive, to have access to good and quality education. Through the 1996 policy document, the Ministry of Education stresses the need to ensure that there is equality of educational opportunities for children with special educational needs. The policy further emphasizes the need to provide education of particularly good quality to pupils with special educational needs (Ministry of Education 1996). The ministry speaks of the principle of integrating the special needs children to the greatest extent possible in the mainstream schools. Yet they have made no special provisions to cater for the special communication needs of the Deaf which is Sign language in mainstream classes. At Munali Secondary School for instance, Deaf children were put in mainstream classes without teachers handling such mainstreamed classes being trained in Sign language. The Deaf children were hence disadvantaged as a result the practice was discontinued in 2007.

The 2011 Education Act provides for the fact that educational 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 need for Sign Language. But at teacher training level, the University of Zambia (UNZA) and the Zambia Institute for Special Education (ZAMISE) which are the main institutions that provide training programs for teachers of the Deaf, Sign language is not given the prominence it deserves in the curriculum. In fact Sign language which is supposed to be taught as a language is simply taught as a component of special education implying a medical view of deafness. According to Wakumelo (2009), training at ZAMISE previously focused on specialization in different disabilities but that has since changed. She notes that:

“Previously when it was a certificate course the students specialized in one disability and those that specialized in the Deaf did Sign language as a core course. But with the change to the diploma program the 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”, (Wakumelo 2009).

At the University of Zambia the Department of Educational Psychology, Sociology and Special Education (EPSSE) offers degree programs that focus on all disabilities in line

with the Ministry of Education policy of inclusive education. The training by EPSSE is general and there is no specialization in content although most of the content is on psychology. However, recently there have been some efforts by EPSSE to strengthen their component on Deaf education. This is manifested in their recruitment of one lecturer specialized in Deaf issues. However, their focus on Sign language still remains limited. Hence it can be said that even if the 2011 Education Act emphasizes the use of Sign language in the education of Deaf pupils the graduate teachers from teacher training institutions still join the teaching service with very limited skills in Sign language and general interaction with Deaf children. They lack both the linguistic and communicative competence in Sign language in order to effectively teach the Deaf. There is therefore need to match policy documents and pronouncements with action on the ground.

Since the famous work of William Stokoe in 1960, Sign language has come to be accepted as a true and complete language (startasl.com). Not until then, educators of the Deaf refused to recognize Sign language as a true language hence they tried numerous methods of educating the Deaf. It is common knowledge that they actually banned Sign language and emphasized oral methods where they trained the Deaf in speech while others tried to come up with unnatural systems of signing such as Pure Signed English and Signed Exact English (Deaflinx.com). These systems are simply manual representations of the English language. The systems are based on the medical model or clinical pathological model where deafness is seen as a disability stemming from a biological deficit which is lack of hearing. Deafness is viewed negatively as a deviation from the norm and standard. It is seen as a disability that must be fixed and the Deaf are considered as incapable of self determination due to lack of auditory capabilities, (refer also to Wakumelo: 2009).

Today many linguists have recognized the importance of the mother tongue in facilitating the learning of a second language. Several studies such as (Cummins, 2000; Dragow 1998) have shown that learning of a mother tongue facilitates learning of literacy skills in the second language. In this respect, the Zambian government in 2003 embarked on a language policy called New Break Through to Literacy (NBTL). According to this policy children are supposed to be taught literacy in their familiar languages in the first year of

school. The pupils are then expected to use the familiar language to learn the second language which is English. Pupils have to learn the vocabulary, culture and grammar of their mother tongues before learning the second language, English.

However, this does not seem to be the case for the Deaf. In schools for the Deaf where this policy has been attempted, what teachers have been teaching are the local languages of the community such as Bemba or Lozi. What really happens in class is that teachers use signs to teach a particular local language of the area. This is simply a manual representation of the local language of that area. Hence in a Nyanja speaking area teachers would be teaching signed Nyanja. Languages such as Lozi or Bemba by virtue of their oral base and nature can never be accessible to a deaf person and hence do not qualify to be the community languages of the Deaf. According to Wakumelo & Miti (2010), deaf children learn Sign language by learning concepts in Sign language and not using spoken languages used by the community they live in. When hearing children in speaking communities learn languages they learn concepts and not written words or their spellings hence why subject the Deaf to learning the spelling of spoken languages right from the start? Deaf children need to learn Sign language. This is especially the case for Deaf pupils born of hearing parents since they are deprived of any form of language during the most critical phase of language development between 0 to 3 years. In fact they need a longer time to learn their natural language to compensate for the period when they had no access to any meaningful language which they were supposed to use in forming concepts. Other countries such as Sweden have recognized this need and have included Sign language as a taught subject (Chupina 2006). In view of all the above noted problems, this study aims to find out how Sign language is used in the education of the Deaf in schools and units for the Deaf. It is hoped that the findings from this study will help the government and other stakeholders in formulating appropriate strategies and policies for the betterment of Deaf education.

1.1 Statement of the Problem

Sign language is a fully fledged language with its own vocabulary, syntax and grammar. It is the only form of communication for the Deaf. However, as has been noted above, the institutions that train teachers of the Deaf do not include Sign language as a major component of the curriculum. Hence it can be assumed that upon graduation such trainees may not be well equipped to teach Deaf pupils through the medium of their language, Sign language. In most instances Sign language is treated as a component of special education and not as a language in its own right as seen from the nature of training in institutions of higher learning. A casual observation also indicates that given a choice, graduates from institutions such as the University of Zambia are usually reluctant to teach the Deaf pupils because they are not well equipped with Sign language skills. Hence the Deaf pupils are not taught Sign language to the level of mastering the underlying system of rules in the language. Meanwhile, linguists have shown that a high degree of fluency in Sign language at an early age facilitates faster acquisition of literacy and other academic skills. Biggs (2004) argues that native signers or those for whom Sign language is their mother tongue show better ease of transition between Sign language and their country's written language than those who learnt Sign language at a later stage. In view of the lack of a comprehensive component in training in Sign language for teachers of the Deaf in most teacher training institutions, some of the questions one could ask are:

- (a) How are teachers coping in the teaching of Deaf pupils in schools?
- (b) How is Sign language used by teachers and pupils in the education of the Deaf in Zambia?
- (c) Under the current policy and practice, what role does Sign language play in the education system of the Deaf in Zambia?
- (d) How do Deaf pupils perform in reading and writing in the English language in Zambia?

No comprehensive study has been undertaken to investigate some of these questions. It was the intention of this study to establish how teachers use Sign language to teach Deaf pupils in Zambia and hence provide answers to these questions.

1.2 The Purpose of the Study

The study attempted to provide base line information on the current practices in the education of the Deaf which will be used to guide policy on language and education of the Deaf. The study hoped to expose the strengths and weaknesses within the current system. Ultimately the study hoped to influence positive policy changes with regard to Deaf education which would in turn improve the provision of quality education for the Deaf and appropriate training for teachers of the Deaf.

1.3 Theoretical Perspectives

This study does not apply any elaborate theoretical frame work. Instead its approach is to simply describe and analyze the situation as observed on the ground and as articulated from the perspectives of the respondents. However, to a limited extent the study is inspired by theoretical insights from the bilingual approach which is influenced by Jim Cummins linguistic interdependence theory as propounded by Mayer and Well (1996). This theory postulates the existence of a common proficiency underlying all languages. On this basis, it is argued that cognitive/academic or literacy skills acquired in a first language can be transferred to the learning of related skills in a second language. The model says that:

“To the extent that instruction in LX is effective in promoting proficiency in LX, transfer of this proficiency in LY will occur provided there’s adequate exposure to LY (either in school or environment) and adequate motivation to learn LY.”

In line with this model, proponents of the bilingual/ bicultural approach to Deaf education are appealing when they argue that if Sign language is recognized as the first language of the profoundly Deaf students, and used as the medium of instruction, the skills acquired in Sign language can be transferred to the learning of English through literacy activities involving the use of written English. According to this theoretical perspective, it is assumed that a hearing person growing up in a literate culture will inevitably be exposed to and will probably learn the written as well as the spoken form of his or her first language. This literacy proficiency can then be transferred to a second language if the appropriate conditions for learning the second language arise, that is to say particularly in

a linguistic community that uses this language in both the spoken and written modes. However Mayer and Well (1996) and Mayer and Akamatsu (1999) as quoted in Hermans et al (2008) provided several arguments against the view that Cummins linguistic interdependence theory can be used as justification for bilingual bicultural approach to reading acquisition. They showed that too many assumptions that have to be fulfilled before transfer is possible according to the linguistic interdependence theory are not met in the reading acquisition situation of Deaf children. They conclude that Sign language and English should be considered from the perspective that both may play different roles in the literacy development of Deaf children. Cummins (2006) as quoted by Hermans et al (2008) has in turn argued that the linguistic interdependence theory does allow for the transfer of conceptual knowledge, meta-linguistic strategies and specific linguistic elements like initialized sign and finger spelling.

1.4 Objectives of the Study

The following were the specific objectives of this study:

- (a) To find out if teachers are adequately trained in Sign language to teach Deaf pupils in Zambia.
- (b) To find out how Sign language is used in facilitating communication and education for the Deaf.
- (c) To find out the exact types and nature of the difficulties and challenges faced by teachers when teaching the Deaf.
- (d) To establish the coping strategies used by the teachers when faced with such difficulties and challenges.
- (e) To establish some learning challenges which Deaf pupils face in the schools and units for the Deaf.
- (f) To investigate the problems parents face in the education of the Deaf.
- (g) To find out the performance of Deaf children in the reading and writing of the English language.

- (h) To find out whether Sign language should be taught as a subject in schools and units for the Deaf.

1.5 Research Questions

In trying to achieve the above stated objectives, this study asked the following research questions:

- (a) Are teachers adequately trained in Sign language to teach Deaf pupils?
- (b) How do teachers use Sign language to communicate and educate Deaf pupils in schools?
- (c) What are the types and nature of difficulties faced by teachers of the Deaf?
- (d) How are the teachers coping with some of the challenges and difficulties in teaching the Deaf?
- (e) What are some of the challenges that Deaf pupils face in schools and units for the Deaf?
- (f) What are the challenges that parents of Deaf pupils face in the education of their Deaf children?
- (g) How is the performance of Deaf children in the reading and writing of the English language?
- (h) Should Sign language be taught as a subject in schools and units for the Deaf?

1.6 Significance of the Study

This study hoped to establish how Sign language is used in teaching the Deaf pupils in schools and units for the Deaf. Hence it provides valuable data on the current policy and practice in the field of Deaf education and training of teachers of the Deaf. The study hoped to highlight the challenges which teachers and pupils face when using Sign language as the medium of educating the Deaf. The findings from this study will help the government and other stakeholders formulate appropriate policies for educating Deaf

pupils. The findings will also help in the reformulation of the curricula for institutions involved in the training of teachers for the Deaf. It is hoped that Non Governmental Organizations (NGOS) interested in Deaf education and the welfare of the Deaf will use the results of this study to lobby the government and advocate for better education policies for the Deaf. This will in turn help improve the quality and standard of Deaf education in Zambia.

1.7 Limitations of the Study

This study was limited by a number of factors. The study mainly focused on the views and experiences of two schools. This is because even though there are more than 39 deaf schools and units in the country the two schools chosen for the study, that is, Magwero and St Josephs, are the only ones that offer the full cycle of the education for the Deaf in the country. They are the only schools that offer education to the Deaf from Grade Zero to Grade Twelve. Further, since the study was based on a selected number of respondents, the findings are also limited to what the respondents knew. As a result, the findings from the study might not be generalized to the whole country. Furthermore, since the Deaf have difficulties in language, the answers they might have given might in some instances not reflect their true experiences and knowledge thereby raising the issues of validity.

1.8 Summary

This chapter has provided the background to the study which has outlined the low rates of education enrolment and progression for the Deaf in comparison with other special needs categories. The background has also shown the lack of adequate training in Sign language for teachers graduating from the country's institutions of teacher training. It has been shown that despite the recognition of the fact that there is no adequate training offered on Sign to the teachers of the Deaf there is no study that has been carried out to determine among others how these teachers actually do use Sign language in teaching the Deaf. The chapter has also outlined the objectives and the research questions of the study that facilitated the collection of data. It has also outlined the purpose of the study which is to find out how Sign language is used in the delivery of education to Deaf pupils. The

chapter further stated that the significance of the current study is to help the government and other stake holders in the formulation of appropriate policies in order to improve the standards of deaf education in Zambia. Finally the chapter concludes by stating the limitations of the study. These include the limited study sites and choice of respondents.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter comprises a review of literature on the issues surrounding Sign language and Deaf education. Due to the non availability of studies and publications on Deaf education in Zambia the literature reviewed is not particularly focused on Zambia. In addition we have also encountered general lack of literature in the area of focus of this study. Hence the review does not specifically address only issues of interest in this study. Instead it will focus on issues to do with the education of the Deaf and use of Sign language. The chapter begins by exploring the nature and meaning of Sign language. The chapter also discusses the general educational status of the Deaf in the world and explores the reasons for such status. In this section, issues of standardization of Sign language will also be discussed. Another section attempts to examine the question of language acquisition. It explores how the Deaf acquire language in their natural settings. Thereafter we discuss the issue of teaching Sign language. Here issues of whether or not teaching Sign language to Deaf children is necessary to consolidate their linguistic developments will be discussed. There is also a section on the importance of mother tongue in the development of literacy skills among the Deaf. Realizing that the Deaf are not in a world of their own, the chapter also discusses issues of bilingual/ bicultural development. This is because the Deaf have to interact with hearing persons. The chapter also considers possible ways of implementing the teaching of Sign Language as a subject. Lastly, the chapter considers the challenges associated with the teaching of Sign language, drawing lessons largely from countries that have implemented the same.

2.1 Nature and Meaning of Sign Language

Wherever communities of the Deaf exist in the world, Sign languages develop. Previously many people thought Sign languages were simply manual representations of spoken languages while others thought Sign language was just a collection of meaningless gestures and therefore attempted to suppress it in various ways. In schools, educators emphasized the oral methods over Sign language. Also some attempted to

invent various signing system such as signed English or manually coded English. According to Smith (2000)

“Parents of Deaf children were advised not to allow their children to use signs or even gestures as this would spoil their chances of developing speech and lip reading skills in spite of the fact that this system was failing the majority of deaf children....” (Smith, 2000)

Today most people have come to accept that Sign languages are not literal translations of spoken languages. Their complex spatial grammars are markedly different from the grammars of spoken language predominant in those communities. Sign genius (2010) reports that professional linguists have studied many Sign languages and found them to have every linguistic component to be classified as a true language.

There are many ways in which Sign language grammatically differs from spoken English. It should be noted that the difference is more than simply differences in the way that things, objects and processes are named. Sign language and English are structurally different. The ways in which the phrase, sentence and discourse are structured in both languages are different and have been found to be a source of confusion and difficulty. There is no possibility of translating a Sign language sign for a word into English or translating an English word for a sign into Sign language. This is because the two languages have entirely different grammatical structures and processes. For instance Wakumelo & Miti (2010) observe that Sign language is expressed through the combination of hand shapes and movements, body movement and facial expressions. They contain structures and processes that spoken languages do not have and they have grammatical structures which are suited to the visual medium (refer also to Sadiki 2008). According to Smith (2000), Sign languages in linguistic terms are as rich and complex as any oral language despite the common misconception that they are not real languages. Hence it is extremely important for facilitators to understand the structures of both Sign language and English and to be aware of the differences between them. A simple illustration of the process of Sign language would be an instruction “turn right at the traffic light”. In Sign language it would simply be “Traffic Light” (one sign) followed by “Turn Right” one sign again. This not only reflects the real order of events, a crucial and

distinguishing feature of visual language, but also uses classifying hand shapes to indicate lights and vehicles which are located in space with appropriate directional movement to suit the context. In this way, information is condensed into just two signs enabling the expressions of an instruction that would require six words in oral English language. Learners can then be assisted in acquiring a meta-linguistic understanding (knowledge of how language works) of the structure and processes of Sign language in order to give them a bridge to becoming aware of the salient features of English (Glaser & Lorenzo 2010).

According to the Zambian National Association of the Deaf (ZNAD) (2001), Sign language largely follows the sentence structure of Object Subject Verb (OSV). For example, the English (SVO) sentence, “the girl is kicking the ball” may be written as Ball/Girl/Kick. Tenses are established by signing the time at the beginning of the sentence. For example the “Zambians arrived yesterday” may be signed as Yesterday/Zambians /Arrive. With regards to pronouns, they are shown in Sign language by simply indexing or pointing at the person as in “you/she/he” or the item referred to as in ‘It’. Plurals in Sign language can be established by repeating the same sign more than once or in the case of pronouns such as “you/they” by using a sweeping motion or an arc. Another way to use pronouns which is slightly more complicated is to point to an area within the signing space, but not to anyone in the immediate environment. When that person or object is not in the immediate environment it is called absent referent. For example in a situation where Phiri and Daka are in Lusaka and are telling stories or where Phiri wants to tell a story about Mary who is now in Kitwe. Since Mary is not with Phiri and Daka’s immediate environment, Phiri cannot directly point at her. First he will indicate that he is talking about Mary (by for example first of all signing her name), then he can point to an area in the signing space to refer to her. As long as the context remains the same, Phiri can continue using the space to refer to Mary (Urquhart et al. 2009). Inflections are another grammatical feature which is commonly used in Sign language. According to Vicar (2003), this feature can be used to eliminate the use of adverbs. For example instead of using the word “very” in the sentence “I am very happy to be done with the semester”, a skilled signer would simply sign I /Happy/ Semester/ Finish. He would simply do the sign “happy” in an exaggerated fashion with a bigger movement and

simply increase facial expression to suggest “very happy”. One could inflect the sign “slow” by doing it slower than normal which would mean “very slow”. Sign languages are the only 3 dimensional or real natural languages in the world. They are not just spoken languages but can also be seen on the hands. They are full languages in their own right. They are rich and dramatic; efficient and compact yet elaborate. They use components that spoken languages simply cannot use. One of these necessary components of Sign language is directionality. On this Kurtz (2011) states that a word like “give” begins with hands upturned at mid-body level, fingertips closed as if holding a piece of paper. To say “I give you”, you make this sign beginning in the signing space in front of your body and extend it towards the person you are speaking to. This would tell that person that you are actually giving something directly to him. If you ask your friend to give something to you, you would start the sign in front of him and move the sign towards your body. Hence one sign just by the direction of the movement is able to communicate the sentence “I give you”. All these examples clearly show that the structure of Sign language is different from English or any other spoken language as it is suited to visual modality. Hence subjecting Deaf pupils to learning in signed oral languages may not be helpful to them.

2.2 Education of the Deaf

Some studies have shown that the academic performance and progression rates for the Deaf remain poor. Bowe (1998) reports that surveys by the Centre for Assessment and Demographic Studies at Gallaudet as well as research such as (Stuckless and Birch 1966; Vernon; 1967) have shown a depressing pattern that Deaf students in the United States of America struggle to reach third or fourth grade reading levels by the age of 13 or 14 when students with normal hearing achieve seventh or eighth grade levels. During high school years, Deaf students tend to remain at the third and fourth grade reading levels rather than advance further. In China Biggs (2004) observes that most Deaf children leave school, regardless of whether they attended Deaf or mainstream schools with an academic achievement well below that of their hearing peers, and an inability to communicate fluently in any language, be it Sign language, oral or written. Poor education translates into poor job prospects and subsequently a lower standard of life.

This perpetuates the misconception that the Deaf are underachievers, stubborn and incompetent.

According to Maddern (2010) Deaf pupils' teachers are a rare highly skilled group of professionals who not only have to guide pupils through the national curriculum and examinations but also help them and their parents to adjust to this disability. Johnson (2003) further notes that in the United States, the overall figure for individuals teaching in special education without appropriate preparation is 10% but the figure for Deaf education appears to be substantially higher. This is because 18 states and territories do not have a Deaf education teacher preparation program. In one of these states called Virginia, 20 out of 76 teachers for the Deaf were on permit or out of field certification in 2000-2001. The West Virginia data suggests that a higher percentage of individuals in Deaf education are teaching without appropriate certification or licensure than in the general special education pool. Johnson (2003) further observes that this premise is supported by the practice in Georgia of granting provisional deaf and hard of hearing certification to individuals who have just begun their teacher preparation. The premise is also supported by data from Ohio, a state with 4 Deaf education teacher preparatory programs which reported an 82% shortfall in the numbers of teachers of Deaf and hard of hearing students needed for the year 2000-2001. These shortages of teachers have led to a unique collaborative Deaf training program in 6 southern states (Johnson 2003).

In Kenya, Global Deaf Connections (2010), reports that there are over 14,000 children with hearing impairments. Only a small percentage of these children will attend schools receiving limited resources because of the stereotypes that Deaf education is a waste of time and money. Deaf people will never become productive members in society. To serve those who have access to education, Kenya has 41 schools for Deaf children with over 100 students at each school. Most of the teachers in these schools do not know Sign language or understand Deaf culture. They write lessons on blackboards and point as the primary teaching method. Only 5% of the Deaf pupils go on to secondary school and there is no mechanism to help them attend college. Most of the Deaf lack positive Deaf role models who can communicate successfully and mentor them to reach their full potential. As a result, most of the young Deaf pupils do not perform well in schools. They

cannot imagine attending college and later on becoming successful professionals. Deaf children and adults alike are relegated to a low social status without economic opportunities as a direct result of the poor or nonexistent education they receive, the stigma they face and the lack of awareness of their full potential as active members of society.

A 2008 World Federation of the Deaf survey in Southern and Eastern African countries on the status of Deaf education established that only about 10 countries of the 19 countries involved had a policy or law on Deaf education. These 10 countries which included Zambia were able to provide the specific names of the legislation relating to Deaf education. As regards educational settings for the Deaf, only 4 countries 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, education of the Deaf is only limited to primary education while Eritrea, Madagascar and Seychelles stated that there were no educational settings for Deaf students except for vocational education and training in Madagascar. On the question of bilingual education and the use of national Sign languages for Deaf children and Deaf students, 6 out of 19 countries provided information about which levels of education are provided bilingually. In general terms the respondents from countries involved stated that Deaf student's education is below the standard of hearing students. They added that most students do not proceed beyond the fifth grade level. They also observed that teachers are not fluent in Sign language and generally believed that Deaf students are unable to complete secondary education. Almost all the country respondents stated that education was not satisfactory or was of low level and provided various opinions on the current levels of literacy. The common opinion was that Deaf children and Deaf students were illiterate even though they have completed their education. As regards access to university education, only 10 out of 19 countries, provided information about the number of universities which offer study placement for Deaf people. The other 9, Zambia inclusive, where Deaf people had no accesses to university education cited reasons which ranged from literacy problems to unavailability of Sign language interpreting services for Deaf students as obstacles to education provision at this level (Allen, 2008). According to the Zambia census report of

(2000) the proportion of those who have never attended school in Zambia aged five years and above is highest among the Deaf category which stands at 62%. This explains why in Zambia the majority of the Deaf find themselves in less lucrative employment. For instance, while only 1.7% of them are in professional and technical work, 86.1% of them are involved in peasant farming in one way or another (Zambia Ministry of finance 2000).

2.3 The Literacy Levels and the Status of the Deaf

Hoyer (2008), reports that of the world's Deaf people, only about 5% are able to read and write. According to the World Federation of the Deaf, this is mainly due to the fact that Deaf people have not been educated in Sign language. The federation argues that improving the status of Sign language has consequences for all areas of life for Deaf people. It opens up possibilities for participation, information and influence and reduces poverty. In this respect, the federation works to promote recognition of Sign languages and the rights of Deaf people to use Sign language as one of its goals. But for Sign language to be recognized, it has to be standardized. "An existence of the standard form might be used as a condition for recognition of the language or for its use as a language of instruction" (Hoyer 2008).

On the question of how a language can be standardized in general, Hall (2005) says that the process starts with first selecting a language to be standardized and putting it in print form. In the context of many languages, there would be a question of which language to select. For those producing the text it is reasonable to use the language which is spoken in their geographical and social communities. In the case of England for instance the language chosen as a vehicle of print capitalism was the Standard English language used by the London based emergent entrepreneurial and merchant class. Print materials spread the Standard English into areas where it was previously unknown and used. Hall (2005) argues that the selected language then requires codification and elaboration aiming at minimum variation and stability in linguistic form e.g. (one spelling for each word). Printing plays a major role in the standardization of language. Mass produced written texts provide fixed language forms giving a degree of permanency to new norms and preventing extreme language changes and diversity. Printed languages are inclusive for

those who can read them while excluding those who cannot. www.startasl.com seems to suggest the school system as another possible means to standardize a language. The history of Sign language itself seems to suggest that Sign language was first standardized through teaching it in the school system. [Www. startasl.com](http://www.startasl.com) reports that Abbe Charles Michel De L' Epee established the first free public school for Deaf children in 1771 called the National Institute for Deaf Mutes in France. He collected children from all over the country. The children had been signing at home and De L' Epee learned all of these different signs. He used these signs he learned from the children to teach them French. These signs soon became the standardized language De L'Epee taught. More schools were founded and the many graduates took their language home to their communities. The first standard language in the history of Sign language known as the Old French Sign Language was born. This system spread throughout Europe as more and more students were educated ([www. Startasl.com](http://www.Startasl.com)).

In Zambia, the development of the first refined Zambian local Sign language started at Magwero School for the Deaf in eastern Zambia in the 1950s. According to Serpell and Mbewe (1990) Deaf children were picked up by missionaries from the neighborhood of Magwero mission station on both sides of the Zambia/Malawi border. While resident at Magwero, Deaf students pooled their knowledge of signing, refined their signing and established the means of communication for the Deaf community that was created when the mission opened Magwero School for the Deaf in 1955. At that time, European educators were fervent advocates of the oral system of education for the Deaf. Speech was upheld as incontestably superior to signing at the international congress held in Europe. In this context, the Dutch missionary teachers of the Deaf cannot be said to have brought the knowledge of Sign language to Zambia. Zambian Sign language was developed and refined by the Deaf pupils themselves. This clearly demonstrates that the school system is one way through which any language can be standardized especially if it is formally taught.

2.4 Acquisition of Sign Language

Considerable controversy previously surrounded the issue of whether the child has some innate capacity for language and whether he learns as a result of environmental influence and whether as seems most likely there are many complex ways in which such learning takes place. These arguments resulted in what is referred to as the nature/nurture controversy by Chomsky and Skinner respectively. The fact remains that acquisition of most grammatical patterns comes without any conscious teaching and learning of grammar as such. Wilbur (2008) as quoted in Brown (2009) asserts that natural languages are those that can be acquired and learnt without formal intervention and teaching. This process however naturally takes place in a normal environment where there are plenty of adult role models from whom children can naturally learn the rules and conventions of that language. The Deaf child's environment is not normal since he cannot hear. Hence he cannot be exposed to language through normal means. Despite this Deaf children like their hearing counterparts are genetically predisposed to acquire language and will enter the same stages of linguistic developments as hearing children including the critical period from ages 3-5 years. As soon as a parent learns that his/her child is deaf, steps should be taken to ensure that he is exposed to a language that he can acquire. But another question arises. Has a child learnt a language by the age of six? Is there anything left other than to acquire a few more vocabulary and more complicated structures? Wallwork (1985) says that a great deal of aspects of language still remain to be learnt at that stage. However, there is not always unanimity on what it is that is left to be learnt. According to Wallwork (1985), language teaching should have as its central aim the nurturing of the process of growth that gives a child the necessary linguistic resources to handle the increasingly difficult tasks involved as he goes through school life not only in the educational process but also in the total emotional and intellectual demands made on him. Such educational processes will for instance demand that he masters complex conceptual materials of high degree of abstraction and also demand that he should be aware of and be able to select appropriately from resources of the mother tongue those elements which will best suit particular and specialized purposes. Deaf pupils who may not be exposed to their language through competent teachers may not be able to achieve this.

In Kenya, Okombo (1994) points out that the teaching and learning of Kenyan Sign Language must be addressed because although Deaf children may acquire Sign language in their natural setting, provided by the school community, the degree of competence they require for educational purposes and for complex discourse in their adult life after school cannot be achieved from mere exposure to a language whether spoken or signed. This seems to agree with the British and American government policies whereby although English is a mother tongue which many children acquire naturally, they are still required to learn it formally in schools. If spoken languages such as English which are acquired naturally by native speakers are taught in schools, why can't Sign language also be taught as a subject to deaf children who grow up in an environment of hearing parents where it cannot be acquired naturally? This is one of the questions this study will interrogate.

2.5 Essence of Early Sign Language Teaching in the Education of the Deaf

Various scholars have argued that Deaf children have a greater need to be taught Sign language, their mother language. All children who need a working language should receive it during the time when humans are primed to learn a language from birth to 3 years. Research carried out by Mayberry and Eichen (1991) as quoted in Drasgow (1998) highlights the benefit of developing a strong first language at the appropriate critical age. Mayberry and Eichen (1991) for example report that the age of initial language experience predicts future ability to process grammatical information. "When Deaf children acquire American Sign Language during childhood, there are benefits in language comprehension abilities that persist throughout the individual's life time (Drasgow 1998:1). This shows that early exposure to Sign language has enduring linguistic advantages and that increases in Sign language fluency are associated with increases in English language literacy. According to Cummins (2006), Deaf people whose language exposure was delayed until the age of six or older show low accuracy in English grammatical judgment and comprehension compared to Deaf and hearing individuals who had learned English as a second language in school after appropriate exposure to signed or oral first language in a home during early childhood. This underscores the need for Deaf pupils to be exposed to and be taught in Sign language. Language is an essential component of normal development for all humans. Children that

have an accessible language learn through informal exposure and through active use. But Deaf children cannot. It is impossible for them to acquire a spoken language in the same way that a hearing child would, that is, subconsciously through the informal context at home, through society, television or radio. In the United States of America, 32 states have passed legislations that require hospitals to conduct newborn hearing screening tests. Services for early identified children younger than 6 months have included language stimulation. Although the positive impact of finding and providing appropriate services to families and their newborn Deaf and hard of hearing infants has been clearly established in the literature, the children who have benefited from this early intervention are now beginning to enter the nation's schools in significant numbers. It is very likely that more Deaf and hard of hearing children will begin their education with the language skill level at or near that of their hearing peers (Johnson 2003). While children who are hearing tend to acquire basic language fluency through natural exposure to it during early childhood, Deaf children often require a program of directed exercises to help develop language and this often includes Sign language. Therefore Deaf children can only learn the spoken language in the same way a foreigner might learn a new language. But unlike the foreigner, Deaf children are being asked to learn a second language English without any grasp of a first language from which to draw linguistic understanding (Biggs, 2004). This should be the main reason why the Deaf need formal lessons in Sign language as an integral part of their curriculum.

Some experts argue that the age at which Deaf children are exposed to some form of language is very critical for normal language development. Walden University (2010) suggests that Deaf children acquire language faster if they are exposed to some form of language intervention early in life. Walden University (ibid) further states that children with more innovative parents who attempt to learn a language available to their child such as American Sign Language generally develop language skills quicker than their peers with less involved families. Experts recommend that both parents and teachers should be sufficiently fluent in Sign language to assist their children or students to learn it. Moreover the teaching of Sign language does not delay the teaching of reading to a child. Numerous other studies in the field of language acquisition have also established the need for Deaf children to be exposed to a complete linguistic system parallel to their

hearing peers. One such study conducted by Strong and Prinz (2000), analyzed the English proficiency of a group of 155 Deaf students between the ages of eight and fifteen, who used ASL as their primary means of communication. The students were divided into two subject groups based on maternal hearing status and language use. Both subject groups were assessed for their expressive and receptive knowledge of ASL syntax and morphology, as well as their expressive and receptive knowledge of written English. Results showed a strong correlation between ASL proficiency and English literacy. There was a linear relationship between ASL fluency and demonstrated written English proficiency. When maternal hearing status was used as the independent variable, results showed that “students with deaf mothers significantly outperformed students with hearing mothers in both ASL and English literacy” (Strong and Prinz, 2000: 136). Thus, the authors were able to demonstrate a strong relationship between English literacy on one hand and better proficiency and exposure to Sign language on the other. The findings from this study are helpful as they demonstrate that early learning of Sign language is related to proficiency in literacy.

2.6 Importance of Mother Tongue

Many experts in the field of language acquisition question a child’s ability to acquire a second language when they have failed to acquire a first or native language. The question is what is the mother tongue and how are children able to learn the mother tongue almost effortlessly? Deaflinx (2010) argues that the mother tongue is the first language in which one can express oneself fully as a tool of communication. Children acquire the mother tongue with seeming ease. Since Deaf people have hearing loss, they naturally gravitate towards language received through the eyes rather than that received through the ear and a language structured for visual rather than for auditory processing. Sign Language is highly accessible to the Deaf children.

To learn a second language particularly one that is constrained by modality, a child must first have strong skills in a natural language. Experts argue that Language learners benefit from a common underlying proficiency in which skills from one language correspond to similar abilities in another. Hoffmeister (2000) in Standley (2005) assessed 78 Deaf students for their receptive knowledge of ASL and their proficiency in English

literacy. Initially, ASL skills were examined through the subjects' understanding of "synonyms, antonyms, and plural-quantifiers" (Hoffmeister 2000:152). Results demonstrated that those children with Deaf parents were more knowledgeable about ASL structure than those children with hearing parents. Although it was confirmed that while Deaf children with hearing parents did have knowledge of ASL structure, their abilities were not as high as those of children receiving ASL as a first language. In the second part of the study Hoffmeister (2000) analyzed the reading comprehension and the receptive Manually Coded English (MCE) comprehension of a group of 50 subjects from the previous study. Subjects were again divided into two groups, this time according to the language of primary exposure, either ASL or another sign system. Primary exposure was based on the language most commonly used in both the subjects' home and their academic environments. The results of the comprehension tests were compared to the results of the ASL knowledge test and results showed that Deaf children with Deaf parents outperformed peers with hearing parents in both ASL and MCE knowledge. These results would tend to dispute any argument that ASL acquisition inhibits MCE proficiency. The data also showed that Deaf students who received intensive exposure to ASL were able to surpass their peers with hearing parents on tests of reading comprehension ability.

There are some concerns that standard bilingual models do not transfer well when languages differ in modality. But many Sign language linguists claim otherwise. Sign language research often shows that American Sign Language proficiency is strongly correlated with English literacy abilities. Meadow and Mayberry (2001) assert that this positive relationship means that good signers make good readers. Chamberlain & Mayberry (2000) claim that signers who understand the structure of American Sign Language tend to perform better on tests of literacy. This is unsurprising if there is in fact an underlying proficiency that transfers from one language to another. The languages do not need to be related to each other for this model to apply. Having knowledge of the structure of one language is enough to cognitively prepare a young learner for another. What is important is that children must be introduced to a language with a "linguistically accessible structure" if they aim to use it as a first language for achieving bilingualism. Because the receptive part of American Sign Language can be entirely visual, it fits the

constraints set forth by deafness. Kuntze (1998) as quoted by Brown (2009) argues that American Sign Language is a biological match for deaf learners because it has been evolutionary shaped by the constraints of the visual modality making it the best option for language input.

2.7 Towards Bilingualism

There can be no justification for advocating for the Deaf learning sign language at the exclusion of English or any other oral language. Sign languages are minority languages and knowing Sign language alone cannot guarantee the success of the Deaf in the hearing world and culture. Hence while advocating for learning Sign language, we should also encourage bilingualism. This model of education has been tried in many parts of the world such as Sweden and China. The success or failure of the bilingualism approach to educating children who are Deaf depends on the relationship between Sign language and proficiency in English literacy. If no such relationship exists or if a negative relationship exists, the bilingual/ bicultural approach will be unlikely to succeed.

Bilingual advocates often present Jim Cummins' 1989 linguistics interdependence theory in support of a bilingual approach to education. According to the linguistic interdependence theory, a language user possesses an underlying set of cognitive abilities that are similar to the base of an iceberg. If a person knows two languages, it is like having two ice caps with a common underlying base. As the theory goes, if one already has a language base, it is easier to acquire a second language (Vicar; 2003). Some critics have questioned how knowledge of a Signed language enhances or expedites the acquisition of literacy. They have argued that not only is Sign Language different from English but it is also expressed via a different mode. English is expressed via speaking and writing. Sign Language is signed. Hearing/speaking people tend to develop inner speech that is for the most part similar to outer speech. Writing is based on the person's inner speech. If a Spanish speaker wants to become literate in English for instance, he can use his underlying experience and proficiency in spoken Spanish to expedite his spoken English. The other bridge is to utilize his underlying proficiency in writing Spanish as an aid to learning written English. He then has two bridges to written English. Both of these

bridges (acquisition of spoken English and transference of pre existing writing skills) are for the most part not available to Deaf children (Vicar 2003).

Since Sign Language has no widely written form, it would be difficult to establish that there are any reading and writing skills to be transferred and applied to the acquisition of English reading and writing skills by the Deaf students. In the absence of transfer of reading and writing skills by Deaf students what then is the benefit of Deaf children learning Sign Language? It seems fairly obvious that since Sign language is expressed visually and gesturally it is acquired by individuals who are Deaf more readily than spoken languages. The acquisition and use of a language promotes an individual's cognitive and meta-linguistic abilities. These same cognitive and meta-linguistic abilities enhance the acquisition of written English.

In a survey conducted by the Jokinen (2010), 23 countries out of 93 reported that the bilingual approach is one of the approaches they are using in their countries. However, only one country Venezuela said that the bilingual approach is the only educational approach used for the Deaf children. It is worth noting however that many traditional schools of the Deaf are not truly bilingual and bicultural. Moreover, a vast majority of world countries' deaf or general education systems do not fulfill the high standards that the Convention on the Rights of Persons with Disabilities (CRPD) sets for the education of Deaf children. The bilingual approach requires Sign language to be used as the principal instruction language together with spoken languages in written form. Sign language is to be taught as the natural language and as a school subject stated officially in the national curriculum. Studying Deaf culture and Deaf history are also part of the requirements set in the curriculum. This together with adult Deaf role models promotes the linguistic identity of the Deaf community as stated in the CRPD. Education of the Deaf requires qualified teachers in Sign language including native Sign language users and the learning materials used need to be bilingual and culturally appropriate. All this requires a well established academic research in Sign language itself, in first and second language and other areas of successful bilingual approach (Jokinen 2010). It is in the light of the above that it is important to find out how Sign language is used in the education of the Deaf in Zambia.

2.8 How Sign Language Could Be Taught

In Sweden, Chupina (2006) reports that Swedish Sign Language became the language of instruction as well as a taught subject itself in 1995. Since then, special education schools and mainstream schools use the same curriculum which includes Sign language as a subject. The Deaf students at school study Sign language along with lessons in written Swedish. Classes of hard of hearing students also learn Sign language and spoken language as well as Swedish. This contributes to good literacy for all Swedish hard of hearing and Deaf students. Deaf students learn grammar at school and they can compare Swedish Sign Language with written Swedish. They learn about grammar and the differences in these languages. According to Chupina (2006), for one to learn good Swedish, one needs to learn good Sign language. In addition, Sign language is encouraged among family members. Parents of Deaf or hard of hearing children have the right to 240 hours of Sign language instruction at no charge at all. Furthermore, relatives of Deaf and hard of hearing children as well as hearing children of Deaf parents are also offered Sign language instructions free of charge (Chupina 2006).

In Norway, Prichard (2005), reports that the national curriculum for the Deaf which was implemented in 1997 is called L97. L97 for Deaf pupils is based on the principle that each child be given the opportunity to develop to their full potential in an environment which respects the child's language, Norwegian Sign Language (NSL) and culture (Deaf Culture). At the same time as the child develops a positive confident deaf identity, he or she should be helped to develop the skills and knowledge necessary to participate in the hearing world. Bilingualism in NSL and Norwegian is one of the main educational goals for Deaf pupils in Norway. Through bilingualism the pupils can gain access to the curriculum and the social cultural values and beliefs of the Deaf and the hearing communities. The Deaf children's right to be taught in and about Sign language was confirmed by legislation (Pritchard 2005). Schein (2010) argues that learning the majority language which is essential for all pupils can inhibit Deaf pupils' literacy. To avoid that pitfall, Sign language should not be taught as an inferior form of communication. In Norway, NSL lessons are not a supplement, but an addition to the ordinary curriculum subjects. The number of lessons in Norwegian Sign Language is equivalent to the number

of lessons pupils receive in Norwegian during their compulsory education. There are four syllabuses designed for bilingual education of the Deaf pupils. Among the four is NSL as a First Language. This subject includes among other things the study of NSL and Deaf studies. There is also Norwegian for Deaf Pupils. This syllabus is adapted from the ordinary syllabus having the same cultural and subject content but with teaching methods based on Deaf pupils' needs. The two syllabuses in NSL and Norwegian are closely linked as between them they represent the Deaf child's functional bilingualism and have equal status. National examinations in both Norwegian for Deaf Pupils and NSL are administered at the end of lower secondary school (O level) and upper secondary school (A level) giving the pupils opportunities for equal access to higher education (Pritchard 2005). Norway has in fact gone beyond the school context. The education authorities work closely with medical services as soon as a diagnosis of hearing impairment is made. The National Health Services provide all medical treatment and technical aids such as cochlear implants and hearing aids. Parents of Deaf children are also given an opportunity to receive forty weeks of tuition in Sign language, all expenses paid for from the time the child is diagnosed until their 16th birthday. The objective is to give parents the means to communicate with their children and facilitate the child's language development which in turn should promote the child's social intellectual and emotional development (Pritchard, 2005). However we do not know what really happens here in Zambia hence the need to investigate the Zambian scenario.

2.9 Challenges of the Teaching of Sign Language

In China, there is an ongoing debate over natural Chinese Sign Language (CSL) versus Sign Supported Chinese (SSC) causing communication problems both inside and outside the classroom. According to Biggs (2004) findings of a recent study carried out by Lianing Normal University showed that more than half of the students polled at a Deaf school could not understand any of the SSC that was used by their hearing teachers. Only 20.8% said they understood completely, while teachers said they too were baffled by their student's use of natural Sign Language. While the Deaf community prefers natural Sign language, most Deaf educators who are predominantly hearing favored Sign Supported Chinese as they believe that it will help children to make the transition to

spoken language. The lack of consensus on whether to use natural Sign language or Sign Supported Chinese in the classroom can also affect the linguistic development of children in the bilingual bicultural class (Biggs 2004).

A formal and consistent signing system is beneficial but an incorrect and inconsistent use of Sign language may prove as detrimental as not learning any Sign language at all. Standley (2005) argues that an incomplete linguistic system may be one reason that educators of Deaf children learning English as second language have been unsuccessful in improving their students literacy rates. Research has shown that in situations where parents are providing random language pattern and inconsistent linguistic input, children are not able to utilize completely linguistic forms in the correct manner. Many Deaf children may be exposed to language patterns and inconsistent input from interpreters in educational settings in addition to irregular forms from parents at home. All these experiences tend to cause confusion in the mind of a Deaf child and pose as challenges in the language development of a Deaf child (Standley 2005).

We know that children naturally acquire their language from home in their infancy. Adoyo (2002) reports that this is not the case for 95% of Deaf children born from hearing families. These children do not have access to the acquisition of the first language early enough. They reach school with restricted linguistic and social preparation. The impact of this on the structure of the school is that the school must prepare the children for acquisition of a first natural language, for second language acquisition, socialization and development of world knowledge. These tasks generally undertaken naturally in their infancy at home will take place in school (Adoyo, 2002). This may imply that schools may not have the additional time and resources needed to undertake this task of educating the Deaf in their mother tongue right from the scratch. Furthermore, there are some challenges associated with the task. Adoyo (2002) has for instance reported that teachers in Kenya lack competence in Kenyan Sign Language. Reasons for this are many. Okombo (1994) reports that lack of Sign language experts in schools emanates from problems in the teacher training institutions. Most of teacher training institutions lack qualified Sign language lecturers. Another reason is lack of interest in Sign language. Although teachers in Kenya interact with Deaf children who are native Kenyan Sign

Language users and who can provide an ideal environment for signing, there is still a negative attitude towards this indigenous language as a medium of instruction. The findings by Adoyo (2002) and Okombo (1994) are relevant to this study which is also among other things intended to investigate the use of Sign language and the challenges encountered in Deaf schools in Zambia.

The implementation of bilingual/ bicultural approach requires a faculty of qualified hearing and Deaf teachers. Deaf teachers not only provide the children with a healthy role model but are also an invaluable resource for them to learn Sign language. However, there are very few Deaf teachers and most of these only teach non academic studies such as art, or work as teaching assistants. According to Biggs (2004), in China's Yangzhou province there is only one Deaf teacher. Beijing University would prefer a hearing teacher because they are better qualified to teach. At the same time many hearing teachers lack fluency in Chinese Sign language and are ignorant of Deaf culture (Biggs (2004).

In Zambia there has been a positive change of attitude towards Sign language. More and more teachers want to learn Sign language as part of in-service training but they cannot do so due to the lack of lecturers in Sign language at the in-service college. Kanyanta (2003) reports that the Zambia National Association of the Deaf (ZNAD) had tried to remedy the situation from 1998 to 2000. ZNAD entered into an agreement with the Danish Deaf Association in Denmark. ZNAD recruited four Ministry of Education teachers to train as Sign language teachers in East Africa in Uganda. Danish instructors provided course work and supervised the teaching practice during the two year period. Upon completion, the four teachers were not deployed by the Ministry of Education as the ministry was restructuring teaching posts. Following the restructuring, ZNAD contacted the ministry again and this time the ministry said they could not employ them because they were not university graduates. Yet the same ministry upgrades non graduate industrial arts teachers to lecturers' posts in home economics, welding, and woodwork. Kanyanta (2003) further reports that ZNAD also asked the Ministry of Education to employ Deaf adults to act as Sign language models since the Deaf adults were fluent signers who could also foster the growth of their cultural language. The chief inspector of

schools responded favorably and suggested that the idea could be implemented in future but nothing has happened yet. ZNAD also asked the ministry to sponsor a National Sign Language Committee that would bring together experts from the University of Zambia, Zambia Institute of Special Education, the Curriculum Development Centre, the Examination Council of Zambia, the Teacher Education Department, the Zambia Police College and ZNAD to design Sign language syllabus levels and review Sign language progress both as a subject and in its application in the education of the Deaf. However this did not take place as it would have brought the knowledgeable Sign language teachers into a meeting with non Sign language graduate lecturers (Kanyanta 2003).

The current situation in the country is that most teachers of the Deaf are not very competent in Sign language. Because of lack of adequate training in Sign language, Wakumelo (2009) observes that teachers mainly depend on pupils where they write words and the pupils give the teachers the signs. Wakumelo (2009) notes that in such cases “the pupil who is supposed to be the learner now becomes the teacher.” This is a strange system in a country where Deaf schools and Deaf education has been in existence for some time. Sometimes they resort to use of aids/objects/apparatus for the children to see what they are referring to. The success of such an approach depends on whether pupils know what is in the picture because if they do not know they have no concept and hence no sign for the object. The problem of lack of enough Sign language when it comes to the teaching of science subjects and mathematics at high school level becomes more acute. The few teachers that are familiar with Sign language only know basic Sign language and are not able to sign technical concepts. This delays teaching and slows learning. When the teacher fails to formulate appropriate concepts they resort to oral speech while pupils have to resort to lip reading which may not be helpful sometimes (Wakumelo 2009).

As noted by Wakumelo (2009) one factor that has contributed to the situation where teachers and some pupils may not be familiar with Sign language is because it is not taught as a subject in schools from Grade One onwards. It is only used as a medium of instruction in some cases. This is not the case for English or even Zambian languages. In Zambian schools English is used as a medium of instruction from Grade One and is

taught as a subject from Grade One. This means that children have a chance to continue developing their knowledge of concepts in the English language as they are advancing in their education. This is not the case for Sign language (Wakumelo 2009). Now if the hearing children who have uninterrupted access to language from early childhood learn English up to the 12th grade, one wonders why the same is not the case for the Deaf who are in most cases deprived of early access to a mother language. It is for this reason that this study has been undertaken to establish how Sign language is used in the schools and units for the Deaf in Zambia.

2.10 Summary

This chapter has looked at the role of Sign language in the education of Deaf pupils. It has reviewed the meaning and nature of Sign language and has shown that Sign language is a true language contrary to widely held views that Sign languages are simply representations of spoken languages. The chapter has also reviewed literature on the status and education of the Deaf in the world and Zambia in particular. It has further looked at issues of language acquisition for the Deaf and the debates surrounding the benefits of using Sign language by the Deaf people particularly its use at an early age. Finally it has discussed the bilingual approach, the ways of teaching Sign language and the challenges associated with Sign language in Deaf education.

CHAPTER 3

METHODOLOGY

3.0 Introduction

This chapter discusses the methods, processes and stages involved in order to meet the set objectives of this study. It discusses the research design, population of the study, sample size and sampling procedures. It also deals with the subject of research instruments, data collection procedures and data analysis.

3.1 Research Design

This research is a case study. According to Mungenda and Mungenda (1999), a case study is an in depth investigation of an individual, group, institution or phenomenon. Most case studies are based on the premise that a case can be found that is typical of many other cases. The case under study is viewed as an example of a class of events or a group of individuals. This study fits into a case study design because it is intended to analyze in detail the role of Sign language and how Sign language is being used in the education of Deaf pupils in two selected schools of the Deaf. The study also fits into the case study design because it largely describes the experiences of the teachers, lecturers and specialists and pupils who are involved in Deaf education in some selected schools of Zambia. The study largely used a qualitative approach. According to Wamahiu & Kaguru (1995) the qualitative approach helps the educational researcher to obtain an in-depth data both within and outside the school. It emphasizes on obtaining insider view instead of outsider view of situations and events. For this reason, this study is qualitative because it attempted to obtain a detailed insider view of what is obtaining on the ground at the selected schools. It gives a detailed analysis of the views and explanations of the respondents on the topic. The study however accommodated some quantitative aspects. It used some quantitative methods such as averages, percentages and frequencies in summarizing the views of the major stake holders in the study.

3.2 Study Population

The research targeted Deaf pupils, teachers in Deaf schools and units in Zambia, lecturers from ZAMISE and UNZA, Standards Officers, Curriculum Specialists in special education, NGOs working with the Deaf and parents of Deaf children. The pupils were important in this study because they are the ones currently going through the learning process. They know the daily difficulties and challenges they encounter in the education system. They might also have suggestions on policies and strategies which they want implemented as regards language in order to improve their academic performance. The specialist teachers and inspectors were targeted because they have the experience and the knowledge of the state of teaching and learning of the Deaf pupils in Zambia. They might also be aware of the strengths and weaknesses of the current system as well as the changes that need to be made in order to improve the academic performance of Deaf children in Zambia. Tertiary education lecturers were included in the study because they are the ones who train the teachers of the Deaf. They are fully aware of the scope and depth of the Sign language syllabus they teach the teachers of the Deaf. The curriculum specialists were targeted because they are the ones who design the curriculum. It is assumed that they know the curriculum they designed and how it is supposed to work. Equally the parents are important stake holders in the education process. The children spend most of the time with their parents hence the parents might have important views and insights to this study. NGOs working for the Deaf are also important because they have vast experience based on their years of interactions with the Deaf. Some NGOs might have done some valuable research work on Deaf issues. The NGOs that were involved in this study were the Zambia National Association of the Deaf (ZNAD) and the Baptist church for the deaf in Matero.

3.3 Study Location

The study was carried out in two schools located in the Eastern Province and the Copper belt provinces of Zambia. Magwero School for the Deaf is located about five kilometers east of Chipata District in the Eastern Province of Zambia. St Joseph school for the Deaf is located about 20 kilometers south west of Kalulushi district on the Copperbelt Province of Zambia.

3.4 Sample Size

According to Kanyanta (2003), the Ministry of Education has 39 schools and units for the Deaf in Zambia. However, the sample comprised 2 residential schools namely St Josephs and Magwero schools for the Deaf out of 39 schools and units for the Deaf. These were chosen because they comprised students from Grade one up to Grade Twelve. Teachers teaching in these schools have the knowledge of language progression of these children from the very early age up to Grade Twelve. The sample also comprised a total of 35 teachers from the anticipated 40, 18 from Magwero and 17 from St Josephs School, and 40 pupils, 20 from each school. The numbers were small because these schools are not big enough to have large numbers of teachers and pupils. One curriculum specialist was included in the sample. This was because there is only one person specialized in deaf issues at the Curriculum Development Centre in Zambia. Two education standards officers were also interviewed. This figure was chosen because there are usually two special education standards officers one at the provincial and another at the district level. The sample also included 3 lecturers one from the University of Zambia and two from the Zambia Institute of Special Education. The number of lecturers is limited because there are few lecturers conversant with issues of Sign language. For instance at the University of Zambia there is only one lecturer specialized in Deaf issues. Ten parents were also sampled. The number of parents is also small because they were simply a backup to cross check data that was obtained from the schools.

3.5 Sampling Procedures

The study used purposive and simple random sampling. The researcher purposively targeted St Joseph and Magwero because the two educational institutions run from Grade One to Grade Twelve hence it was possible to have teachers' views on the subject at all levels of education from primary through to Grade Twelve in one place in these schools. In these schools teachers and pupils were specifically targeted because teachers are the curriculum implementers while pupils are the recipients of education. Teachers were chosen purposively while from amongst the pupils samples were chosen using simple random sampling. Papers were put in a box written yes or no. The box was then shaken vigorously to allow thorough mixing of the papers. Those who picked papers marked yes

were then selected for the study. For the Standards Officers, lecturers, CDC officers, and some members of the NGOs purposive sampling was used. Mungenda and Mungenda (1999) define purposive sampling as a sampling technique that allows a researcher to use cases that have the required information with respect to the objective of the study. Cases of the subject are therefore handpicked because they are informative or they possess the required characteristics. The CDC officers, standards officers, lecturers and members of NGOs working with the Deaf were all deemed to possess specialized knowledge and expertise in Deaf issues from which the study would benefit.

3.6 Research Instruments

The study used questionnaires which were given to the teachers both deaf and hearing, standard officers, CDC officers, lecturers, NGO officials and parents. Questionnaires were preferred because these people are usually busy and questionnaires could be answered any time they were free. Interview guides were used for the Deaf pupils since some of them could not understand English very well to be able to answer questionnaires. Focus group discussion guides with some of the teachers were also employed in order to capture some information which may not have been captured in the questionnaires. A check list for direct observations was also employed both inside and outside the classrooms. The study also used relevant documents such as books, charts or school programs and time tables as sources of information and data for the study. These provided information on the teaching of Sign language in the schools.

3.7 Data Collection Procedures

The data was collected through questionnaires, interviews, direct observations and focus group discussions. The researcher first sought permission from the District Education Board Secretary (DEBS) in the districts concerned. Thereafter, the researcher visited the heads of the schools to seek permission to carry out the study. Once permission was granted, the researcher met the teachers to introduce himself and personally distributed the questionnaires to the respondents. At this point the researcher also undertook some observations using an observation checklist and interviewed pupils. This was important to crosscheck and verify some information given by respondents in the questionnaires. The

observations were employed to establish and collect any other information that may not have been captured through the interviews, questionnaires or focus group discussions. Two days after distribution the researcher collected the questionnaires and conducted focus group discussions with the teachers. The researcher also distributed questionnaires to the experts and technocrats such as curriculum specialists, lecturers, standards officers and NGOs involved in the promotion of the rights for the Deaf. The study also conducted document reviews from relevant organizations such as Zambia National Association of the Deaf and the Baptist Church for the Deaf in Matero.

3.8 Data Analysis

According to Mungenda and Mungenda (1999), data obtained from the field in raw form is difficult to interpret. Such data must be cleaned, coded, key-punched into a computer and analyzed. It is from the result of such analysis that researchers are able to make sense out of the data. The data for this study was analyzed through detailed description and explanations which were being given by the respondents. Contradictory and similar views were particularly analyzed and categorized into themes and patterns in order to draw conclusions. In qualitative studies, researchers obtain detailed information about the phenomenon being studied, and then try to establish patterns, trends and relationships from the information gathered. Also the data was analyzed and interpreted using simple basic quantitative statistical techniques such as percentages, averages and frequency tables.

3.9 Ethical Considerations

In considering matters of ethics, the researcher obtained a letter from the University of Zambia which was used to carry out the research. The researcher also obtained permission from the Ministry of Education and the school authorities because all the Deaf children interviewed were in boarding and were under the custody of the schools. Before administering the questionnaire the researcher clearly explained the purpose of the study to the participants. There were no coercive tactics used. The participants were asked to take part in the study on voluntary basis and their confidentiality was assured.

3.10 Summary

This chapter has outlined the methodology used to collect and analyze the information for this study. In doing so it has defined the type of study as a case study. It has also looked at the study population involved which was basically the teachers, pupils, standards officers, parents, higher education lecturers and NGO leaders. The chapter has defined the sample, sample size and procedures used to come up with the sample. The chapter has further discussed the instruments and the data collection methods which were used. Lastly the chapter has dealt with the data analysis techniques.

CHAPTER 4

FINDINGS AND DISCUSSIONS

4.0 Introduction

This chapter presents the findings of the study as they were gathered from the field. It will present the findings of the study on all the fundamental questions which were under investigation. The presentation is based on all the data collected through questionnaires for teachers, focus group discussions for teachers, questionnaires for lecturers, questionnaires for standards officers and curriculum specialist, interview schedule for pupils and personal observation by the researcher. It will however be noticed in our discussion below that most of the responses and statistics presented are based on the responses from the teachers and pupils. This is because these made up the largest category of our respondents. As stated above our study only included 3 lecturers and 2 standards officers. The responses from these mainly helped to complement the data collected from the larger categories of respondents and also helped the researcher in making conclusions about the phenomenon observed. Equally information obtained from NGOs also played the same role.

4.1 Training in Sign Language

On the question of whether the teachers had received training in Sign language, the study revealed that the majority of the teachers felt that they did not receive adequate training in Sign language. The study revealed that out of the 35 teachers that responded, 25 of them stated that they did not undergo any comprehensive training in Sign language. This represents a percentage figure of 71 percent. Only 8 out of 35 teachers responded that they underwent comprehensive training in Sign language representing a total of 23 percent. 2 teachers did not provide any response on the matter. Below is a graph which shows a summary of the teachers' responses as regards training in Sign language before they started teaching the Deaf.

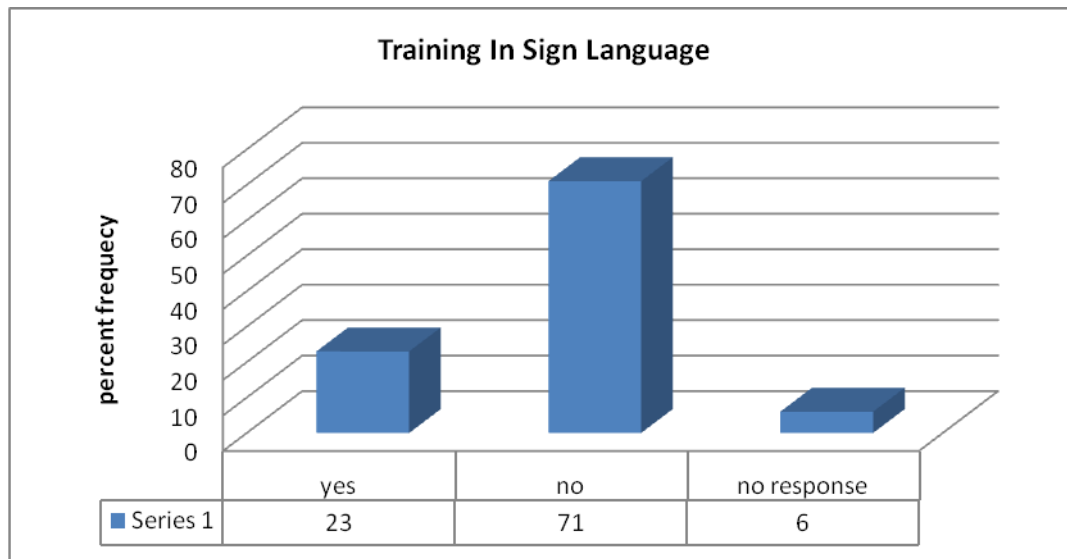


Figure 4.1 Responses by teachers on whether they received comprehensive training in Sign language

During the focus group discussions, the respondents further revealed that the standard of Sign language training at both the Zambia Institute of Special Education (ZAMISE) and the University of Zambia (UNZA) were generally poor. Some teachers felt that ZAMISE was offering a much more detailed training in Sign language compared to UNZA. Here are the exact words of one respondent:

“At the Zambia Institute of Special Education (ZAMISE) Sign language training is slightly detailed but at the University of Zambia the training is less than expectations. It has less of practical and more of theory”.

Others however felt that even at ZAMISE, the situation was the same. One respondent claimed that at the time he was at ZAMISE he was disappointed with the level of training in Sign language. This is how he put it:

“The whole time I was at ZAMISE from 2006 to 2008, I was only taught Sign language once on how to sing the national anthem in Sign language”.

Another respondent from St Joseph who is actually deaf claimed that at the time he was at ZAMISE he was the one that was teaching Sign language to fellow students. He stated this as follows:

“Our lecturer used to teach at Lusaka Girls a long time ago so it was me who was teaching Sign language to my colleagues because she had forgotten most of her Sign language.”

Most of the teachers admitted knowing very little Sign language when they started teaching the Deaf. Asked where and how they learned their Sign language, they explained various means by which they learnt their Sign language. Most of them said that they learnt their Sign language through the learners. Others said that they learnt Sign language through interaction with the Deaf people while others said they were taught by some of the teachers whom they found who had already had the knowledge of Sign language. Some said they learnt the language through workshops organized by schools. The following is a list of statements given on how the teachers acquired knowledge of Sign language:

- (a) I learnt Sign language through socializing and interaction with the Deaf pupils.
- (b) I learnt Sign language from the pupils and workshops organized by the schools.
- (c) I learnt by consulting from fellow teachers and Deaf adults.
- (d) I learnt from friends when I became Deaf at the age of 15years old.
- (e) I learnt through learners. I tell them a word and they sign it to me.
- (f) I learnt from my pupils in the secondary section.
- (g) I have trained as a special education teacher but I am fluent because of interaction and communication with the pupils.
- (h) I learnt through the Deaf pupils. If you have interest, they are very good.
- (i) I studied it from friends at school and by use of the Sign language dictionary.
- (j) I learnt through workshops, teacher group meetings and other nongovernmental organizations.
- (k) I learnt through a Sign language club at Kitwe College of Education.
- (l) I am hard of hearing; I learnt Sign language from friends and teachers at school.

The views by the teachers were confirmed by some of the lecturers at UNZA and ZAMISE. One of the lecturers from ZAMISE indicated that he was not satisfied with the standard of training provided in the country. He stated that prior to joining ZAMISE; he had trained at UNZA where he was not satisfied with the standard of Sign language training. He said even at ZAMISE he was not satisfied about the standard of training they themselves were providing. This was how he put:

“The main problem we are facing at ZAMISE is lack of resources and time factor because the time table is not adequate and also lack of refresher courses for Sign language.”

Some of the courses which they provide include; basic communication, common conversation daily living, about Zambia and specialized topics. He stated that to improve the training of teachers in Sign language, there should be diplomas, degrees and masters courses in Sign language only especially at the university level. His views were echoed by a lecturer from UNZA, who said:

“There is very little time given to practical subjects like Sign language.”

He added that Sign language at UNZA should stand alone as a course within the university. He said that more work needed to be done to harmonize the teaching of Sign language. Currently Sign language does not stand alone as a separate course at the University of Zambia.

Equally NGOS indicated that they were not satisfied with the quality of Sign language training at the country’s two higher institutions of learning responsible for the training of special education teachers, that is, the University of Zambia and ZAMISE. Their observation was that most of the students graduating from these institutions did not know Sign language. ZNAD further noted that the problems of lack of use of proper Sign language in schools could also be attributed to the fact that the government was not willing to involve some qualified Deaf people in the teaching of Sign language.

This is how they put it:

“Well qualified Deaf people who can train Sign language to students at colleges and the universities are not employed by government. Sign language is given very little attention by such high learning institutions. Well qualified Deaf people trained in Sign language communication skills should be employed by government at most colleges in Zambia and the university. The education policy should be adjusted to accommodate employment of Deaf trainers and interpreters at higher learning institutions that have special education programs for Deaf people or hearing impaired people.”

But one lecturer at ZAMISE indicated that there was a change in the approach to the training of special education teachers at ZAMISE. He noted that the college was currently moving towards specialization in disabilities. Hence he expressed satisfaction with the quality of Sign language training which is now being provided. He noted that Sign language training has improved at ZAMISE because of specialization. Below is the reason he gave for his satisfaction with the quality of Sign language training,

“We have done away with holistic approach in training our students. Students now specialize in Deaf education.”

However, he also observed that students need to continue specializing in Deaf education and more time should be allocated to them.

The revelation that 71 percent of the teachers interviewed did not undergo comprehensive training in Sign language is not surprising. This is in line with most of the findings and observations by many people. These findings are similar to the situation in Kenya where Global Deaf Connection (2010) reports that most of the teachers in the 41 schools for the Deaf do not know Sign language as they use pointing as their primary means of teaching methods. This study has established that the reason for this is that the teacher training curriculum in the two major institutions responsible for the training of teachers for the Deaf does not have any comprehensive component of Sign language. Our observation is that this is partly due to the fact that they approach the teaching and training of teachers for special education from the medical perspective. Such an approach would tend to focus

more on the Deaf as a disabled group as opposed to recognizing that they are a special linguistic grouping by virtue of their use of Sign language. There is need to go beyond general conversation in Sign language as some teachers have to go out and teach technical subjects.

4.2 Use of Sign Language in the Education of the Deaf

On this objective the teachers were asked a number of questions. Among others the teachers were asked whether they were offering Sign language as a taught subject. 23 out of 35 teachers said they do offer Sign language as a taught subject. This represents 66 percent of the total number of respondents. 11 out of 35 respondents stated that the school has never taught Sign language as a subject. This represents 31 percent of the total number of respondents. One respondent did not answer. The following is a summary of the teachers' responses to the question.

	Yes	No	No response
No of respondents	23	11	1
Percentage	66%	31%	3%

Table 4.1: Responses by teachers on whether Sign language is offered as a taught subject

Various reasons were given for offering and for not offering Sign language as a taught subject. Below is a table that shows the reasons for offering and not offering Sign language:

Reasons for Offering It	Reasons for not Offering It.
All Grade 0 pupils start with Sign language before proceeding to Grade One	Because it is only a way we communicate to them but not a subject
To equip the children with knowledge of how to sign	Because there are no materials for Sign language
Sign language is the only language for the	It is not formally introduced in school

Deaf. It is the only language they can use since they cannot speak	
Sign language is taught at primary level from Grade 0 to 4. This is meant to help the child communicate effectively in the classroom with the teachers as well as fellow pupils	Because the education authority has not introduced it
It is fixed on the time table so that learners get acquainted with the language	It is not part of the curriculum at senior level. At primary section, only Grade 0 learn it as part of their subjects while the other grades they are merely tested but not taught Sign language as a subject
Because when some pupils come, they don't know how to communicate hence they learn it right here at school	When teaching you use Sign language in everything
It helps pupils to develop oral communications	It is integrated in literacy and English. Used in other subjects for understanding purposes. Also to help learners try English as a written language. Sign language is not a written language
Because it is used as a mode of communication	Because it is not there on the time table and as a class teacher, there is need to follow the timetable
It enables the pupils to understand what is being taught. Sign language is different from signed English and therefore should be taught at lower section	
This is so to enable our pupils from various places to learn Sign language for easy communication between themselves	

and between pupils and teachers	
Because Sign language is a pre requisite in learning other subjects for the hearing impaired	
Many pupils know traditional Sign language hence they are supposed to be taught sign language	

Table 4.2: Reasons for offering and not offering Sign language as a subject

The researcher also carried classroom observation on the use and teaching of Sign language. In both schools, it appeared that Sign language was time tabled at least up to Grade 4. There appears to be some serious teaching of Sign vocabulary but beyond that, there is no Sign language to talk about. In Grade zero which is pre-school, children were mainly taught iconic signs which imitate the actual actions of the activity. For instance, children were taught signs for brushing the teeth, washing the face, washing the body, combing the hair and wearing shoes. These kinds of signs were taught in a dramatic way to an extent that it looked almost like a play. At this stage, there are no attempts to teach them how these words or actions are written. The children were also taught the Sign language alphabet by using pictures. For instance, a picture of a car would be drawn with the caption “car” written below. Children would be asked to sign the picture in question after which they would be shown the first letter of the word car and then they would be taught how it is signed manually. Generally in primary grades, what is taught is sign vocabulary. One Grade Five teacher at Magwero School for the Deaf said that she writes new words on the board and gives the pupils as home work to go and consult from older boys in senior grades on how those words are signed. The following day, during the period for Sign language, she would ask them to present what they gathered from the old students. She claimed that this was aimed at improving the signing skills of pupils. Another teacher of a Grade Seven class said the following:

“I incorporate Sign language in all the subjects. I look at their level of Sign language. Before I start teaching any lesson, I write difficult words on the board. After that I teach them how each word is signed.

We just use their communicative Sign language as a bridge towards proper English.”

A closer examination of the only Sign language book that was found at Magwero School for the Deaf entitled *language workbook for hearing impaired children* revealed that at that early stage of Grade One and Two, the intention of the curriculum developers is to teach the children the language structure or rules of English and not Sign language. It contains statements such as:

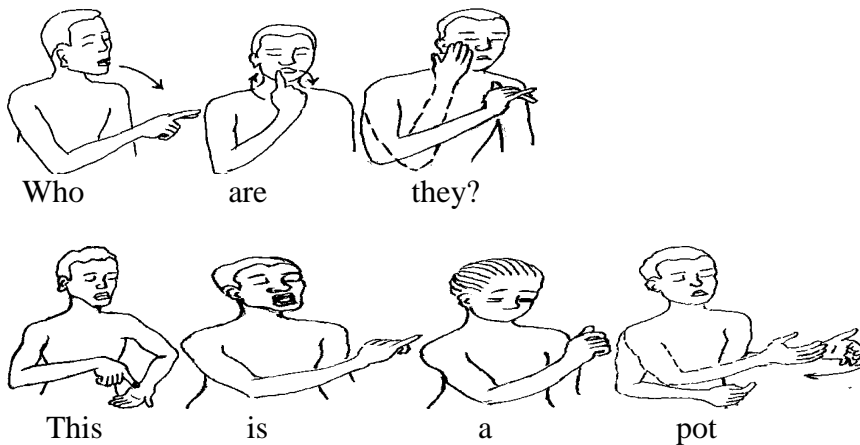


Figure 4.2 Pictorial representations of the grammar being taught at lower primary (Grade One and Two)

These statements are presented both in print and sign format. Further, teachers were also asked which signing system they used when teaching. Out of 35 respondents, 21 said that they use both Signed English and Sign language. This represents a total of 60 percent. 5 respondents out of 35 said that they exclusively use Signed English. This represented 14 percent of the total number of respondents. 4 out 35 respondents said they used Zambian Sign Language exclusively. Three respondents did not give any response representing 12 percent. The table below shows how the teachers used Sign language to their pupils.

	Sign language	Signed English	Both	No response
No of respondents	04	05	21	05
Percentage	11%	14%	60%	14%

Table 4.3: Responses on types of signing system used by teachers to the pupils

Furthermore, most of the teachers indicated that when they are teaching, they code switch from Sign language to Signed English and vice versa naturally and they felt that students were able to follow their signing regardless of the signing system they were using. Various reasons were given for the use of both Sign language and Signed English. Some teachers said it was difficult to explain some concept by using one signing system. Hence there was need to use both at times. One teacher gave this view,

“For understanding purposes, we use Sign language and for the sake of children passing examinations we use Signed English”.

The research findings reveal that Sign language is the main medium of communication between teachers and pupils in Deaf schools. The schools have recognized that early language learning is key to the language development of the Deaf. This is supported by many scholars who have proved through various research works that early language exposure improves literacy skills for the Deaf (refer to Drasgow 1998)

It must be pointed out that the two institutions investigated are semi-autonomous institutions run by missionaries. The Ministry of Education in this country does not have nursery schools in its education system although there is now a move to recognize the value of early childhood education. This is evident from the inclusion of the component of early childhood education in the Ministry of Education. Hence Deaf children who may not have access to these missionary controlled schools may lose out on learning during the most critical period of language development.

The findings seem to suggest that there is no policy on the teaching of Sign language to guide the teachers as can be seen from the responses. While some teachers said they teach it, others said they are not because it has not been formerly introduced in the school system by the government. Perhaps those teaching it are doing so out of the realization of a need. There is need to formalize the teaching of Sign language so that all teachers are obliged to teach it. Since it is not formerly provided for in the curriculum, there is no standardization and obligation, and on the timetable, teachers only teach it in order to cater for the specific needs of the children.

In addition, it would seem as though what is taught is only Sign language vocabulary. Hence, pupils are not taught Sign language grammar and syntactic rules. Instead, they are taught English grammar and syntactic rules. As noted by Wakumelo and Miti (2010) and Sadiki (2008), Sign language grammar is different from Standard English, hence attempting to teach them Standard English rules before exposing them to grammatical rules of Sign language does not provide the bridge from the known to the unknown. Hence there is no transference of skills from what is familiar to what is unfamiliar. The truth on the ground is that signs are taught to pupils not as a language but simply as a gateway to teaching them English since the Deaf cannot hear. The teaching of English word order might be confusing to the Deaf who may have challenges coping with a linear language when they are predisposed to a visual language. The situation is comparable to teaching a British child English using Lozi word order. For example if a British boy is taught to say the Lozi phrase *“ki wena mani libizo la hao?”* in that order but using English words, it would come out like “it is you who name of yours?” Now to a native English speaker, this does not sound like English. This shows that a combination of signs in any other word order different from the Sign language word order (grammar) is not Sign language and may be confusing to the Deaf pupils. Sign language has its own grammar.

As observed earlier in the findings, Sign language is primarily taught as a communication mode to facilitate the teaching of the English language and other academic subjects. There is no attempt whatsoever to teach the children about the rules of Sign language. This is in sharp contrast with what Chupina (2006) elaborates as the practice in Sweden.

According to Chupina (2006), Deaf students learn grammar at school and they can compare Swedish Sign language with written Swedish. They learn about grammar and the differences between the two languages. Like in Sweden our pupils in Zambia must know both languages. They must know how concepts of tense, pronouns, plurals verbs are used in each language. These concepts may be compared between the two languages. In fact once these children become fluent in their mother tongue, Sign language, they will have points of references as they learn their second language English. This approach is called a bilingual approach towards education. For the bilingual model of education to be successful, the children should initially be strictly taught their mother tongue. They need to know the rules of the first language, that is to say, the grammar and syntax of their language before being exposed to the rules of the English language.

The study has also revealed that teachers use Sign language and Signed English randomly. The use of both Sign language and Signed English is beneficial but if not handled properly it may be detrimental to the development of literacy for the Deaf. Experts in bilingual Deaf education emphasize the need to gain mastery in one language before learning the second language. This is also in line with the principles of the linguistic interdependency theory. With respect to this theory, Cummins (1989) states that one has to attain complete competence in one language before attaining competence in another. As noted from the literature review, Standley (2005) also argues that research has shown that in situations where parents are providing random language and inconsistent linguistic input, children are not able to utilize completely linguistic forms in the correct manner. The problem is that while changing of codes may be appropriate to pupils in senior secondary schools who may have attained some level of competence in Sign language, the same practice might be detrimental when used at primary level where pupils are still struggling to gain mastery in Sign language their first language. Here it is possible that the children may confuse the rules of English and those of Sign language. Hence, there is need for the Deaf pupils to gain competence and mastery of Sign language before being exposed to Signed English which is structured on English grammar.

The above interpretation is in line with research findings in the United States of America which have shown that most parents and many teachers who try to use manually coded English end up leaving many of the grammatical features and the children exposed to them end up modifying them to more American Sign Language like form. If the purpose of using manually coded English is to give a deaf child a language base on which to build, parents and teachers need to be aware that manually coded English is a hybrid. And hybrids rarely perform as well as either of the parent languages. Why mix two languages and send a message that is neither. In America it has been noted that despite twenty years of refining these systems, Deaf teenagers continue to graduate from high school at the third and fourth grade level and literacy has not significantly improved (See also Zapien 1998).

There is need to focus on the use of one language instead of mixing Sign language and signed English in the early years of the children's language development. Our argument should not be seen to contradict the commonly perceived advantages of bilingualism. As noted in the literature review, bilingualism should be encouraged. The pupils need Sign language for communication with other Deaf people. However, they also need Signed English to facilitate integration into the English speaking society in Zambia where English is the official language and also to facilitate their learning of formal English grammar expected of them in their life after school. There is need to go beyond mere vocabulary and simple sentences so as to prepare Deaf children for the use of their language in more complex situations in life.

4.3 Type and Nature of Difficulties Experienced by Teachers of the Deaf

The study has revealed that there are difficulties faced by teachers when teaching Deaf children. At lower primary level, pupils find it very difficult to understand instructions by their teachers. In most cases teachers have to repeat themselves at least twice for the instructions to be understood. Pupils at secondary level were asked whether they understood the signs used by their teachers. The majority of them said they did not understand some of the signs used by their teachers. The study revealed that 22 out of 40 pupils interviewed said they did not understand the Sign language used by the teachers. This represented 55 percent of the total number of respondents while only 16 out of 40

pupils said they understood well the signs used by their teachers representing 40 percent of the total number of respondents. Two respondents indicated that they understood the signs sometimes. This represented a mere 5 percent. The following chart shows a summary of the pupils' responses regarding understanding signs used by their teachers.

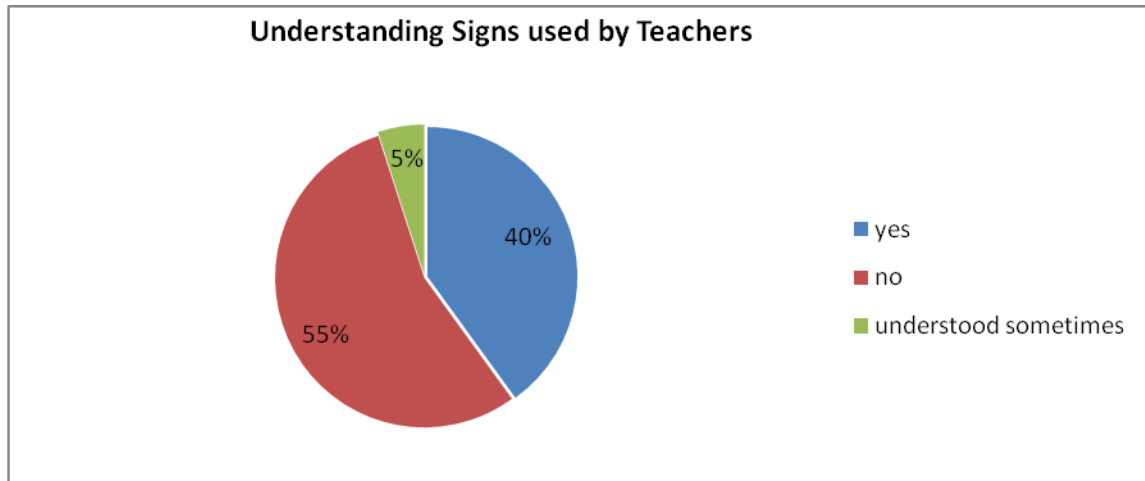


Figure 4.3: Responses by pupils on whether they understand all signs used by their teachers

On the other hand, Teachers were also asked if they understood the Sign language used by pupils. 17 out of 35 teachers stated that they found it very difficult to understand the Deaf pupils' way of signing. This represented 49 percent of the total number of respondents. Only 11 stated that they understand fully the way of signing used by Deaf pupils which represented 31 percent of the total number of respondents while only 7 out of 35 teachers did not answer representing 20 percent. The chart below shows a summary of the teachers' responses on whether they understood the signs used by their pupils.

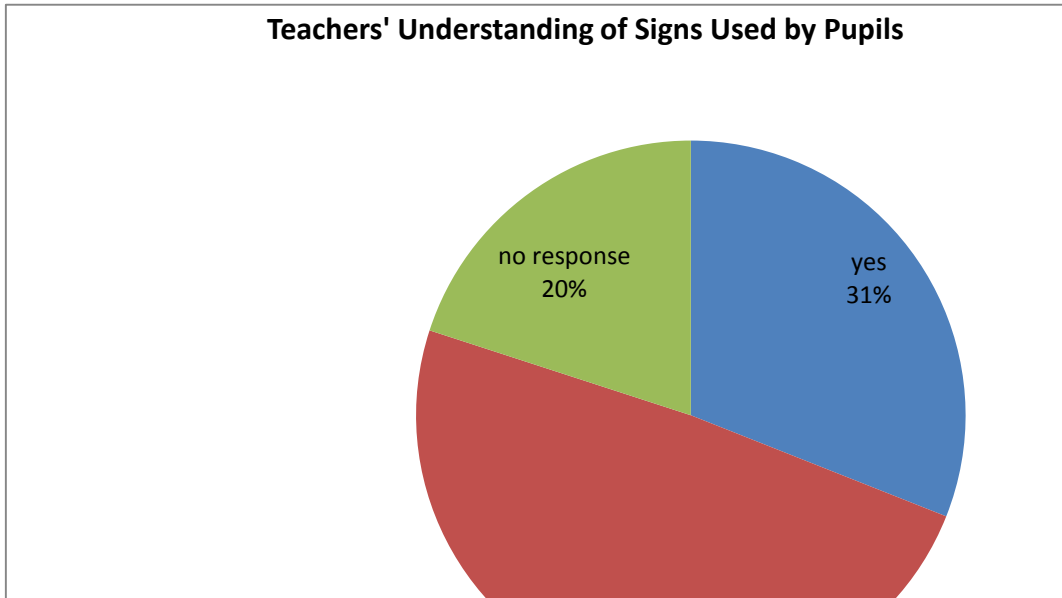


Figure 4.4: Responses by teachers on whether they understand signs used by pupils

But when asked if pupils understood their ways of signing, the majority of the teachers felt that pupils had no problems with their way of signing. 21 out of 35 respondents said that pupils understood and followed their signing system representing 60 percent of the respondents. Only 5 out of 35 respondents representing 14% said they thought that pupils did not understand their signs. 9 out of 35 respondents representing 26 percent did not provide any response. The chart below shows how respondents answered the question:

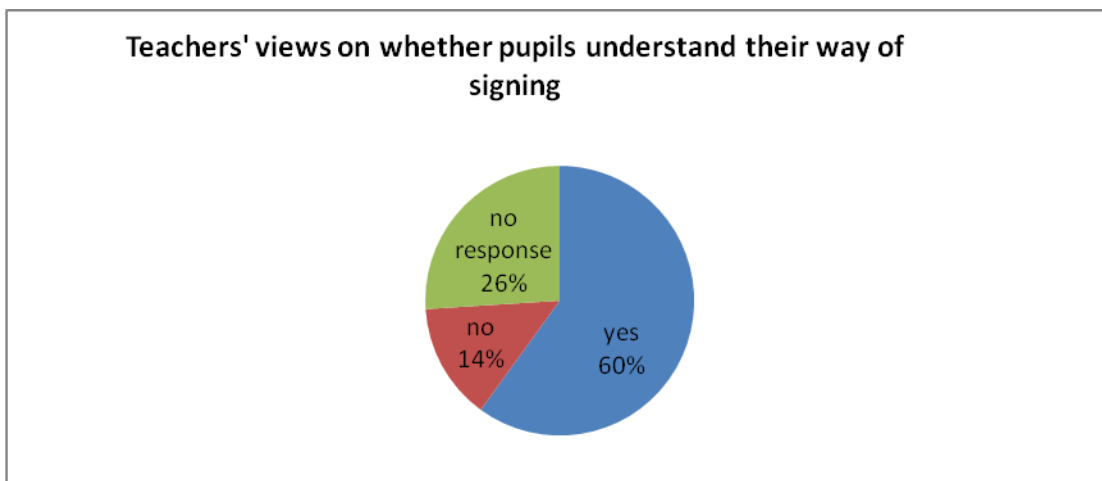


Figure 4.5: Teachers' responses on whether pupils understand their ways of signing

Personal class observation revealed that some words were actually signed wrongly. For instance the word “soft” was signed as “talk” by one of the teachers at Magwero due to error of palm orientation. One teacher at Magwero narrated how a pupil was upset with her due to disarticulation of the sign “LATE” as follows;

“I was new and I was still learning Sign language. I was telling a pupil to hurry up because she was late but unfortunately I signed the word wrongly. I signed the word late with two hands which changed the meaning FROM HURRY/ UP/ LATE/ LATE /LATE to HURRY UP/ PROSTITUTE /PROSTITUTE/ PROSTITUTE.”

Another teacher said,

“One time I was teaching “agree” and “accept” in English. My signs and their signs 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 Kalulushi said,

“Just when I was a month in employment, I was informing my Grade Eight pupils that they will be having a test on Tuesday without knowing that I was signing toilet.”

Teachers also narrated how they found it difficult to teach various subjects at secondary school level. The teachers complained that English grammar was one of the most challenging to teach. They said that the pupils just wanted to write English the same way they communicate in Sign language. While it is necessary for pupils to be initially encouraged to learn and use Sign language grammar, they eventually need to graduate to the use of written English grammar as the current examination system grades them on the basis of this. Secondly the teachers said that Zambian Sign language has a very limited vocabulary. It is mainly limited to the everyday experiences of the Zambian situation. Also the teachers said that they had difficulty teaching sciences to senior grades because of vocabulary. They said it was very difficult for them to teach abstract concepts in

physics and chemistry such as atoms. At St Joseph’s teachers narrated how hard it was to teach the sciences to the Deaf. One respondent put this as follows:

“When you come to new terms which both the teachers and learners don’t know how to sign for instance ‘electrons’, it is difficult to find signs.”

Another teacher said this about English:

“When you give these pupils comprehension, for instance, they will bring you a list of 15 words for you to explain before they even do the work. This means they have a very shallow vocabulary.”

Furthermore, teachers were asked if they had enough resources to teach the Deaf pupils. The majority of them responded that there were not enough Sign language materials. Out of 35 respondents asked, 23 said that their school did not have enough Sign language materials. This represented 65 percent of the total number of respondents. 9 out of 35 respondents said they had enough Sign language materials representing 26 percent while 2 teachers representing 2% did not provide any feedback. This is represented below;

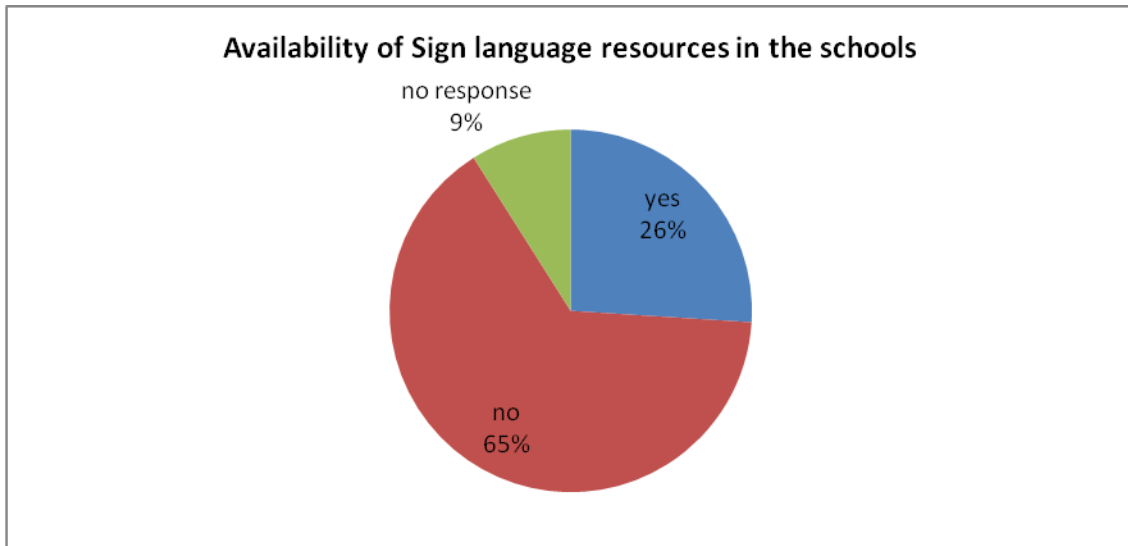


Figure 4.6: Teachers’ responses on the availability of Sign language resources in their schools

Teachers provided various suggestions on the teaching resources they needed. The table below shows the resources which teachers suggested that they needed in their schools.

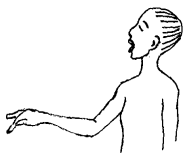
Books	Human resource	Equipment
more Sign language textbooks	human resources who are competent in Sign language	machines like pure tone audiometer
detailed Sign language dictionary		concretes resources or film strip
pupils activity books and story books		assessment tools and machines and visual teaching aids like videos in Sign language and electronic libraries
Sign language posters, manual books and guides and concrete objects to convey meaning		
charts models and word cards		
books which have grammar for Sign language		

Table 4.4: Resources which teachers needed in their schools

Personal observations by the researcher also revealed that the two schools did not have enough Sign language materials. At Magwero, investigations revealed that only the language work book for hearing impaired children for Grades One to Two and the Zambian Sign Language Dictionary were available. At St Josephs, only the Zambian Sign

Language Dictionary and the Sign language teacher’s guide were found. Moreover the teacher’s guide had no supporting pupils’ book.

Some teachers complained that the Zambian Sign Language Dictionary had some signs that were different from what the pupils were actually using. A perusal of the dictionary revealed that words like” word,” and “about” are signed differently from the way pupils sign them. Besides, the dictionary does not mention the existence of another sign in other deaf communities elsewhere. Below is an illustration of the differences between some of the words found in the Sign language dictionary and what the pupils actually sign.



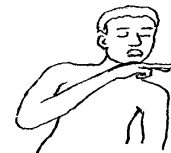
“About” as presented in the dictionary



“about” as signed by pupils



“Word” as presented in the dictionary



“word” as signed by the pupils

Figure 4.7: Differences between Sign language signs in the dictionary and those used by pupils.

Others also said that the Sign Language Dictionary has limited entries of signs to help the advancement and teaching of Sign language in schools. An examination of the Sign Language Dictionary revealed that there are only about 1000 signs in the Zambian Sign Language Dictionary.

These challenges expressed by the teachers were also echoed by the standards officers and some NGOS. One of the NGOS, the Matero Faith Baptist Church for the Deaf put it this way:

“The main challenge faced by teachers is lack of subject related Sign language dictionaries for reference purposes to the subjects they teach. Also, there is no standardized Sign language use in the schools. Schools have their own Sign language.”

One of the standards officers bemoaned the lack of Sign language materials and scanty teachers’ and pupil’s text books and failure to adopt the Zambian Sign language as some of the curriculum challenges faced by teachers when teaching Deaf pupils.

The Zambia National Association of the Deaf summarized the challenges which the teachers faced as follows:

“Firstly they have no teaching materials that have been prepared in Sign language so that the Deaf can learn better. Secondly, most of the teachers of Deaf pupils do not know Sign language and lastly teachers lack motivation in terms of special education allowance. There is more work involved when one is teaching Deaf pupils as compared to teaching hearing pupils.”

From the research findings it is obvious that the pupils and teachers have difficulties in understanding each other. This emanates from the nature of signs both categories use. The study has found out that teachers have to repeat themselves several times to be understood by their pupils. According to Johnson (2003) in the United States of America too, most teachers of the Deaf and hard of hearing frequently experience teaching the same information or skill to the students over and over again. Equally common, teachers spend a tremendous amount of time teaching basics and background information to their students. In fact, so much time is spent on filling in gaps on students’ knowledge that teachers rarely have time to complete their lessons or circular units. Many teachers become frustrated and their pupils become bored as they repeat the same materials and students lag further behind the academic achievement of their hearing peers. Miss-

communication between teachers and the Deaf pupils is hence quite common. This situation could be solved if there were deliberate efforts to have an intensive and comprehensive Sign language teaching program in the early years of the children's language development. As pointed out in the literature review, while hearing children have this opportunity in the context of their home environment, it is not the case for Deaf children especially those born of hearing parents that have no knowledge of Sign language. To remedy this situation there must be a deliberate government policy on early detection of Deaf children and a program to aid them in the acquisition of their language, Sign language.

The research also revealed that Zambian Sign Language has limited technical vocabulary. The question of limited vocabulary is not new to Deaf education. Wakumelo (2009) reports of some challenges which teachers have to go through when it comes to technical subjects like mathematics. She stated that the problem of lack of enough Sign language when it comes to the teaching of science subjects and mathematics at high school level becomes more acute. This is compounded by the fact that the few teachers who are knowledgeable in Sign language only know the basic signs and they are not able to sign technical concepts. To remedy this there is need to develop specialized vocabularies of Sign languages apart from the General Sign language dictionary.

The study further revealed that the schools lacked enough Sign language teaching materials. The study found one Sign Language book entitled *Language Work Book for Grade One and Two*. This book comprised signs which are organized in Signed English format. Besides, the book has no teacher's guides and other supporting books. This is in sharp contrast with the *New Break Through to Literacy* books for other Zambian languages which come as a total package to include teachers' guides, pupils' book and other supporting kits. There is need to develop these for Sign language as well.

The challenge of mispronunciation or disarticulation of signs also noted in the study is an indicator that our teachers are really in need of training. Such revelations where for instance "late" is signed as "prostitute" are indicative of the serious need for the government through the Ministry of Education (MOE) and tertiary institutions for special education to seriously consider putting in place a curriculum that places emphasis on the

teaching of Sign language in the training of teachers of the Deaf. Also the sign variations as shown from what the pupils use and what is in the *Zambian Sign Language Dictionary (ZSLD)* suggests the need to come up with a well-researched and standard version of the *Zambian Sign Language Dictionary* for uniformity of standard signs. The signs could be sourced from the Deaf adults, practitioners and the pupils themselves. The multiplicity of and difference in signs echoes the need for standardization of signs of *Zambian Sign language*. The current *Zambian Sign Language Dictionary* could be the starting point. The *Zambian Sign Language Dictionary* was developed a long time ago. Since then, there has been need to include other signs in the dictionary which have since evolved. Sign language, like all other languages, is dynamic and hence any material on it needs constant updates.

4.4 Coping Strategies by Teachers

When confronted with difficulties in the teaching of the Deaf, the teachers and the schools have developed their own coping strategies. In both schools they have realized the need of early language development in Deaf children, hence both schools have introduced what they call *Grade Zero*. Because of the nature of the difficulties associated with teaching *Grades Zero and One*, the schools have allocated these lower classes to Deaf teachers. This is a good strategy as it tries to replicate a natural environment where a deaf is child learning from a deaf adult at an earliest stage. As the pupils go further up in the education system, they come across very difficult terminology in various subjects. The general practice has been that for those words which the teachers do not know how to sign, they either consulted other more experienced teachers or asked from the pupils how the words are signed. If the word is new to both the learners and the teachers, where possible the class as a whole and the teacher collectively give that word a new sign. This sign will, however, only be known to that particular class and not be standardized or universal. In some cases, some teachers try to deal with some words which they think to be difficult for some pupils by writing them on the board and explaining them in advance. Some teachers talked about some school organized workshops in Sign language which also helped them to learn Sign language. Also some of them mentioned close interaction with the pupils. They said this was very helpful to fully understand their Sign language.

Other teachers indicated that they first of all copy the notes on the board. One teacher expressed his experiences as follows:

“Before rubbing the notes we would first explain the work on the board so that pupils can actually see what is being explained. Sometimes we literally read together with pupils so that the pupils can learn how some words are signed. When we come across difficult words where no sign exists, we simply explain the meaning of the word or concept, fingerspell the word and or sometimes initialize it. When referring to the same word already explained, you simply point at the word on the board or simply initialize it since the word or concept has already been explained. This tactic is more helpful to the Deaf who are more of visual learners than where you first of all explain the topic before you write the notes on the board.”

This section has revealed that indeed teachers experience difficulties when teaching the Deaf learners. It also shows that they respond to these difficulties in different ways. The use of Deaf teachers in the early years is a good coping strategy as it attempts to provide pupils an opportunity to interact with people operating in a similar language. This also tries to replicate an environment of Deaf children born of Deaf parents which as observed by Strong and Prinz (2000) results in fluency in both Sign language and written English language. Most Deaf children grow up with hearing parents and may not have exposure to first language users of Sign language before coming to school.

The intensive use of the chalkboard and other visual aids is another good strategy. It is a well-known fact that the Deaf people heavily depend on visual aids. By explaining the notes which are written on the board, the children may get to see the context in which certain words are used. Also when it comes to difficult words, it is very easy to explain them in the context of the whole sentence or paragraph. At the same time there is a danger that pupils may concentrate on the notes on the board instead of the teachers' explanations. More research needs to be done to determine the best coping strategies to use when teaching the Deaf. These could be determined on the basis of the results they produce.

The creation of new signs for concepts which may be unfamiliar to both the learners and the teachers may sound very good but in the long run, this is what causes sign variation and lack of standardization of Sign language. The system may be disadvantaging new comers who may not be familiar with new signs which have been created in that particular class or school. Hence there should always be some endeavors to use standard universal signs which the pupils would eventually be able to use and be understood outside the classroom environment in the wider communities. On the other hand, the creation of new signs is a pre requisite for any Sign Language development. This could be a way in which the pupils and teachers in a given class could contribute to the development of sign language in Zambia.

The dependence of teachers on pupils is a rather strange phenomenon which only seems to be “normal” in Deaf education. Everywhere in the world it is the adults that train the young ones. But in Deaf education the opposite seems to be the case. Why should things be like that with regard to Deaf education? Again this is line with Wakumelo (2009) who observed that because of inadequate training, teachers mainly depend on the pupils where the teachers write the words on the blackboard and the pupils give the teachers the signs. “The pupil who is supposed to be the learner now becomes the teacher” (Wakumelo 2009).

4.5 Challenges Faced by Deaf Pupils in Units and Schools for the Deaf

In reference to this objective, the teachers were asked what kind of challenges the pupils face in schools. The teachers’ responses ranged from lack of ability to read and write and the curriculum itself. Some blamed Sign language itself saying it is shallow in its vocabulary. Below is a list of some statements which teachers gave regarding the challenges pupils were facing:

Pupil and sign language based	Teacher based	Resource based	Curriculum and examination based
Pupils lack the ability to read and understand what they are reading	Teachers have little knowledge of Sign language	Teaching and learning materials are not suitable and adequate	Deaf pupils are examined like “hearing” children; certain topics like sounds need to be removed because it’s unfair for the pupils to be examined in things they have never heard of
Limited vocabulary of Sign language, terms used in subjects like science and mathematics are hard for them. This makes it very difficult to learn under the current vocabulary	Teachers have no interest in teaching the Deaf pupils	Lack of activity books, story books and teachers guides	The examinations from the examinations council of Zambia are too hard for them

<p>They find it very difficult to understand new words which are not in their dictionary for example kenyapithecus, homohabilis etc.</p>	<p>Teachers of the Deaf are incompetent to teach the Deaf pupils</p>	<p>No enough materials such as dictionaries. Materials used and provided to the Deaf are very inadequate to the Deaf pupils</p>	
	<p>Teachers not trained in Sign language. Like at our school most teachers don't know Sign language so it is difficult to teach the pupils effectively</p>		
<p>The way sentences are constructed in Deaf language is in short cut form</p>			
<p>Some words in literacy are difficult to sign and as a teacher you just spell them therefore the pupils will lose out</p>			

Sometimes they do not have a sign for an object. They may sign a word but not knowing the meaning			
English grammar, figurative speech used in English language and the English language vocabulary			
Poor memory			
English is not their first language so they are not taught from the known to the unknown			

Table 4.5: Educational challenges faced by pupils in schools and units for the Deaf

Pupils also seem to have language related challenges especially when being taught by hearing teachers. Pupils were asked as to which group of teachers the pupils would like to teach them. The overwhelming majority of the pupils were in favor of Deaf teachers. The investigation revealed that out of a total of 40 pupils interviewed 30 of them said they wanted to be taught by Deaf teachers. This represents a total of 75 percent of the total number of respondents. Only 6 out of 40 pupils stated that they would like to be taught by hearing teachers. This represented a paltry 15 percent. Four pupils stated that they would like to be taught by both Deaf and hearing teachers representing 10 percent of the total number of respondents. Below is a table showing the pupils’ responses and some of the reasons for these responses:

Deaf teachers	Hearing teachers	Both
30	6	4
75%	15%	10%
Reasons	Reasons	Reasons
Because Deaf teachers understand sign language better than hearing teachers. For Deaf teachers, Sign language is their mother tongue so they can teach better than hearing teachers	Hearing teachers are the best to help us to improve our English since the teachers also use short cut methods of communication	Some Deaf teachers don't understand some English words so you have to ask from hearing teachers
Most of the teachers are new and I don't understand what they sign	Hearing teachers can help me improve my English since they understand so many things. This can help me to know a lot of subjects	Both teachers can teach us but hearing teachers must have interest in Sign language
The way the hearing teachers sign is difficult to understand	Deaf teachers have limited vocabulary knowledge while hearing teachers are knowledgeable and can help to improve my English as well as explain issues more clearly	Deaf teachers know Sign language but they don't understand the meaning of some words as hearing teachers do
When Deaf teachers sign we understand but hearing teachers, their signs are hard	Some Deaf teachers don't know much about English	Because Deaf teachers don't know much but hearing teachers are above. But also hearing teachers are not serious
Hearing teachers are not good	Hearing teachers understand English and can explain	

	English concepts in details.	
Because hearing teachers only write on the board and talk	Hearing teachers are more educated than Deaf teachers	
Hearing teachers don't know Sign language		
Deaf teachers use more Sign language but hearing teachers use little Sign language		
Hearing teachers it is difficult to get their signs only isolated ones here and there		

Table 4.6: Reasons why pupils want to be taught by either Deaf teachers or hearing teachers or both

These views by the pupils were echoed by the two NGOS which have been working with the Deaf. The Zambia National Association of the Deaf has observed a number of challenges affecting Deaf pupils. The following are some of the challenges observed by ZNAD:

- (a) Lack of learning materials that have been prepared in Sign language.
- (b) A good number of teachers for Deaf pupils are not proficient in Sign language.
- (c) Currently the curriculum at all Deaf schools and units is not a special curriculum that has taken on board special needs of Deaf children.
- (d) The language used to set tests or examinations is too hard for the Deaf children to understand.
- (e) The education policy does not accommodate the use of Sign language to prepare school materials suitable for Deaf children.

As can be seen above, the majority of the Deaf pupils interviewed indicated that they preferred being taught by the Deaf teachers. Deaf children complained that most of their

teachers are not fully competent in Sign language. This situation is not peculiar to Zambia. Global Deaf Connection (2010), for instance, reports that in Kenya there are about 41 schools for the Deaf with about 100 students at each school. But most of the teachers at these schools do not know Sign language or understand the Deaf culture. They write their lessons on the (black) board and use pointing as their primary teaching method.

The study also found that some teachers claimed that one of the major challenges they faced was Sign language itself which they claimed was very shallow. Arguments that Sign language is shallow demonstrate how teachers that are trained to teach the Deaf are unfamiliar with the capabilities of their learners' language. As noted by Sadiki (2008) and Wakumelo and Miti (2010), Sign languages are as rich and complex as any oral languages despite the common misconception that they are not real languages. Sign language is a complete language capable of expressing and developing signs for any concept. The fact that some teachers could state that Sign language was shallow shows how inadequately trained or incompetent they are in the language they are supposed to use as a medium of instruction. The responses from the respondents also point to the deficiencies in the Ministry of Education's examination system which seems blind to Deaf culture. By the nature of their status and language the Deaf do not have concepts for sounds or sound related activities. Inclusion of these in the examinations is detrimental to the equal advancement of the Deaf in the education system. Deaf children also said that they want to be taught by Deaf teachers because they find it easy to communicate with them. However, the picture coming out is that Deaf teachers have the knowledge of the language as a medium of instruction but lack adequate knowledge of subject content. On the other hand, hearing teachers have adequate subject content knowledge but lack the linguistic and communicative competence to impart this to Deaf learners. The revelation by some of the pupils that as much as they may want to be taught by the Deaf teachers who know Sign language very well, their knowledge of the subject content is limited are supported by the findings with respect to China by Biggs (2004) who stated that there are very few qualified Deaf teachers in China and most of these only teach non academic studies such as art or work as teaching assistants. He further stated that at Beijing University, most Deaf students would prefer hearing teachers

because they are better qualified to teach. This implies that the government needs to put in place measures to equip Deaf teachers with subject content competence while the hearing teachers need to be equipped with Sign language linguistic and communicative competence. It is therefore important for both categories to complement each other as the pupils acknowledge that they all have something to offer.

4.6 Challenges Faced by Parents of Deaf Pupils

Parents were also asked about some of the challenges they were facing in the education of their children. Some parents spoke about the medical expenses they have to incur. One parent said:

“My daughter became deaf at the age of five and we have been to different hospitals to get some help up to today.”

Others lamented on the challenges of communications with their children. This view was expressed as follows;

“Communication with her has been very difficult. We have been using local signs with her since she was five. Sometimes she checks on your lips when you are talking.”

One parent expressed worry and concern for the child when she progresses to higher grades as follows:

“It is mainly communication in school work as she progresses to higher grades because her studies become complex, for example mathematics and science.”

Another parent said:

“Not all the written language is easy to convert to Sign language. In addition, there is sometimes a disconnection between construction of a sentence and how it is put across in Sign language. Sign language has many shortcuts. It omits a lot of connecting sentences and words. More needs to be done to enrich the Zambian Sign Language so that as much as possible written language and Sign language can match.”

Others complained about their inability to communicate in what they called professional Sign language as follows:

“This child does not understand easily. So she needs extra lessons. Secondly, schools or the government should also help parents and guardians to understand more of professional signs.”

Others complained of the expenses they have incurred compared to other children.

“He is too expensive compared to others”.

Others seem to blame the non availability of nearby school places for these children where they can learn Sign language early. One parent lamented as follows:

“The problem of my daughter was that she was schooling with “normal” children in Lundazi where they don’t have Sign language. Kindly help the child to understand the Sign language otherwise this child she is trying. We have been using natural Sign language based on natural symbols or objects and a bit she has taught us from school. Mainly we use body language.”

It would seem as though the major challenges expressed by the parents border on Sign language. One of these bordered on the difficulties of Sign language and non availability of facilities for the children and themselves to learn Sign language from. This is in sharp contrast with the situation as it obtains in Norway. In Norway Pritchard (2005) reports that parents of Deaf children are given an opportunity to receive forty weeks of Sign language with all expenses paid for by the government from the time the child is diagnosed until their 16th birthday. The objective is to give the parents the means to communicate with their children and facilitate the child’s language development which in turn should promote the child’s social, intellectual and emotional development. Chupina (2003) states that in Sweden, Sign language is encouraged among family members. Parents of the Deaf and hard of hearing have the right to 240 hours of Sign language at no charge at all. Relatives of Deaf and hard of hearing children as well as hearing children of Deaf parents are also offered Sign language instruction free of charge.

According to the British Deaf Association (1985) parents of the Deaf can do so much for themselves but they must have access to the educational authorities among others to give

them the information and additional support their children need in order to reach the attainment levels of “normal” hearing children. Specifically, local educational authorities should not only provide the opportunity for pre-school Deaf children to mix with their hearing peers but should also enable them to be with others who share their condition either in nursery classes, day schools for the Deaf, or as pupils in nursery classes in residential schools for the Deaf. Most local educational authorities employ peripatetic teachers of the Deaf who visit the Deaf children in the homes before they are of formal school age. Zambia can emulate Sign language programs that are being developed for parents of Deaf children in other countries. Hence, there is need to develop programs in Zambia for parents of the Deaf to be exposed to standard Sign language so that there can be continuity between the school and the home environment in the use of Sign language.

4.7: Perceptions on the Performance of Deaf pupils in English Writing and Reading Comprehension

This objective set out to determine the teachers and pupils’ perspectives on the performance of Deaf pupils in English writing and reading comprehension. It was not the intention of this study to actually test the pupils so as to determine their performance. This is because the researcher was mindful of the challenges associated with the reliability of using tests in research. For instance tests used as a research instrument have been known to cause anxiety among respondents, especially if they are being administered by a stranger. The participants might form expectations about the result of the investigation which may lead them to perform very well or very badly in such tests. However, the researcher endeavored to supplement the teachers’ perceptions by looking at the performance of the pupils from tests and examinations administered to them during the normal school program.

From the teachers’ perspective, they described the children’s performance as ranging from average to poor. Teachers felt that the performance of the children was average because the location of their schools was rural. Others felt that the performance was poor because pupils do not follow the English grammar. One teacher at Magwero added:

‘The way you see them communicating to each other that is exactly how they would want to write.’

Some teachers further stated that the performance was poor because of poor memory. One teacher put it this way;

“How can you pass an examination when just after learning something you forget?”

On the other hand when the question of performance was put to the pupils, the majority of them answered that they could not read or write good English. Out of the forty pupils interviewed, 37 pupils said that they could not read or write good English. This represented 92 percent of the total number of respondents. Only 3 out of 40 pupils asked on their performance in reading and writing English said they were good. This represented 8% percent of the total number of respondents. The following table gives a summary of the responses of the pupils on the question of whether they could read or write good English:

	yes	No
No of respondents	03	37
Percentage	8%	92%

Table 4.7: Perceptions by pupils on their abilities to write and comprehend the English language very well

Those who said they could not read and write good English advanced a number of reasons for that. Some of the reasons included the following:

Pupil based	Teacher based	curriculum based
My understanding is small	Teachers don't teach us more	Some words are difficult
I find it hard to understand words which have not been	From Grade 8, teachers are not teaching us serious. They just	Because there are many subjects to

explained to me	explain words small	learn
I don't know many words in Sign language	Teachers only talk	
	We are not learning much, teachers are fond of going to town	
I have very limited vocabulary of English because of my deafness	When the teacher signs I cannot understand their Sign language	

Table 4.8: Reasons why pupils cannot write and comprehend the English language very well

A quick perusal of the March 2012 end of term one test for St Joseph School for the Deaf confirmed that the pupils have challenges in comprehending the English language. For instance out of the whole Grade 12 class, the highest got 48 percent. On the section of rewrites the highest scored only 2 out of 10 marks. They write sentence structures such as 'had unless knew that he would come I would not prepared.' Most of their challenges are based on the fact that they write the English language using Sign language grammar.

The perception of poor performance of the Deaf in the English language is also shared by the NGOS. The Matero Faith Baptist Church described the performance of Deaf pupils as "very poor." The church attributes this poor performance to several reasons. Below are some of the reasons given by the church:

- (a) Late start in schooling.
- (b) No follow up by parents of the Deaf on their children's educational progress.
- (c) Poor teaching skills by teachers.
- (d) Poor or non availability of pre schools for the Deaf.
- (e) None or wrong use of Sign language in classes for Deaf pupils.
- (f) Limited vocabulary in the Zambian Sign Language Dictionary.

The findings that most children perceive themselves to be very poor in English writing and reading comprehension is very worrying. This however is not very surprising. As seen from the literature review, many scholars have established that an average deaf person graduates at below average reading level. It seems that these perceived difficulties in English literacy emanate from the nature of Sign language grammar. This is evident from an observation by one of the teachers who said this:

“The way you see them communicating to each other that is exactly how they would want to write.”

To some extent, this also shows that the teachers are not conversant with Sign language grammar. Instead of regarding the pupils’ Sign language grammar as poor grammar the teachers should be taking advantage of the pupils’ Sign language grammar background in their transition to English language grammar.

There is need for teachers to be well acquainted with Sign language grammar so that they can find ways of helping the Deaf children transit from Sign language grammar to Standard English language without discrediting Sign language grammar and frustrating the children. This transition can only be made possible through the bilingual and bicultural approach. As noted by Biggs (2004) the priority of Bilingual and Bicultural (BIBI) approach is to introduce at the earliest stage the language which a child can most easily learn and in the case of Deaf children that are visual rather than aural learners, this is Sign language. A second language, a written language, is then gradually introduced with Sign language used to explain English grammar, syntax and abstract concept.

4.8 Perception on the Teaching of Sign Language as a School Subject

On this objective, the teachers were first asked if they thought that Sign language was a natural language just like any other language. 27 out of 35 respondents (teachers) said yes representing 77 percent of the total number of the respondents. Only 6 out of 35 respondents said that Sign language was not a natural language like Bemba or Tonga. This represented 17 percent of the respondents. 1 respondent did not say anything representing 4 percent of the respondents. The responses they gave are tabulated as follows:

	Yes	No	No response
No of respondents	27	6	2
Percentage	77%	17%	6%

Table 4.9: Responses by teachers on whether they believe Sign language is a natural language like spoken languages

Teachers were further asked whether Sign language should be taught as a subject or not. The majority of the respondents said that they wanted Sign language to be taught as a subject. 28 out of 35 respondents said they wanted Sign language to be taught as a subject. This represented 80 percent of the total number of respondents. Only 4 respondents said no representing a mere 11 percent of the total number of respondents. 3 respondents which represented 9 percent did not provide any response to the question. Their views are summarized in the table below:

	Yes	No	No response
No of respondents	28	4	3
Percentage	80%	11%	9%

Table 4.10: Responses by teachers on whether Sign language should be taught as a subject or not

When asked about the justification for desiring that Sign language should be taught as a subject, the following were some of the reasons advanced:

Educational based reasons	Human rights based reasons
Because it is their main mode of communication	Promote the status of Sign language and make deaf users competent in the use of Sign language
Because parents from different homes do	It's the first language for the Deaf

not know Sign language	
It will help pupils to understand what is taught to them as well as improve their command of the English language and the ability to express themselves in proper English	Because it is a language which should be accepted as well
Yes, because it is very difficult because for example as teachers they post us everywhere so it can be an advantage if we learn at school. It is very challenging if you are posted at a Deaf school	It is just like any other language that is used in the curriculum for example English and 7 local languages
Sign language should be taught in schools so that all pupils have the same signs and to let them learn standardized Sign language	
To help improve the vocabulary of Deaf pupils especially at lower primary	
To have uniform language in all schools and out of school	
For pupils to perform better in schools they need to use language correctly and this language should be taught just like all other languages are taught	

Table 4.11: Reasons for teaching Sign language as a subject

These views were echoed by the curriculum specialist for hearing impairment who stated that there was need to introduce Sign language as a taught subject. He said that her office has seen the gap and was in the process of preparing a draft curriculum in Sign language but the program had been delayed by lack of funding. This is how she put it;

“The current curriculum is not catering well for the educational needs of the Deaf. Deaf pupils are not catching up in English but they are

very poor. We want to introduce Sign language as a taught subject so that pupils would be able to compare it with English. The NBTL does not include special education teachers. The program should include special education teachers so that they learn how it is implemented”

The Zambia National Association of the Deaf also supports the teaching of Sign language as a school subject. They urged all the stake holders to advocate for the rights of the Deaf, the right to better education through the use of Sign language in all the academic deliberations. This is how one of the members of the association who is deaf himself put it:

Sign language is a recognized language at international level (UN Convention on the Persons living with Disabilities (CRPD 2000). It is a language that most Deaf people use due to Deaf culture compared to spoken languages. And Deaf people can perform well academically if their own language is used. If the use of Swahili in Tanzania made a difference what of Sign language?”

Meanwhile another NGO, the Matero Faith Baptist Church, which works with Deaf people, also believes that Sign language should be introduced as a taught subject. Below is a list of reasons for the introduction of Sign language as a taught subject:

- (a) It can unify the standard and quality use of Sign language throughout the country.
- (b) It can help in monitoring, guiding, teaching and research on the standardized Sign language in the country.
- (c) It will produce Sign language experts and lead the way for research in the language.
- (d) It can be regulated by a regulating body.
- (e) It will also help to produce professionalism in Sign language.

Teachers were further asked how far Sign language should be taught. Most of the respondents stated that they wanted it to be taught up to Grade 12. 22 out of 35 teachers

responded that Sign language should be taught up to Grade 12 representing 63 percent of the total number of respondents. Five people said Sign language should only be taught up to Grade 4 while 7 said it should be taught up to Grade 7. This represented a 14 percent for Grade 4 level advocates and another 20 percent for Grade 7 level advocates. Only one respondent representing 3% felt that the language should be learnt up to Grade 9. The following is a table which shows the responses of teachers on the question of how far Sign language should be taught.

	Grade 4	Grade 7	Grade9	Grade 12
No of respondents	5	7	1	22
Percentage	14%	20%	3%	63%

Table 4.12: Responses by teachers on how far Sign language should be taught as a subject

The teachers were further asked if Sign language should be examinable. 20 teachers representing 57 percent of the total number of respondents said the subject should be examinable just like any other subject. 12 teachers out of 35 said it should not be examined. This represents 34 percent of the total number of respondents. 3 teachers did not provide any response which represented 9 percent of the total number of respondents. The table below provides a summary of the responses of teachers as regards the examination of Sign language:

Yes	No	No response
20	12	3
57%	34%	9%

Table 4.13: Responses by teachers on whether Sign language should be examinable

Teachers were also asked about their ability to teach Sign language. Most of them expressed confidence that they could teach Sign language. Out of 35 respondents, 26 of them said they would be able to teach Sign language. This represented 74 percent of the total number of respondents. On the other hand only 6 teachers said that they could not teach Sign language. This represented 17 percent of the total number of respondents. 2 respondents did not give any response. The table below shows the responses of teachers to the question of whether they were capable of teaching Sign language if it was introduced as a taught subject:

	Yes	No	No response
No of respondents	26	6	3
Percentage	74%	17%	9%

Table 4.14: Responses by teachers on their ability to teach Sign language

These statistics about the teachers’ ability to teach sign language is very interesting because initially the same teachers had admitted not undergoing comprehensive training in sign language. Despite this, most of them felt that they were fluent in Sign language because they had learned it through interaction with pupils, experienced teachers and some Deaf friends. This, however, should not be the case if we are to maintain standards in Deaf education.

Children were asked on which language they find easy to learn. The majority of the pupils stated that Sign language was much easier for them to learn. Out of the 40 pupils interviewed, 36 pupils stated that they find it easy to learn Sign language. This represented a total of 90 percent of the total number of pupils interviewed. Only 4 out 40 pupils stated that they found it easy to learn English representing 10 percent. Their responses are shown in the figure below:

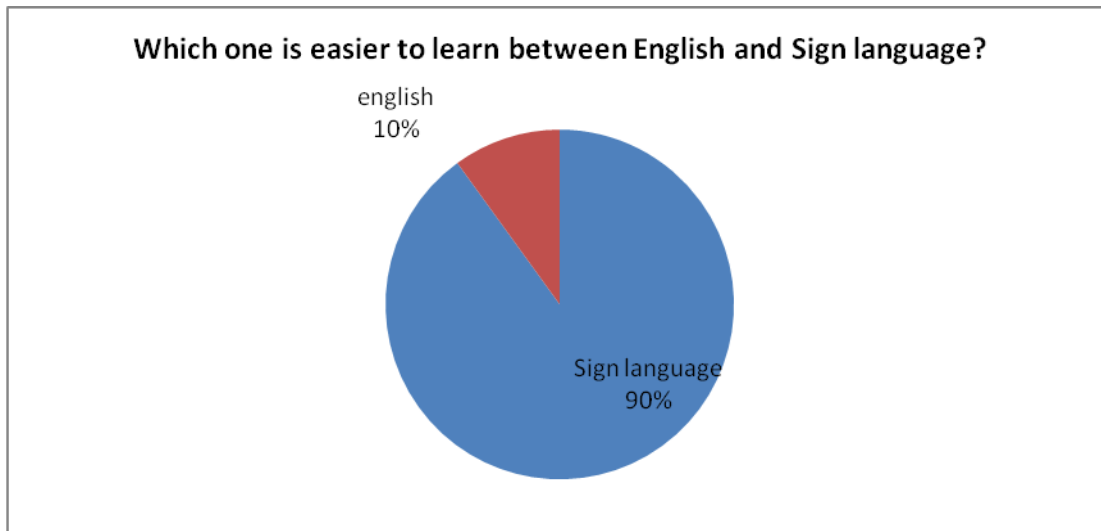


Figure 4.8: Responses by pupils on which language is easier for them to learn between English and Sign language

From this study, it is clear that 80 percent of the teachers want Sign language to be taught as a subject. The teachers said that this would help pupils understand what is taught to them as well as improve their command of the English language and ability to express themselves in proper English. These findings are supported by what is happening in Sweden where Sign language is used as a medium of instruction as well as a taught subject itself. The Deaf students at school study Sign language along with written Swedish. This has helped improve their performance in Swedish (Chupina 2006).

Teachers and standards officers observed that Sign language needed to be introduced as a taught subject for the purpose of ensuring that all pupils use the same signs and learn standardized Sign language. This is in line with www.startals.com where it is observed that the school system plays an important role in standardizing Sign language. In societies where Sign languages have been standardized and are well developed, this has been as a result of their use in the school system. This is because the use of any language in the education system usually promotes the desire by society to develop and standardize such a language. With regard to Sign language, reference can be made to the situation where the development and standardization of Sign language emanated from its use in the education system. In this respect www.startasl.com reports that De L' Epee opened the first public school where he collected different signs which the children were bringing

with them in the school environment. He then used these signs to teach French. These signs soon became standardized language which De L' Epee taught and which graduate Deaf children spread to various places. This was the first standard Sign language. In the same manner, the teaching of Zambian Sign language in schools in Zambia can bring about its standardization because everyone within the school system would learn the same signs.

From the reasons given by some of the respondents on why Sign language should be taught as a subject there is also a strong recognition of the fact that this is a fully fledged language like all the other languages used in the Zambian education system. There is also recognition that this is the only means of communication for the Deaf children. Hence, if English and other languages can be taught as school subjects to hearing pupils why not teach Sign language to Deaf pupils?

It is also interesting to note that even though most of the teachers advocated for the teaching of Sign language and claimed that they can teach Sign language, these are the same teachers that earlier on revealed that they did not have any comprehensive training in Sign language. Our view is that they perceive their knowledge of basic Sign language grammar and vocabulary as competence in the language and as all that they would need to teach the pupils. Hence even as we advocate for the introduction of Sign language as a school subject, there will be need to strengthen the teaching of Sign language in teacher training institutions.

4.9 Summary

This chapter presented the findings of the study. The study has established that most teachers in the two schools investigated did not undergo any comprehensive training in Sign language. It has also revealed that although Sign language is the medium of instruction it is not formally taught by the schools. They teach sign vocabulary which is thereafter used as a means to acquiring the English language. The study also revealed that teachers are not consistent with any one signing mode as they randomly change between Sign language and Signed English. The study also noted that teachers face a number of challenges in teaching Deaf pupils and that they have come up with their own coping

mechanisms. Finally the study revealed that the majority of the respondents would want Sign language to be introduced as a taught and examinable subject.

CHAPTER 5

SUMMARY AND RECOMMENDATIONS.

5.0 Introduction

This chapter presents the summary, conclusions and recommendations of the study. It summarizes the findings of the study and gives the recommendations which the author thinks would help improve the standard of Deaf education in Zambia. It also outlines areas of further research.

5.1 Summary of the Research Findings

This study has established that most teachers of the Deaf do not undergo comprehensive training which prepares them to adequately teach Deaf children. This seems to be due to the fact that the training institutions take the medical model where Sign language is not considered as a fully-fledged language for the Deaf but simply as a remedial measure of communicating with the Deaf.

On the question of how Sign language is used, the study established that Sign vocabulary is taught in the primary grades. The study also established that teachers use a mixture of Sign language and Signed English interchangeably in these schools. Although teachers have good reasons for mixing the signing systems, it may be detrimental to the language development of the Deaf especially if competence has not been developed in any language.

With respect to the challenges which teachers face in Deaf education, the study has found that because of lack of adequate Sign language training of the teachers of the Deaf; there are some challenges which the teachers face in teaching the Deaf. These challenges include signing words wrongly at times and the notion that Sign language is a shallow language. The question of inadequate training has also led to some pupils blaming the teachers especially the hearing teachers saying that they do not teach them in Sign language which they understand as seen by their overwhelming preference of Deaf teachers to hearing ones. There is also a challenge of lack of resources for Sign language

as only one Sign language book and the Sign language dictionary were found being used by teachers.

As regards the coping strategies, teachers simply learn Sign language from the pupils themselves. They also rely a lot on the chalk board and pointing. Where they come across new signs which are unknown to both the teacher and the pupils, they simply create new signs. However the challenge is that the newly created signs will only be known to that particular class.

The study also revealed that language is 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 have also attested to the fact that the way the Deaf pupils sign is the way they write. The teachers seem ignorant about Sign language grammar.

The study also found that the major challenge which the parents face is communication with their children. They have also bemoaned the small number of schools offering education to Deaf and hearing impaired pupils.

On the question of whether Sign language should be taught as a subject, the study found that there was confusion as to whether the schools were teaching Sign language as a subject or not. While some teachers claim that they teach Sign language at lower grades, what they actually teach is simply sign vocabulary. Despite these weaknesses, the study also found out that the majority of the respondents want Sign language introduced as a taught and examinable subject at least up to Grade Twelve.

5.2 Recommendations on Policy Change and Further Research

Based on the findings of the study outlined above, various recommendations can be made. First of all the government through the Ministry of Health should introduce early hearing screening for children between 0 and 6 months. This is in order to come up with early intervention programs. The Government of the Republic of Zambia through the Ministry of Education needs to introduce early language intervention for children with

hearing impairment. This is because as already observed, early language intervention improves literacy in Deaf children.

The government through the Ministry of Education also needs to introduce comprehensive training in Sign language as a language for teachers of the Deaf. The University of Zambia and ZAMISE should design a full course in Sign language at diploma and degree levels respectively. In this regard there is need to have special needs teachers specialized in disabilities so that those that specialize in Deaf education can take Sign language as a minor. The Sign language program can be run in conjunction with the Department of Literature and Languages. This would improve the standards of education as currently most teachers are not competent in Sign language.

Government through the Ministry of Education should also introduce Sign language as a taught and examinable subject in schools. This would ensure total emersion of the Deaf in their first language which is Sign language while learning written English at the same time as a second language.

As noted in the findings above, the ZSLD currently in use is outdated and needs serious revision. The government in conjunction with the University of Zambia, the Zambia Institute of Special Education and the Zambia National Association of the Deaf should embark on the review and development of the Zambian Sign language Dictionary. This should involve the compilation and development of a well researched Zambian Sign Language Dictionary that will incorporate all the existing variations of signs used in all the parts of the country by the Deaf.

In addition, the University of Zambia and other universities should take a leading role in research to discover new and effective strategies of teaching literacy to the Deaf. There are numerous research opportunities in Deaf education since it is a relatively new field.

The government should develop more Sign language teaching resources. These should be in the form of Sign language story books, picture strips, Sign language video tapes, charts, pupils and teachers' books and many more in order to improve the teaching of Sign language in schools.

The study has noted that most pupils prefer to be taught by deaf teachers. Hence government should increase the employment of Deaf adults as teachers and language role models for the Deaf children. These teachers have the advantage of being in possession of Sign language skills. However, they should be adequately trained so that they can positively impact on the education of the Deaf children. This is in line with the Bilingual/Bicultural approach to Deaf education. This will also help give the Deaf children a positive Deaf identity.

The government should also train the parents of Deaf children in Sign language in order to provide language experiences to their children as early as possible. This will expose the Deaf children to the normal language development trajectory just like their hearing peers.

Many studies have shown that the bilingual/bicultural approach is the most effective approach of teaching the Deaf children. Hence the government needs to introduce the bilingual/bicultural approach to the education of the Deaf.

We would recommend that the University of Zambia should consider moving the Sign language course from the Department of Educational Psychology, Sociology and Special Education to the Department of Literature and Languages. This would mark the first step in recognizing that Sign language is a fully fledged language like any other language. Students doing special education would then be required to take Sign language courses from the Department of Literature and Languages which would be compulsory for all special education students.

As noted from the study, there are serious challenges with regard to teaching technical subjects due to lack of appropriate signs. We would recommend that the Ministry of Education and the Deaf association in conjunction with the University of Zambia and some practicing teachers should conduct research in order to produce necessary technical signs for use in specific subjects such as Science, Mathematics, Biology and other technical subjects.

At the moment Deaf pupils are subjected to the same examinations with hearing children. In this regard we would like to recommend that there is need for Examinations Council of

Zambia (ECZ) officials responsible for examinations to be orientated to the special needs of deaf candidates. We recommend that the ECZ should consider modifying the examinations for the Deaf by removing certain components such as those that are sound based and may be difficult for the Deaf to understand.

It is hoped that these recommendations once implemented will greatly enhance the quality of education for deaf children in Zambia.

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APPENDICES

Appendix A: Questionnaire for Teachers

Sex.....

Age (Tick where applicable)

- a. Below 20 years
- b. 20-30 years
- c. 31-40 years
- d. 41-50 years
- e. Above 50years.

Grades taught.....

Years of experience in teaching.....

The Nature and Role of Sign Language in Schools and Units for the Deaf.

1. Do you think that Sign language is a natural language just like English, Bemba or Lozi?

yes	No
-----	----

2. For your answer give reasons.....

.....

.....

.....

3. What subjects are there in your curriculum?.....

.....

.....

4. Are you offering Sign language as a taught subject in your school?

yes	No
-----	----

5. For your answer given in question 4 above explain why?.....

.....
.....

6. Do you think the Deaf children acquire enough Sign language in their natural home environment to promote academic learning?

yes	no
-----	----

7. For your answer to question 6 give reasons

why?.....

.....
.....

8. Do you think Deaf children learn enough Sign language from the teachers as they teach the various content subjects?

yes	No
-----	----

9. For your answer to question 6 give reasons.....

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

10. From your experience as a teacher of the Deaf, where do you think Deaf children from hearing parents acquire Sign language from? Tick where appropriate.

a. Home

b. Friends

c. School

d. Inborn

11. Give reasons for your answer to question 10 above.....

.....
.....

.....
.....

12. In your view as an experienced teacher of the Deaf, who is better placed to teach Sign language to Deaf pupils? Choose by ticking from the list below.

- a. Friends
- b. Deaf teachers
- c. Any teacher who is an expert in Sign language.
- d. parents

13. Give reason for your answer to question 12

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

14. What is the best way to teach Sign language to Deaf children?.....

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

yes	No
-----	----

15. Do you think the Deaf pupils know and acquire Sign language by virtue of them being Deaf?

16. For your answer to question 15 above give reasons why.....

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

.....
.....

17. What signing system do you use when teaching Deaf children various content subjects such as Mathematics, History, Geography etc? Choose by ticking from the list below;

- Sign language
- Signed English
- Both

18. Why do you use the signing system you have chosen above?.....

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

19. Do you think it is a good idea to use a mixture of signing system for instance both Zambian Sign language and signed English.

yes	No
-----	----

20. For your answer to question 19 above give reasons why.....

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

21. If you use both Zambian Sign Language and Signed English, do you inform them when you switch from one language to another?

yes	No
-----	----

22. Give reasons for your answer

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

.....
.....
23. Do you think that your pupils know and notice the differences between the typical Zambian Sign Language and Signed English whenever you code switch or change between these two languages?

yes	No
-----	----

24. Give reasons for your answer to question 23 above.....

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

25. Do you think it is a good idea to use one signing system?

yes	No
-----	----

26. For your answer to question 25 give reasons.....

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

27. Do your pupils understand and follow your Sign language?

28 Give reasons for your answer to question 27.....

yes	No
-----	----

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

29. Do you understand the Deaf children's way of signing very clearly?

yes	no
-----	----

30. For your answer to question 29 give reasons why.....

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

31. If there is some occasional language misunderstanding between you and your pupils or pupil, describe one incident when you and your pupils or pupil misunderstood one another on account of language.....

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

32. Should Sign language be taught in schools as a subject?

yes	No
-----	----

33. Give reasons for your answer to question 32 above.....

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

How Sign language can be taught

34. How can Sign language be taught in schools.....

.....
.....

.....
.....

35. Should Sign language have the same number of periods as the other subjects?

yes	No
-----	----

36. Give reasons for your answer in question 35

above.....
.....
.....
.....
.....
.....

37. If Sign language was to be introduced as a taught subject, how far should Deaf pupils learn it?

- a. Up to grade 4.
- b. Up to grade 7.
- c. Up to grade 9.
- d. Up to grade 12.

38. Give reasons for your answer in question 36.

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

39. What content should it take? For instance should it concentrate on sign vocabulary or should it include other details such as Deaf culture, language structure and Sign language grammar and rules?.....
.....

.....
.....
40. Are the Deaf teachers well placed and better equipped to teach Sign language as a subject to Deaf pupils?

yes	no
-----	----

41. For your answer to question 39 Give reasons

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

42. Should Sign language be examinable by the Examinations Council of Zambia?

yes	no
-----	----

43. Give reasons for your answer to question 41 above.....

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

Challenges of Teaching Sign Language as a Subject

44. Are you fluent in Sign language?

Yes	No
------------	-----------

45. Did you undergo a comprehensive training in Sign language including sign linguistics, syntax and grammar?

Yes	no
-----	----

46. If the answer to question 44 above is no how did you learn your Signlanguage.....

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

47. If Sign language is to be introduced as a subject for Deaf pupils, are you able to teach it to the Deaf pupils?

yes	no
-----	----

48. Does your school have enough resources to be able to teach Sign language?

yes	no
-----	----

49. If answer to question 33 is NO what are some of the resources that you need to effectively teach Sign language?.....

yes	no
-----	----

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

50. Do Deaf pupils face any language challenges under the current curriculum?

51. IF answer to question 35 is yes list the challenges.....

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

52. What are the challenges of implementing Sign language as a taught subject.....

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

Effect of Teaching Sign Language as a Subject

53. Do you think Sign language will take away from the very little time

yes	no
-----	----

available?

54. Do you think teaching Sign language as a subject will improve the self esteem and identity of deaf pupils?

yes	no
-----	----

55. Do you think teaching Sign language as a first language for the Deaf will facilitate the acquisition of literacy skills and positive academic performance.

yes	no
-----	----

56. Give reasons for your answer in question 39

above.....

.....

.....

.....

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.....

57. Do you think the teaching of Sign language as a first language for the Deaf would improve communication between teachers of the Deaf and the pupils?

yes	no
-----	----

58. give reasons for your answer question 56

above.....

.....

.....

THE END

Appendix B: Interview Guide for Pupils

Sex.....

Age.....

Grade.....

1. Do you know Sign language very well?

yes	No
-----	----

2. Give reasons for your

answer.....
.....
.....
.....
.....
.....

yes	No
-----	----

3. Do you know how to read and write good English?

4. Give reasons for your

answer.....
.....
.....
.....
.....

5. Who taught you Sign language? Tick one of the following:

- a. Your mother
- b. Your teacher at school
- c. From older pupils within school
- d. From friends
- e. Others specify.....

6. Do you understand the signs used by your teacher?

Yes	no
-----	----

7. If no

Why?.....

.....

.....

.....

8. Do you want to have Sign language as one of your subjects?

yes	no
-----	----

9. Give reasons for your

answer.....

.....

.....

.....

.....

10. Is English and Sign language the same?

yes	no
-----	----

11. Give reasons for your

answer.....

.....

.....

.....

.....

12. Which one is easy to learn between Sign language and

English?.....

13. Do you think knowledge of Sign language can help you understand English?

yes	no
-----	----

14. For your answer to question 13 give

reasons.....
.....
.....
.....
.....

15. Do you want to be taught by a Deaf teacher or a hearing teacher?

yes	no
-----	----

16. Give reasons for your

answer.....
.....
.....
.....
.....
.....

17. Do you understand everything the teachers sign to you when they sign?

yes	no
-----	----

18. Give reasons for your

answer.....
.....
.....
.....

THE END

Appendix C: Focus Group Discussion Guide for Teachers

1. How is the performance of the deaf children in reading and writing English and what are the main contributing factors to the performance?
2. Should schools offer Sign language as subject to be taught like English, science etc.?
3. How could the teaching of Sign language be done?
4. What challenges are involved in teaching Sign language as a subject?
5. How do you cope with these challenges when teaching deaf pupils?
6. What would be the benefits of teaching Sign language as subject?
7. What linguistic challenges do you face when teaching children with hearing impairments?
8. In your view what language policy should the government through the Ministry of Education make in order to improve the performance of the deaf in English language?

THE END

Appendix D: Questionnaire for Lecturers

Age (tick where applicable)

30-40

41-50

51-60

61 and above

Sex.....

1. What is your specialization?
.....

2. What is the name of institution where you obtained qualification to teach at this college or university?.....

3. Were you satisfied with the standard of Sign language training you received at that institution

yes	No
-----	----

4. How long have you been in this field of Deaf education?.....

5. Do you provide Sign language training for teachers of the Deaf at this institution?

yes	No
-----	----

6. As a lecturer for teachers of Deaf pupils do you have enough signing skills to impart to prospective teachers of the Deaf?

yes	No
-----	----

7. Where did you learn the Sign language from?.....

8. What kind of Sign language resources do you have and use in the training of teachers of the Deaf?
.....
.....

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.....
.....

9. How detailed is your curriculum regarding Sign Language for teachers of the Deaf?
(list key topics and concepts taught).....

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.....
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.....

10. Are you happy and satisfied with the standard of Sign language training provided to prospective teachers of the Deaf by your institution?

yes	no
-----	----

11 Give reasons for your answer.....

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

12. In your opinion what should be done to improve the training of teachers of the Deaf.....

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.....
.....

18. Give reasons for your answer to question

.....

.....

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THE END

Appendix E: Questionnaire for Specialists and Standards Officers.

Age.....

Sex.....

1. What is your specialization?

.....

2. How long have you been in this field of special education?

.....

3. How is the performance of Deaf pupils in language particularly the English language?

Tick where appropriate.

a. good

b. average

c. poor

4. Give reasons for your

answer.....

.....

.....

.....

5. When Deaf children are enrolled in primary school, what is the target language of development for the Deaf?

a. Sign language

b. signed English

c. English

6. What is the rationale for targeting that particular language?

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

7. Do you know the language curriculum of the Deaf?

yes	no
-----	----

8. If answer to question 6 is yes what are the objectives of the language curriculum?.....

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.....
.....

9. Do you think it is sufficient to cater for the educational needs of the Deaf?

yes	no
-----	----

10. What would you like to see changed in the language curriculum for the Deaf?.....

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

11. In your opinion, what is the importance of early language development in the development linguistic skills in Deaf

children?.....
.....
.....
.....
.....

12. Do you think Sign language should be taught and examined as a subject?

yes	no
-----	----

13. Give reasons for your answer.....
.....
.....

14. In your view what are some of the curriculum challenges in the education of Deaf pupils in Zambia?.....

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

15. Any other information that may be relevant to this study.....
.....
.....
.....
.....

THE END

Appendix F: Observation Check List

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

THE END

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6. Are you satisfied with the standard of Sign language training in our high learning institution such as the University of Zambia and Zambia institute for special education?

yes	No

7. Give reasons for your answer.....

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.....

8. What are some of the solutions to the challenges which you have outlined above?.....

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

9. Should Sign language be introduced as a taught and examinable subject in schools and units for the Deaf in Zambia?

yes	No

10. Give reasons for your answer

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11. Any other information which you think might be relevant to this study.....

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THE END

Appendix H: Questionnaire for parents

- 1. Occupation (e.g. doctor, teacher, business man).....
- 2. When was the child born?.....
- 3. Relationship to the child e.g. (father, uncle etc).....

4. Was he/she born deaf? (Tick where appropriate in the box)

yes	No

5. If no how did he/she become hearing impaired.....

.....

.....

6. At what age did he/she start learning Sign Language.....

.....

7. Do you know how to communicate in Sign language?

yes	No

8. What methods do you use in communicating with your child?.....

.....

.....

.....

.....

yes	No

9. Do you help your child with school work, for instance home work?

10. Give reasons for your

answer.....

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.....

11. What are some of the educational challenges which you find in educating your Deaf child?.....
.....
.....
.....
.....

12. How do you think these challenges or problems would be solved?.....
.....
.....
.....
.....

13. Any other information which you would like to share which may be relevant to this study.....
.....
.....

THE END