

**VIEWS OF TEACHERS AND PARENTS ON USE OF LOCAL SIGN LANGUAGE IN  
TEACHING LITERACY EDUCATION AMONG HEARING-IMPAIRED LEARNERS  
IN LOWER GRADES: A CASE OF SELECTED PRIMARY SCHOOLS IN LUSAKA,  
ZAMBIA**

**BY**

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

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## DECLARATION

I, **BESTER BRANGO ZULU**, hereby declare that this piece of work is as a result of my own independent investigation and that the information used is of my own work and that it has never been presented at any other university, and all other sources of information used have been duly acknowledged in the text.

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## APPROVAL

This dissertation of **BESTER BRANGO ZULU** 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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## **DEDICATION**

This dissertation is dedicated to my family, Mr. Gerald Zulu and children. They are the best people in my life, always encouraging me when things were tough. I thank them for their support and faith in me.

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## ABSTRACT

This study examined the views of teachers and parents on use of local sign language in teaching literacy education to hearing-impaired learners in lower grades. The objectives of the study were to: identify local language signs used in the teaching of literacy education in schools; establish the views held by teachers and parents on the use of local sign languages in literacy education and assess approaches teachers used in teaching literacy education through localised sign language and explore factors affecting the use of local signs in literacy education for the hearing-impaired learners. This study used an interpretative research design supported by qualitative approach. The sample size was 36 participants: - consisting of 4 head teachers, 16 specialist teachers and 16 parents of learners with hearing impairments in lower grades. Purposive sampling technique was used to select teachers and parent participants. The researcher used observation checklist and interview guides as instruments for data collection. Collected data was analysed using thematic analysis and presented descriptive voices of the participants to support the findings. The study revealed that there were a lot of common local signs hearing-impaired learners come with from home such as iconic signs representing ball, house, snake, then descriptive signs such as fat, thin, tall and action signs such as eat, drink, sleep, laugh and cook. These formed a base on which lessons were built. It was also found that localised sign language was not working well as most signs were adapted from sign English and very few signs were in localised sign language to support learning. The study also revealed that teachers and parents held positive views on use of local signs in literacy education. The study further revealed that approaches teachers use in teaching literacy education through localised sign language involved pictures, wood cad real object and involved demonstration and role play. The research revealed that there were several factors affecting use of local signs in literacy education. For instance, some words in local sign language had no signs so hearing-impaired learners children cannot understand variation with local signs teachers had no orientation on use of local signs, formulating a friendly curriculum to meet the needs of each learner was difficult and materials were not available to support use of localised signs in literacy education on confusion from mother tongue. The study recommended that the Ministry of General Education should formalise the use of local sign language across different tribes in Zambia and that teachers should receive orientation and training in the use of local signs in the teaching of literacy education to the hearing-impaired learners.

**Keywords:** *Local Sign Language, English Sign-language, Literacy Education, Hearing-impaired.*

## TABLE OF CONTENTS

<b>COPYRIGHT .....</b>	<b>i</b>
<b>DECLARATION.....</b>	<b>ii</b>
<b>CERTIFICATE OF APPROVAL .....</b>	<b>iii</b>
<b>DEDICATION.....</b>	<b>iv</b>
<b>ACKNOWLEDGEMENTS .....</b>	<b>v</b>
<b>ABSTRACT.....</b>	<b>vi</b>
<b>LIST OF FIGURES .....</b>	<b>x</b>
<b>LIST OF TABLES .....</b>	<b>xi</b>
<b>LIST OF APPENDICES .....</b>	<b>xii</b>
<b>ACRONYMS .....</b>	<b>xiii</b>
<b>OPERATIONAL DEFINITION OF TERMS.....</b>	<b>xiv</b>
 <b>CHAPTER ONE: INTRODUCTION .....</b>	 <b>1</b>
1.1 Overview .....	1
1.2 Background of the Study .....	1
1.3 Statement of the Problem.....	3
1.4 Purpose of the Study.....	3
1.5 Objectives of the Study .....	4
1.6 Research Questions .....	4
1.7 Significance of the Study .....	4
1.8 Delimitation.....	5
1.9 Limitation.....	5
1.10 Theoretical Framework.....	6
1.11 Organisation of Dissertation.....	7
1.12 Summary.....	8
 <b>CHAPTER TWO: LITERATURE REVIEW.....</b>	 <b>9</b>
2.1 Overview .....	9
2.2 Views of teachers and parents on the use of local languages in literacy education at lower grades among hearing-impaired learners.....	9



2.3 Approaches teachers use when teaching literacy education to hearing-impaired learners in local language .....	13
2.4 Factors that may have Influenced Views of Teachers and Parents on the Use of Local Signs in Literacy Education for the Hearing-impaired learners .....	19
2.5 Interventions and measures to improve teaching of literacy education to hearing impaired learners through use of local signs .....	24
2.6 Summary .....	26
<b>CHAPTER THREE: METHODOLOGY .....</b>	<b>28</b>
3.1 Overview .....	28
3.2 Research Design.....	28
3.3 Study Sites .....	28
3.4 Population .....	29
3.5 Sample Size .....	29
3.6 Sampling Procedures .....	29
3.7 Research Instruments .....	29
3.8 Data Collection Procedures .....	30
3.9 Data Analysis .....	30
3.10 Ethical Considerations .....	30
3.11 Summary.....	31
<b>CHAPTER FOUR: PRESENTATION OF THE FINDINGS .....</b>	<b>32</b>
4.1 Overview .....	32
4.2 Research Question 1. What are the local language signs used in the teaching of literacy education to hearing-impaired in primary schools? .....	32
4.2.1. Signs used in Teaching Lower Class for the Hearing-Impaired Learners .....	32
4.2.2 Common Local Signs Used in Teaching Literacy .....	33
4.2.3 Use of Local Signs for Hearing Impaired Learners at Lower Grades .....	34
4.2. 4 Teachers' Understanding of Local Signs .....	36
4.3 Research Question 2. How do teachers and parents view use of local signs in literacy education? .....	37
4.3.1 Orientation and Training in Teaching Literacy Education to Hearing-impaired through localised signs .....	37

4.3.2 Effectiveness of Local Signs in Literacy Education of Hearing-Impaired .....	39
4.4 Research Question 3. What Approaches do Teachers Use in Teaching Literacy Education Using Local Signs to Hearing-Impaired? .....	41
4.4.1 Strategies Used in Teaching Literacy Education through Local Signs .....	41
4.4.2 Awareness on other Strategies that could be Used .....	42
4.4.3 Material and Equipment Used in Teaching Literacy Education in Local Signs .....	44
4.5. Research Question 4: What Factors might have Influenced the Use of Local Signs in Teaching Literacy Education in the Study Schools?.....	45
4.5.2 Measures to improve the Use of Localised Sign Language.....	48
4. 6 Summary .....	49
<b>CHAPTER FIVE: DISCUSSION OF FINDINGS.....</b>	<b>51</b>
5.1 Overview .....	51
5.2 Local Language Signs used in the Teaching of Literacy Education in Schools.....	51
5.3 Views Held by Teachers and Parents on the use of Local Language Signs in Literacy Education .....	54
5.4 Approaches Teachers used in Teaching Literacy Education through Localized Language Signs .....	56
5.5 Factors that might have Influenced Views of Teachers and Parents on the use of Local Language Signs in Literacy Education for the Hearing-Impaired.....	58
5.6 Summary .....	62
<b>CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS .....</b>	<b>63</b>
6.1 Overview .....	63
6.2 Conclusion .....	63
6.3 Recommendations.....	64
6.4 Suggestion for Future Research .....	64
<b>REFERENCES.....</b>	<b>65</b>
<b>APPENDICES .....</b>	<b>70</b>

## LIST OF FIGURES

<b>Figure 1:</b> Teachers Understanding of Local Signs.....	34
<b>Figure 3:</b> Strategies Teachers Use in Teaching Literacy using Local Signs.....	35
<b>Figure 2:</b> Orientation and Training in Teaching Literacy Education to Hearing-Impaired.....	39
<b>Figure 4:</b> Use of Sentence Makers and Word Cards, Conversation Chart and the Phonic Flip in Teaching of Literacy Education.....	40

## LIST OF TABLES

<b>Table 1:</b> Lower Grades for Hearing-Impaired Learners Use Local Signs.....	32
<b>Table 2:</b> Improved Teaching of Literacy Education through Localised Signs.....	45

## **LIST OF APPENDICES**

Appendix I: Interview Guide for Teachers .....	70
Appendix II: Interviews Guide for Headteacher .....	73
Appendix III: Interviews Guide for Parents of Learners with Learning Impairment .....	75
Appendix IV: Observation Checklist.....	77

## ACRONYMS

<b>ASL</b>	-	American Sign Language
<b>CDC</b>	-	Curriculum Development Centre
<b>CSL</b>	-	Chinese Sign Language
<b>KSL</b>	-	Kenya Sign Language
<b>MCE</b>	-	Manually Coded English
<b>MESVTEE</b>	-	Ministry of Education, Science, Vocational Training and Early Education
<b>MoE</b>	-	Ministry of Education
<b>MOGE</b>	-	Ministry of General Education
<b>NBTL</b>	-	New Breakthrough to Literacy
<b>NGOs</b>	-	Non-Governmental Organisations
<b>PRP</b>	-	Primary Reading Programme
<b>SEN</b>	-	Special Educational Needs
<b>SL</b>	-	Sign Language
<b>SSC</b>	-	Sign-Supported Chinese
<b>ZSLD</b>	-	Zambian Sign Language Dictionary

## OPERATIONAL DEFINITION OF TERMS

<b>Finger Spelling:</b>	The use of manual alphabet to form words and sentences using different hand shapes.
<b>Hearing-impaired children:</b>	Those children who seem to experience problems in communication simply because their hearing loss either prevents them from hearing speech at all, or enables them only to hear speech which is distorted. It also includes those that do not hear any speech at all and have no speech, too.
<b>Literacy education:</b>	Refers to learning to teach students how to read, write, listen, speak, and think
<b>Local Signs:</b>	the gestures that a local community, or home uses to communicate with a person hearing impairment with family member. The members of that family or community may be the only ones that understand them.
<b>Mother Tongue:</b>	The language that one is first exposed to and is his or her main language of communication.
<b>Sign Language:</b>	the natural language predominantly used by the hearing-impaired learners which has its own distinct vocabulary and grammar predominantly used by the hearing-impaired learners.
<b>Signed English:</b>	A manual communication mode which conforms to the English Language.
<b>Special Needs Education:</b>	A specially designed programme of instruction with appropriate modification in curricular, teaching methods, medium of communication or learning environment to meet the needs of learners with special needs.
<b>Unit:</b>	A section or department in a mainstream school which caters for the affairs of the hearing-impaired learners.
<b>Zambian Languages:</b>	refers to the languages officially designated as school subjects, namely Bemba, Kaonde, Lozi, Lunda, Luvale, Nyanja and Tonga.
<b>Zambian Sign Language:</b>	Sign language used in Zambia by hearing-impaired people.

## **CHAPTER ONE: INTRODUCTION**

### **1.1 Overview**

This chapter discusses the background of the study, the statement of the problem, the purpose, objectives, significance of the study, delimitations and limitations, theoretical framework, operational definition of key terms used in the study, thereafter gives the summary of the chapter.

### **1.2 Background of the Study**

The Government of the Republic of Zambia, through the Ministry of General Education, recognises the rights of persons with disabilities, the Hearing-impaired learners included, to have access to good and quality education. Through the 1996 policy document, 'educating our future'; the Ministry of Education stresses the need to ensure that there is equality of educational opportunities for children with Special Educational Needs (SEN). The policy further emphasises 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 children with special needs to the greatest extent possible in the mainstream schools. Yet, it has not made special provisions to cater for the special communication needs of the Hearing-impaired learners, which are Sign-language, in mainstream classes (Reubell, 2010).

In Zambia, at the primary school level, the learners are expected to start schooling at the age of 7, an age at which learners with Special Educational Needs may exceed without being in school. This is so because of the persistent negative attitudes of some parents towards such learners to enroll them in school. Further, there are a total of 73 local languages spoken in Zambia, though English is the official language. In addition to English as an official language, Sign Language (SL) for the hearing-impaired learners is also recognised by the government as a medium of instruction (Ministry of Education Vocation Training and Early Education, 2013). The current Government policy, however, allows formal instruction in the familiar local language of a given community where the school is located from Grade 1 to Grade 4 in primary schools before transition to English Language. This presents yet another instructional challenge regarding the language teachers of the hearing-impaired learners should use in literacy education. It is believed that teachers use gesture systems that are used at home as opposed to the Sign Language used at school in lower primary



classes (Mubanga, 2010). Hence the need to explore the views of teachers and parents on the use of localised sign language in the teaching of literacy education in lower grades.

In 1998 the Ministry of Education introduced the Primary Reading Programme (PRP), which aims at improving literacy levels among Zambian learners. One of the strategies the programme uses is the New Breakthrough to Literacy (NBTL) course. At Grade One the course aimed at introducing initial literacy through a familiar local Zambian language. The schools and units for the hearing-impaired also use this course. The schools and units are expected to use a local sign (equivalent to a local language for the hearing-impaired learners) and move on to using a universal sign language (equivalent to English) in Grade Two onwards (Mubanga, 2010).

However, the 2013 National Curriculum Framework (NCF) re-affirms the need to use familiar Zambian languages as the official languages of instruction in pre-schools and early grades (Grades 1-4). All the teaching and learning in all the learning areas at the lower primary level will be in familiar Zambian languages. MOESVTEE (2013) revealed that there is evidence that children learn more easily and successfully through languages that they know and understand well. English was offered as a subject, beginning at Grade 2. After the children have acquired sufficient literacy skills in the Zambian languages, it become easier for them to transfer these skills quickly and with ease to Literacy in English at Grade 2, which is not sure if children with hearing impairment whose initial literacy through localised sign language can be transferred to literacy in English sign language.

In view of this consideration, learners in pre-schools and lower primary (grades 1 - 4) will be given an opportunity to learn not only the initial basic skills of literacy and numeracy in a language of play but also all knowledge, skills and values in the other learning areas. In Zambia, the seven (7) zone languages: Cinyanja, Chitonga, Ibibemba, Kiikaonde, Lunda, Luvale and Silozi as well as the widely used community languages in specific school catchment areas will be used for this purpose. It is hoped that this approach will foster better initial learning, enhance the status of Zambian languages and integrate the schools more meaningfully into the life of the local communities of which the children with hearing impairment are exposed to local signs depending on the place and the language spoken by the indigenous community (MOESVTEE, 2013).

The use of a familiar language among learners with Special Educational Needs should be enhanced by promoting the use of localised sign language to those with hearing impairment. These facts signal a need for a critical examination of what happens to learners who are hearing-impaired learners regarding learning, reading and writing. 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. However, this does not seem to be the case for the hearing-impaired learners. That's why this research seeks to investigate the views of teachers and parents on the use of localised sign language in the teaching of literacy education in lower grades in selected primary schools in Lusaka, Zambia.

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

A large body of research points to the fact that when children use a familiar language as the medium of instruction in school, both their acquisition and later transference of literacy skills to other languages is enhanced (Matafwali 2010). Despite the introduction of the revised curriculum policy of 2013, which has allowed the use of local language in the teaching of literacy education to all learners, learners with hearing impairment have not received a fair share were learning of literacy education at lower grade should be in a familiar language which should be in localised sign language. Hence little is known of the views of teachers and parents on the use of local sign language in the teaching literacy to such learners in Zambian schools. The researcher observed that the hearing-impaired learners perform poorly in literacy education in selected schools in Zambia although policy has been in force for some time now. Therefore, the study sought to investigate and document views of teachers on the use of local signs in the teaching of literacy education to learners with hearing impairment in primary schools as this type of learner have not fully exposed to literacy in localised sign language.

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

The purpose of the study is to investigate views of teachers and parents on use of local sign language in teaching of literacy education among learners with hearing impairment in selected primary schools in Lusaka, Zambia.

## **1.5 Objectives of the Study**

- i. To establish local language signs used in the teaching of literacy education in schools.
- ii. To examine views held by teachers and parents on the use of local language signs in literacy education.
- iii. To assess approaches teachers used in teaching literacy education through localised language signs.
- iv. To explore factors that might have influenced views of teachers and parents on the use of local signs in literacy education for the hearing-impaired learners.

## **1.6 Research Questions**

- i. What are the local language signs used in the teaching of literacy education to learners with hearing impairment in primary schools?
- ii. How do teachers and parents view the use of local sign languages in literacy education on learners with hearing impairment in study primary schools in Lusaka?
- iii. What approaches do teachers use in teaching literacy education through localised language signs to hearing-impaired learners in primary schools?
- iv. What factors might have influenced views of teachers and parents on the use of local signs in literacy education for the hearing-impaired learners?

## **1.7 Significance of the Study**

This study hoped to get views of teachers and parents on the use of sign language as a local language in literacy education at lower grades among hearing-impaired learners. The findings of this study may be important for the Ministry of General Education policy-makers and implementers. For the classroom teachers in special schools and units for the hearing-impaired learners, the findings may guide them as they share their experiences at school and zone levels. The findings may help them evaluate the effectiveness of using the local sign language in the course of teaching from Grade 1 to Grade 4 learners with hearing impairment. The study hoped to

highlight the challenges teachers and pupils face when using local sign language as the medium of educating the Hearing-impaired learners. This study might also assist teachers to improve receptive and expressive local language skills among hearing-impaired learners. The findings may also be useful to parents of learners with hearing impairment in that they may use the suitable local language (signs) at home which may also be used at school. In this way, the learners' language skills may develop at a faster rate. The findings may also be important for the Curriculum Development Centre subject specialists in improving the existing language curriculum for the hearing-impaired learners. They may collaborate with teachers for the hearing-impaired learners to work out appropriate curriculum materials for the hearing-impaired learners at Grade 1 to Grade 4 level and higher levels. It is hoped that non-governmental organisations (NGOs) interested in hearing-impaired learner's literacy education and the welfare of the hearing-impaired learners will use the results of this study to lobby Government and advocate for better education policies for the hearing-impaired learners. This will in turn help improve the quality and standard of hearing-impaired learners' education in Zambia. The findings of this study would contribute significant literature for scholarly work in this area of study for future studies and for global comparison.

### **1.8 Delimitation**

The study was confined to Bauleni Special School, Faith Baptist School and University Teaching Hospital special school in Lusaka district of Lusaka Province. Bauleni Special School, Faith Baptist School and University Teaching Hospital special school have been chosen by virtue of them being schools for the hearing-impaired learners in Lusaka district of Lusaka Province where hearing-impaired pupils with literacy problems are found.

### **1.9 Limitation**

The study was restricted to three selected special schools in Lusaka town, a factor that might limit the generalization of the research findings. Non availability of literature on use of local sign language in teaching of literacy education was another limitation. Furthermore, since the hearing-impaired learners have difficulties in language, the answers they might have given might in some instances not reflect their true experiences and knowledge thereby raising issues of validity. Teachers were also sceptical about being interviewed and to be observed teaching. These factors

may subtract something from the generalisability and validity of the study. However, the researcher did everything possible to ensure that the findings of the study would remain valid.

### **1.10 Theoretical Framework**

The hearing-impaired child may be the only one in family of hearing siblings and does not interact with other hearing-impaired learners. It is therefore the responsibility of the teacher to assist the children to develop that language. This study was be inspired by theoretical insights from the bilingual approach which is proposed 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 “To the extent that instruction in LX is effective in promoting proficiency in LX, transfer of this proficiency in LY will occur provided there is adequate exposure to LY (either in school or environment) and adequate motivation to learn LY” (Cummins, 2006).

In line with this model, proponents of the bilingual/ bicultural approach to hearing-impaired learners education have argued that if local sign language is recognised as the first language of the hearing-impaired learners and used as the medium of instruction, the skills acquired in local sign language can be transferred to the learning of English through literacy activities involving the use of written English (Cummins, 2006). 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, particularly in a linguistic community that uses this language in both the spoken and written modes.

However, 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 literacy 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 hearing-impaired children. They conclude that Sign Language and local languages should be considered from the perspective that both may play different roles in the literacy development of hearing-impaired 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 initialised local sign language and finger spelling. For purposes of shaping a thorough understanding of this study, evidence was secured from related studies and other relevant documentation regarding the teaching of reading and writing, at the primary/elementary school level; but with a specific bias to evidence that demonstrates how the learners who are hearing-impaired learners learn to read and write.

Arising from earlier experiences within the schools, hearing-impaired learners can be taught to read and write using several different methods using local languages in local sign language as medium of instruction. Most times, it has been upon the school/teacher to determine which method to use. The common two methods used are the manual (using elements of sign language) and oral methods. Each of these methods could be interpreted and practised differently by different educators and traditions. It is in my interest to reveal a comprehensive picture regarding the reality in schools in connection to teaching hearing-impaired learners how to read and write.

### **1.11 Organisation of Dissertation**

The chapter presented the introduction of the study. The issues in this chapter included, among others the statement of the problem, objectives, limitations, delimitations and significance of the study. The literature review is presented in chapter two. This chapter explored some of the existing literature on capacity building at global, regional and international levels. Chapter three provided the methodology which was used in conducting this study; it highlighted the research design, population, sample and sampling procedure, and data collection procedures. The research findings of the study were presented in chapter four. Chapter five discusses the findings of the study. The final chapter, which is six, provided the conclusion and made recommendations based on the important findings of the study.

### **1.11 Summary**

This chapter presented the theoretical and contextual background of the study, statement of the problem, purpose and significance of the study, objectives of the study, research questions, and delimitation, limitations of the study, theoretical framework and operational terms used in the research. Chapter 2 contains a review of literature. Chapter 3 addresses the research methodology, including data collection and data analysis.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Overview**

The present chapter provides a review of the available literature which is relevant to the present study in order to place this study within the context of similar studies. This is done to provide a justification for the study. The chapter is organised under two sections as follows: local language signs used in the teaching of literacy education in schools, the views of teachers on the use of local sign languages in literacy education on learners with hearing impairment in Zambian primary schools in Lusaka, Zambia, approaches teachers used in teaching literacy education through localised sign language to hearing impairment learners in primary schools, the facilitators and barriers in the use of local signs in the teaching literacy education to learners with hearing impairment in schools and measures to improve the teaching of literacy education through localised sign language to learners with hearing impairment in schools.

### **2.2 Views of teachers and parents on the use of local languages in literacy education at lower grades among hearing-impaired learners**

Generally speaking, literacy refers to text-based literacy skills and the ability to read and write proficiently in a given language. For the purposes of this study, the focus is on local language literacy in sign language for teaching lower grades among hearing-impaired learners. Literacy is embedded in social and cultural practices and ways in which people use language and literacy in various contexts involving knowledge, identity, and being. Literacy encompasses more than just reading and writing texts. It also involves structuring social interactions and culturally appropriate behaviour.

Students who are hearing-impaired learners and hard of hearing have substantially lower levels of literacy and overall academic achievement than the general population of public school students, and the achievement gap between the two groups widens as students grow older. High drop-out rates and low rates of successful transitions to adult life (e.g. employment or post-secondary education) highlight the need for improvement in the education of students who are hearing-impaired learners and hard of hearing. According to Wakumelo and Miti (2010), hearing-impaired learners 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 hearing-impaired learners to learning the spelling of spoken languages right from the start? Hearing-impaired learners need to learn local sign language as their first language of interaction from home as opposed to being exposed to formalised sign language when they enter school (Kamukwamba, 2017).

There are good historical reasons for the literacy impairment of hearing-impaired learners. Prior to the 1970s, the education of hearing-impaired children in Canada occurred through almost exclusively oral methods. This approach primarily emphasised the use of amplification (hearing aids) to develop speaking and listening skills. The educational focus was to remediate the deficits of hearing-impaired learners children to help them become more like hearing people. Frequently this emphasis on speech skills took precedence over facilitating non-oral language development and teaching hearing-impaired learners people to become literate (Mayberry and Eichen, 1991).

In Zambia, the development of the first refined Zambian local sign language started at Magwero School for the Hearing-impaired learners in eastern Zambia in the 1950s. According to Serpell and Mbewe (1990), hearing-impaired learners were picked up by missionaries from the neighbourhood of Magwero mission station on both sides of the Zambia/Malawi border. While resident at Magwero, hearing-impaired learners pooled their knowledge of signing, refined their signing and established the means of communication for the hearing-impaired learners' community that was created when the mission opened Magwero School for the hearing-impaired learners in 1955. At that time, European educators were fervent advocates of the oral system of education for the hearing-impaired learners. Speech was upheld as incontestably superior to signing at the international congress held in Europe. In this context, the Dutch missionary teachers of the Hearing-impaired learners cannot be said to have brought the knowledge of Sign Language to Zambia. Zambian Sign Language which was a mixture of imported signs, may not have been blended to local environment but used to teach was developed and refined by the Hearing-impaired learners themselves (Kamukwamba, 2017). This clearly demonstrates that the school system is one way through which any language can be standardised, especially if it is formally taught, but there was no agreed way of signing across the country.

Various scholars have argued that Hearing-impaired learners have a greater need to be taught Sign Language, their mother language as local sign 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 hearing-impaired learners 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), hearing-impaired learners whose language exposure was delayed until the age of six or older show low accuracy in English grammatical judgment and comprehension compared to Hearing-impaired learners 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 hearing-impaired learners to be exposed to and be taught in Sign Language but little is known on the use of local sign language in the teaching of literacy education to learners with hearing impairment as opposed to regular learners who use local languages.

It is likely that more hearing-impaired learners and hard of hearing children 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, Hearing-impaired children often require a programme of directed exercises to help develop language and this often includes Sign Language. Therefore, hearing-impaired learners can only learn the spoken language in the same way a foreigner might learn a new language. But unlike the foreigner, hearing-impaired learners 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 hearing-impaired learners need formal lessons in Sign Language as an integral part of their curriculum.

Some experts argue that the age at which hearing-impaired learners are exposed to some form of language is very critical for normal language development. Walden University (2010) suggests that hearing-impaired learners acquire language faster if they are exposed to some form of language intervention early in life. Further, 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 (Walden University, 2010).

Hence, 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 hearing-impaired learners to be exposed to a complete linguistic system parallel to their hearing peers. One such study conducted by Strong and Prinz (2000) analysed the English proficiency of a group of 155 Hearing-impaired learners 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. From the study cited, it is apparent that the bottom line is that the hearing and the hearing-impaired learners need to be taught literacy education in a localised sign language. Learning to read is totally different than learning to speak. Children will learn the localised sign language of their community just by living there. Literacy education does not come naturally to all children or all individuals. The hearing-impaired learners must work together to understand how to instruct and turn signers into learning through localised sign language.

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? A hearing-impaired learner Linx (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 hearing-impaired learners 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 Hearing-impaired learners.

To learn a second language, particularly one that is constrained by modality, a child must first have strong skills in the 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) assessed 78 hearing-impaired learners 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). Results demonstrated that those children with hearing-impaired parents were more knowledgeable about ASL structure than those children with hearing parents. Although it was confirmed that while hearing-impaired learners 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) analysed 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 hearing-impaired learners with hearing-impaired parents outperformed peers with hearing parents in both ASL and MCE knowledge (Mayberry and Eichen, 1991).

### **2.3 Approaches teachers use when teaching literacy education to hearing-impaired learners in local language**

This study also adopts the definition of methods, techniques and strategies as explained by Perrot, Saberi, Brown and Strybel (1990), who observed that the terms "method", "technique" and "strategy" were often loosely used by teachers to mean ways of teaching; when the words actually referred to different though related activities. A method is explained as the way a teacher decides how the students will learn. It involves a choice between whether learners will mainly be told, or will largely find out by themselves. If the students have to be told, then this culminates into passive methods. If the learners on the other hand have to participate in finding out by themselves, then

teachers are using problem-solving methods. Perrot, Saberi, Brown & Strybel (1990) see techniques as those specific actions and processes through which the teaching method is realised. Strategy is looked at as simply the sequencing or ordering of the techniques a teacher has selected to teach the lesson. While discussion and demonstration could be treated as methods in other disciplines, in teaching of language or reading and writing they readily could qualify as techniques, depending on where the teacher puts the thrust of his lesson.

This research associated itself with the definition that explains teaching as the interaction of a student and a teacher over a subject (Mayberry and Eichen, 1991). In this case (study), the subject is reading and writing while the students are the hearing-impaired learners. Much as this study does not consider the teaching without the physical presence of the teacher, it would be informing to know that the teacher's physical presence may not always be required but through TV, computer, CD and the like, teaching could be transacted. It will also be crucial to observe that there can be no teaching without the presence of a learner. During the teaching/learning processes, teachers have to gauge and make tough decisions regarding content, method, space/setting, timing, resources and the like (Davis, 1997). This is equally critical for teaching hearing-impaired learners. Critical to any teaching/learning process is the feedback. Mayberry and Eichen (1991), states that if a teacher does not know how to look, she/he will not see much. Teachers of hearing-impaired learners need to know how to look (observe for this case) because any language used for the hearing-impaired learners is visual in nature. Cummins (2006) pointed out the importance of a teacher getting attention of the learner who is hearing-impaired learners, make sure the speaker's face is visible to the learner by avoiding covering the mouth or chewing while teaching, avoiding walking around the classroom or turning towards the board while giving instruction since learners who are hearing-impaired learners have difficulty following conversations punctuated with movements around the room.

Literature regarding hearing-impaired people around the world does suggest specific similar patterns observed by most countries for teaching/learning purposes and in connection to teaching the hearing-impaired learners how to read and write. Trends have followed specific use of strategies and methods, namely inclusive methodologies; use of sign language; use of oral methods; engagement of total communication. Medical Technologies too have been used to support the teaching of reading and writing to learners who are hearing-impaired learners to boost

the hearing of the learners. It is important to identify the differences in language structure between Sign English and Sign Language in local language (Cummins, 2006).

Various educators have explained the methods of teaching reading and writing in various ways. The available study does highlight Kanyanta (2003), who names the methods of teaching reading and writing to include the phonic methods (methods that use the phonemes), syllabic methods (that use the vowels and consonants), eclectic methods (which combine all the methods) and 'look and say' or 'look and sign' methods (methods that include the whole word, whole sentence, whole story, and whole picture; these methods demand for the teaching in wholes, that is to say no to breaking up words in syllables or phonemes or to the teaching of stories in parts). The methods for teaching writing are associated with the activities that are given to the learners such as scribbling and overwriting.

Therefore, when teaching literacy education to learners who are hearing-impaired learners, the teacher should teach the basic local signs. The teacher has to write single letters, using finger-spelling and ABC charts or books with pictures to help the student recognise written letters. This will be rote memorisation, but it is an important step. Focus on nouns and even adjectives using pictures and objects. Help your student identify a picture or object using Sign Language, then finger-spelling, then writing. Encourage her/him to compose simple, short words by stringing letters together. Arrange a series of pictures to show a complete but simple sentence. As the hearing-impaired learners advances, mix up the pictures and have her/him arrange them into a coherent form. These can be creative or teacher-led. Determining that a student has internal acquisition of written local language is an important step in teaching a hearing-impaired learner how to read (Reubell, 2011).

Pre-reading activities are most important at lower levels of language proficiency and at earlier stages of reading instruction. As learners become more proficient at using reading strategies, you will be able to reduce the amount of guided pre-reading and allow students to do these activities themselves. Ramsey (1997) argues that for hearing-impaired learners children to approach print they need access to an intelligible social context but which also provides resources for the tasks they have to do. An effective class of the profoundly hearing-impaired learners would best be one where interface (discourse) is structured by the sign language used in the ways the native speaker

uses for organising interface, teaching learning and any other discourse. American Sign Language (ASL), for example, has been claimed to be a powerful mediator for hearing-impaired learners children learning, specifically because it is a natural signed language with a long history of use in hearing-impaired learners communities. It is also observed that ASL is not the only resource signing hearing-impaired learners children need at school. Critical to teaching/learning processes is the well planned instruction in English vocabulary, English grammar and the structure of written texts (for those who use it).

Available literature specifically suggests that the oral methods of teaching hearing-impaired learners to read and write existed about the first half of the 19th century as the manual signs, except that there was a bias towards the manual signs regarding several users of the modes. This method exploited the engagement of the residual speech/vocal aspects of the learner. The approach targets at training the hearing-impaired learners to use their residual hearing, speech reading and listening skills, with emphasis placed on listening (aural skills), to comprehend spoken communication and develop proper speech skills. The approach does not promote the use of Sign Language. More specialized methods such as Auditory-Verbal Therapy and Cued Speech all have roots in the basic oral approach (Rachel, 2008). One has, however, to be cognisant of the fact that Cued Speech is a system for making speech sounds more visible, hence being related to the use of the manual alphabet. Gallimore (2000) observed that Cued Speech substitutes visual representations for sounds that are heard by the hearing people but are seen with eyes for those who cannot hear.

Oral communication is a mode of communication that relies solely on speech (Fitzpatrick, 2011). The underpinnings of the Oral approach are based on assimilation to the hearing world, which the hearing-impaired learners are expected to gain from, as they prepare to join it. Chaoyu (2006), however, observes that the oral method risks a child's linguistic, cognitive, social and personal development. Although a study by Chikopela and Ndhlovu (2017) posist that studies have demonstrated that oral language skills make an important contribution to the development of phonemes/phonics (letter sound knowledge). Thus, a corollary of this is that hard of hearing pupils with limited oral language abilities should have more difficulty in letter sound development and then those with adequate oral language abilities that were given training in this area.

Studies reveal that phonemes could be used in teaching the learners who are hearing-impaired learners to read and write. This method involves matching written letters to sounds. Kozulin (2001) observed that matching written letters to sounds yields improved reading and spelling for normal hearing children. When hearing-impaired learners were subjected to testing using the same instruments (matching the letters to sounds), their phoneme awareness and phoneme graphemes correspondence knowledge (awareness of sounds) were boosted. This increased their ability to engage in reading, spelling. She, however, warned that the development of phonological experience depended on early experience of an input where phonological constructs are displayed and specified. This agrees with Kanyanta (2003), who observed that inaccurate speech representation, delivered from lip reading, could impact negatively on their reading and spelling. In the same view Chikopela and Ndhlovu (2017) said that the relations between the levels of phonological awareness have not yielded consistent, definitive results across studies to date. In general, however, tasks that involve explicit manipulation of phonological units seem to be more difficult for hard of hearing pupils in grade one and two to carry out than tasks that involve isolating or classifying (matching) units. Hence, this study to understand views of teachers on best ways of teaching of literacy education to learners with hearing impairment in primary.

The teaching of reading and writing to the hearing-impaired learners is constantly being transformed through the increased interest and several studies carried out on the subject. Reubell (2011) observed that the hearing-impaired learners use an alternative pathway, specific to reading, not used by people who hear. It will, however, be noted that reading to hearing-impaired learners (an approach that has its base in the bi-lingual approaches) has been observed to be instrumental in the teaching of reading and writing to the hearing-impaired learners. The belief is that the simple most important activity for building the knowledge required for eventual success is reading aloud to children (Schleper, 1996).

Other modern variations include finger-spelling, which relies on the use of the Manual Alphabet. Some allow signing (a basic ingredient of sign language) as auxiliary mode (commonly learnt as the sign-supported approaches) while others engage the pure oral approaches which forbid the use of any manual communication. In such cases cochlear implants are used as an integral part of the oral-based programme. The use of Phonics, one other approach, focuses on hearing to parent connections between sounds and the words and understand how it looks when written.



Alternatively, one would use the whole language approach that focuses on seeing the pupil learn to read first, followed by how to say and spell the words. Gallimore (2000) observed that the teaching/learning methodologies for teaching the hearing-impaired learners first engaged the oral and written bilingualism. These modes were characterised by attributes such as signed speech which were used to complement and reinforce spoken communication, finger spelling used as a support strategy in reading and writing, Sign Language and Cued Speech. This is line with Chikopela and Ndhlovu who said that the consequences of not using both oral and sign language when teaching pupils with hard of hearing impairment exhibited a significant advantage in their use of narratives, the breadth of their vocabulary, in their use of bound morphemes, in the length of their utterances and in the complexity of the syntax used in their spontaneous language. Taken together, these results indicated that focus on both oral and sign language educational training provided a significant advantage for both spoken and total language skills in hard of hearing children of which, if it was a similar case for all hard of hearing pupils in Zambian schools, all pupils would benefit and be able to develop phonemic and phonological skills. Despite the findings might be true it did not provide as whether the medium of instruction were done in local sign language.

Gates and Chase (1926) observed that the hearing-impaired learners learn spelling by use and perception of visual forms. Likewise, teachers could use the manipulative Visual Language tool to help children visualise sounds they cannot hear. It naturally follows that guided reading and writing for the hearing-impaired learners and hard of hearing-impaired learners would hence highly be dependent upon the effectiveness of the teacher/teaching processes. Guided reading and writing here refers to an approach for teaching reading and writing of words and language. The reading materials or the books to be read are usually a little harder than those usually read by the learners. The teachers' role is to assist the learners in developing fluency, confidence, and insights into themes, styles, divergent opinions, and various forms of literature; while invoking their responses based on their own thoughts, feelings and opinions about the reading process. The teachers have to engage in guiding the learners to discuss and explore the reading process so that the learners can develop literacy skills which they could later apply to what they learn; when they read and write independently. The teacher guidance in discussing and exploring the reading process triggers the development of literacy skills, a pre-requisite for reading and writing independence. Israel, where the support systems in the schools are provided by certified teachers of the hearing-impaired

learners, educational counsellors, speech/language clinicians and tutors, takes this very seriously (Moore and Miller, 2009).

These methods also recognise the freedom of the learners and the parents to make decisions on what mode of communication to adopt. Some learners would be comfortable with one or more combinations of modes. What is critical however is the support service required to maximally benefit from the education system. Services such as those of audiologists, management of hearing aids, listening devices and environment are always crucial. Computer speech instruction methods designed to provide visual speakers in articulation do, too, improve sound production (Serpell and Mbewe, 1990). It will be of interest for this study to see what aspects of these trends are being engaged in teaching of reading and writing to hearing-impaired learners pupils, given that most teachers in primary schools may not have specifically been trained on the use of these approaches in local languages. Pupils also move from one school to another hence being exposed to various modes of learning reading and writing. Finally, if they have been engaged at all, how has it been handled, and which has been prominent?

#### **2.4 Factors that may have Influenced Views of Teachers and Parents on the Use of Local Signs in Literacy Education for the Hearing-impaired learners**

According to Milone, (2003) in his interview with Jennifer Herbold on how a teacher takes on the Challenges of Hearing-impaired learners literacy, she responded that, it can be difficult to teach hearing-impaired learners children to read. The respondent also said she strongly believed, and that there is considerable research to support this opinion, that the difficulty is due to external as opposed to internal factors. The majority of students arrive with very little language. Most of them are not exposed to ASL or to any fully accessible language from an early age. She also said that our teachers are faced with the challenge of developing children's world-knowledge and general semantics (in both ASL and English) at the same time that they are teaching them to read. For example, many of the children arrive at school with very little or no understanding of “wordiness”, the meta-linguistic concept that “words” exists. Even at kindergarten, they are already a few years behind their peers.

Also, a research in Kenya shows that people need to acquire a first language to be able to learn a second and third language. For hearing-impaired learners, the only language that is acquirable in Kenya Sign Language (KSL) and this is true only if KSL is constantly and consistently in the environment. In spite of the challenges that all education programmes face, Milone (2003), stated that, especially with a child who has not had access to language/communication since birth, strongly believes that it is never too late to succeed. Although literacy learning may become more difficult with time due to both external and internal factors, we can still teach all students to read.

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 hearing-impaired learners 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 students' use of natural China Sign Language. While the hearing-impaired learners, community prefers natural sign language, most hearing-impaired learners educators who are predominantly hearing favoured 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 hearing-impaired learners 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 Hearing-impaired learners 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 hearing-impaired learner and pose as challenges in the language development of a hearing-impaired learner (Standley 2005).

We know that children naturally acquire their language from home in their infancy. 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, socialisation 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 hearing-impaired learners 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 because their training concentrates much on sign English by not realising that these trained teachers will be working from different places in some cases where English is rarely spoken hence it becomes unfamiliar to learners with hearing impairments who are used to localised sign language hence the study. Most of teacher training institutions lack qualified Sign Language lecturers. Another reason is lack of interest in Sign Language hence facts not documented when it comes to localised sign language hence the study. Also, too much reliance on sign language as a language of instruction other than oral language thereby limiting the pupils' performance in tasks that demand use of oral language has contributed to inadequate development of literacy education using local signs (Chikopela and Ndhlovu, 2017).

Although teachers in Kenya interact with Hearing-impaired learners 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 Hearing-impaired schools in Zambia. The implementation of bilingual/ bicultural approach requires a faculty of qualified hearing and hearing-impaired teachers. Hearing-impaired 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 Hearing-impaired teachers and most of these only teach non-academic studies such as art, or work as teaching assistants.

The current situation in the country is that most teachers of the hearing-impaired learners 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) noted 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 hearing-impaired schools and hearing-impaired learners' education have 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 teachers fail 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 that 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 learners, who have uninterrupted access to language from early childhood, learn English up to the 12<sup>th</sup> grade, one wonders why the same is not the case for the hearing-impaired learners 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 hearing-impaired learners in Zambia.

The research also revealed that Zambian Sign in Local Language has limited technical vocabulary. The question of limited vocabulary is not new to hearing-impaired learners' 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 specialised vocabularies of Sign Language 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 organised in Signed English format. Besides, the book has no teacher's guides and other supporting books. This is in sharp contrast to the New Break Through to Literacy books for other Zambian languages which come as a total package to include teachers' guides, pupils' books 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 hearing-impaired learners. 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 hearing-impaired learners adults, practitioners and pupils themselves. The multiplicity of difference in signs echoes the need for standardisation of signs of Zambian Sign Language. The current ZSLD could be the starting point. It 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 (Serpell and Mbewe, 1990).

With respect to the challenges teachers face in literacy education in local languages, the study has found that because of lack of adequate Sign Language training of the teachers of the hearing-impaired learners, there are some challenges which the teachers face in teaching the hearing-impaired learners. 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 hearing-impaired teachers to hearing ones. This is in line with Chikopela and Ndhlovu (2017) who concluded that pupils had difficulties in literacy education tasks due to inadequate instructions from the teachers in this area as they lack the skill to teach children with hearing impairment. 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 (Moore and Miller, 2009).

## **2.5 Interventions and measures to improve teaching of literacy education to hearing impaired learners through use of local signs**

Instructional strategies can include placing students in a classroom with hearing-impaired learners and hard of hearing students with a teacher trained in hearing-impaired learners education, or placing students who are hearing-impaired learners or hard of hearing in a regular classroom, providing modifications to improve student participation in the learning process. Modifications can include the use of oral or signing interpreters, note-takers, captioned speech technology, and captioned video and television programming. Student placement within a classroom and classroom acoustics and environment are also issues that should be addressed. Some students will choose to go to a private institution in order to receive the benefits of being in an environment with peers who communicate in similar ways, and teaching by trained educators of hearing-impaired learners and hard of hearing students. Other students choose to work within schools and classrooms with hearing peers, with modifications and assistance directed to their specific needs. Often, some combination of these approaches is used, since each has benefits and drawbacks. A separate classroom for students who are hearing-impaired learners or hard of hearing affords the opportunity for more intensive one-on-one instruction with an appropriately trained educator, which can be particularly important for language development. On the other hand, due to the low incidence of the disability, one hearing-impaired learners educator may be required to work with students on a number of grade levels. Also, as students get older, content learning may suffer if students are not provided the same curriculum as their hearing peers (Wakumelo and Miti, 2010).

Similarly, hearing-impaired learners in a classroom with hearing students receive the benefit of exposure to the general curriculum, and to the problems of navigating in the hearing world. On the other hand, teachers frequently do not have training in hearing-impaired learners education, and may not be aware of how to best address the needs of hearing-impaired learners or hard of hearing students. Modifications may not be completely successful in overcoming obstacles to communication and understanding. Given the complexity of the issues, instructional strategies based on the individualised needs of students, which may include a variety of approaches and which may change over time, appear to be the most appropriate (Wakumelo and Miti, 2010).

The early years of schooling are a particularly important time for literacy development. A longitudinal study conducted in Western Australia identified a number of characteristics associated with effective literacy learning for indigenous students with conductive hearing loss. Broadly, these include an explicit focus on language development and an ability to place teaching in context and to use interaction styles that are compatible with indigenous ways of interacting. Chaoyu (2006) argues that the language skills on which explicit teaching should focus include: phonological awareness, the ability to discriminate and manipulate the sounds of a language; text skills, the ability to use language at sentence level and above, linking sounds and written language, knowledge of the way language works, the concepts and content being talked or written about and how to use language appropriately in different contexts.

Teachers can identify the gaps that are present in a student's language development by taping and analysing their oral language, and analysing samples of written language. It is important to involve an Indigenous teaching assistant when analysing language samples, to be sure that patterns associated with the student's home language are not mistaken for errors associated with hearing loss. A range of other assessment tools-commercially produced or teacher-generated is also available and can be used in the classroom to monitor and inform language development (Davis, 1997).

Students with hearing loss should receive explicit teaching that focuses on development of the oral language skills that lie under written literacy, including phonological awareness skills. Phonological awareness is concerned with the reception and production of the sounds of a language, and includes knowledge of rhyme and rhythm, the ability to discriminate sounds in all



word positions (beginning, middle and end), blend sounds, divide words into syllables, and manipulate sounds. These skills will typically be developed in the classroom through activities such as rhymes, songs and poems, rhyming stories, learning letter names and sounds, and playing word games. Students also need to be able to link sounds with their written forms to confirm the link between spoken and written language. Effective teachers explicitly link sounds to written language. Important strategies include maintaining a print-rich environment in the classroom, developing students' concepts of print, and helping students to encode the sounds in local language and to understand that there is no one-to-one sound-symbol correspondence in English.

Indigenous students should also be assisted to develop 'world knowledge' that builds on their existing experiences. World knowledge is knowledge of the way language works, and encompasses the different ways of using language in different contexts and the life experiences that enable children to make sense of what they are reading and hearing about. Many students with hearing loss may have more limited knowledge of language and life because they are not able to hear properly or to participate fully in activities. To maximise their learning opportunities, they will need input on a variety of topics and concepts in a variety of ways. Teachers should provide information to a student that enables them to use local language appropriately in various social contexts and settings (Davis, 1997). They should also inform students of the meanings of concepts that may be unfamiliar to them. Working thematically is recommended as it gives more intense and prolonged exposure to content that can be used to develop a variety of language skills. Because of the linguistic, cultural, and social differences that indigenous students experience in the classroom environment, it is important to focus on developing world knowledge beyond years 1 and 2 into the middle years of primary schooling.

## **2.6 Summary**

The literature reviewed is outlined as follows: local language signs used in the teaching of literacy education in schools, the views of teachers on the use of local sign languages in literacy education on learners with hearing impairment in Zambian primary schools in Lusaka, Zambia, approaches teachers used in teaching literacy education through localised sign language to hearing-impaired learners in primary schools, the facilitators and barriers in the use of local signs in the teaching literacy education to learners with hearing impairment in schools and measures to improve the

teaching of literacy education through localised sign language to learners with hearing impairment in schools. Therefore, very little is known on views of teachers and parents on the use of local sign languages in literacy education in lower grades of learners with hearing impairment. The next chapter addresses the research methodology to the study.

## **CHAPTER THREE: METHODOLOGY**

### **3.1 Overview**

This chapter highlights methodological details appropriate to the study, research design, location of the study, target population, sampling techniques and sample size, research instruments, data collection techniques, data analysis and ethical considerations.

### **3.2 Research Design**

This study used an interpretative research design supported by qualitative approach to assess views of teachers on the use of localised signs for hearing impairment in literacy education at lower grades among hearing-impaired learners in primary schools. According to Gall, Gall & Borg (2009), qualitative researchers aim to gather an in-depth understanding using this approach. Given the lived experiences of a limited number of trained special needs tutors and hearing-impaired learners students, the embedded case study design, a category taken from Gall, Gall & Borg (2009), was be used in this particular study. The research question was concerned with understanding the social phenomenon of using local sign language from the perspectives of the participants (teachers). To study this problem, qualitative researchers used deductive and inductive techniques in collection of data in a natural setting sensitive to the people and places under study. This helped to allow establish patterns or themes. However, the qualitative data can provide entirely new various viewpoints on the topic and research problems. Hence other methods such as explanatory was equally employed.

### **3.3 Study Sites**

Decisions on site selection are made for the purpose of obtaining the richest possible source of information to answer the research question. A site in this context refers to elements of a population considered for inclusion in a study. In this study, three special schools were purposively selected from the list of schools offering special education to children with special education needs in Lusaka District of Lusaka Province. These were selected on the basis that they have been running classes for learners with hearing impairment from grades 1 to 4 for quite some time now. The study schools therefore have had sufficient experiences to positively contribute to the current study.

### **3.4 Population**

A population is a group of elements or causes, whether individuals, objects or events, that conform to specific criteria and to which we intend to generalise the results of research (McMillan & Schumacher, 2001). The population of the study consisted of all teachers, senior teachers, head teachers and parents of learners with hearing impairments from Lusaka Province.

### **3.5 Sample Size**

A sample population is a representative case from the large population (Cresswell, 2012). The sample size comprised 36 participants - consisting of 4 head teachers, 16 specialist teachers and 16 parents of hearing-impaired learners. Teachers were chosen for the study because they were in direct contact with learners and it was their responsibility to effectively cover the curriculum content, use instructional materials appropriately and the most suitable modes of communication as they would take into account the needs of each and every student. Head teacher were involved as they are the one who make sure that the when a policy introduced it is implement in school according to guidelines given by the government. The parents were involved as they are first teacher of the child and they are the one who are with the child at home hence to understand their experience as well.

### **3.6 Sampling Procedures**

Purposive sampling was used to select teachers and parent participants. Orodho (2005) argues that purposive sampling is handpicking the cases to be included in the sample on the basis of one's judgment of their typicality. In purposive sampling, the goal is to select cases that are likely to be information-rich with respect to purposes of the study. The intent is to achieve an in-depth understanding of selected individuals. No complexities are involved in the selection of respondents. All that is needed is a relatively small, clearly defined population.

### **3.7 Research Instruments**

The researcher used observation checklist and interview guides as instruments for data collection. Bryman (2008) defines research interview as a professional conversation of daily life where knowledge is constructed in the interaction between the interviewer and the interviewee.

Therefore, the sampled teachers, senior teachers, head teachers and parents were invited to an interview following a prepared interview guide. Face-to-face interviews provided an opportunity for a researcher to discuss with a selected respondent. Cresswell (1994) indicated that during face-to-face interviews, a researcher asked the respondent questions. As the respondent provided answers, the researcher made follow-up questions in order to clarify a point. An observation checklist was used by the researcher in the classroom.

### **3.8 Data Collection Procedures**

To enable the researcher to collect the needed data from the sampled participants, the researcher obtained an introductory letter from the Assistant Dean for Postgraduate Studies at the University of Zambia, School of Education. The researcher used the introductory letter to further seek and obtain permission from the head teacher at each of the schools where data was collected. Interviews were conducted with teachers, senior teachers, head teachers and parents on a one-on-one basis following the interview guide while the observation checklist was used by the researcher in the classroom during lessons to observe local signs used by teachers when teaching.

### **3.9 Data Analysis**

Data analysis is a systematic way of evaluating data using analytical and logical reasons to examine the components of data that has been collected through the various data collection strategies. Qualitative data was analysed through use of deductive and inductive techniques. These techniques allowed for narration of themes which will then be coded. The analysed data was then presented descriptively and, where possible, verbalisms were used to indicate actual voices of the participants.

### **3.10 Ethical Considerations**

Bryman (2008) explains that ethical issues or ethics in research are those practices that ensure that no harm is made to the respondent; that respondents participate in the study out of their own volition; that the privacy of respondents is respected and that there is no deception involved in bringing the respondents into the study. Furthermore, ethical considerations deal with protection of respondents from embarrassment or harassment. With these views in mind, the researcher had sought permission from the head teacher of a targeted school to conduct this research at the school.

The researcher explained the main aim of the study before subjecting the respondents to the study. The researcher also maintains strict confidentiality about the information obtained from the respondents as no personal details of the respondents are revealed in any of the records, reports or to other individuals without the respondents' permission.

### **3.11 Summary**

This section described the research design employed, target population, sample size, sampling procedures, instruments to be used to collect data, data collection procedures, data analysis and ethical issues considered in the study. The next chapter discusses presentation of findings.

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

### **4.1 Overview**

This chapter presents the findings of the study aimed at establishing the views of the teachers and parents on use of local sign language in teaching literacy education to hearing-impaired learners in lower grades. The findings are presented according to the research questions of the study by showing findings from teachers, head teachers and learners' parents. The research questions of the study were: (i) What are the local language signs used in the teaching of literacy education to hearing impaired in primary schools? (ii) How do teachers view the use of local sign languages in literacy education on learners with hearing impairment in Zambian primary schools in Lusaka, Zambia? (iii) What approaches do teachers use in teaching literacy education through localised sign language to hearing-impaired learners in primary schools? (iv) What factors might have influenced use of local signs in the teaching literacy education in study schools?

### **4.2 Research Question 1. What are the local language signs used in the teaching of literacy education to hearing-impaired in primary schools?**

One of the questions was on the local language signs used in the teaching of literacy education in schools. The findings showed the following:

#### **4.2.1. Signs used in Teaching Lower Class for the Hearing-Impaired Learners**

Respondents were asked whether local language signs were used in teaching of literacy education in lower grades. From the results obtained, it was clear that teachers were using local signs to teach sign language literacy. It was found that majority of the teacher were using local sign language in teaching literacy education. A follow-up question was asked to teacher-participants on their own experience in teaching literacy education to hearing-impaired learners using localised sign language. In support one female teacher said;

*Myself am familiar with the local signs learners come with from hence makes it easier for me to teach also using local signs.*

Only nine teachers said they use sign English. They even said that even if books are written in local languages, it is difficult to teach sign language in local languages and some learners are slow

at grasping local signs which makes it even more difficult for teachers to use local signs. To some extent teachers were not signing in localised sign language as they are also not familiar with the signs children come with from home as they come from diverse homes where they use different local languages. As to some learners, it was like teaching them using a new sign language different from what they knew from home. In support of this view, one female teacher said that:

*My experience in using local signs to teach literacy education to hearing-impaired learners has witnessed a lot of challenges, I do not know much of cinyanja language because I am Lozi by tribe so I do not know much of cinyanja.*

Another female teacher lamented that:

*I don't teach in local language because local signing is very challenging.*

Findings from the lesson observations during literacy education periods indicated that both the teacher and the hearing-impaired learners were able to use localised sign language and signed English. Teachers were better equipped with local signs than learners, but the learners were coping well in trying to use localised sign languages in those classes the researcher found the teacher using local signs despite few of teachers were not able to use local signs hence only using English sign language. In other subjects it was observed that hearing-impaired learners were mixing the local signs with signed English.

#### **4.2.2 Common Local Signs Used in Teaching Literacy**

The participants were asked what common local signs the hearing-impaired learners come with from home. Responses showed that there were a lot of common local signs hearing-impaired learners come with from home. For example, children come from home already with local sign for 'father', 'mother', 'cup', 'eating'. However, participants indicated that the common local signs used in teaching literacy education were iconic signs such as 'ball', 'house', 'snake', action signs such as 'eat', 'drink', 'sleep', 'laugh', 'cook' and others. The study also revealed that descriptive signs such as 'dark' complexion, 'think', 'fat' had local signs as children started schools and these were used in literacy lessons. In response, one teacher had this to say:

*The common local signs children come with from home are descriptive signs, iconic local sign language is most used at school.*



Some of the common signs used were long signs such as ‘eating’, ‘bathing’, ‘sleep’, ‘walk’ and ‘body language’. In addition, one male parent said:

*‘Common signs I use at home to talk to my son are many for example, nshima, water, bath, eat, go, come but at school my child and teacher just use few of them’.*

#### **4.2.3 Use of Local Signs for Hearing Impaired Learners at Lower Grades**

The question was asked to the participants whether or not localised sign language was used in lower grades for learners with hearing impairment. Their responses were as shown in Table 1 below.

**Table 1:** Use of both Local Signs for Hearing Impaired Learners at Lower Grades

	Reponses			Total
Status	Yes	No	Both	
Teachers	9 (25%)	5 (13.9%)	2 (5.6%)	16 (44.4%)
Head Teachers	1 (2.8%)	3 (8.4%)	0	4 (11.2%)
Parents	6 (16.7%)	7 (19.4%)	3 (8.3%)	16 (44.4%)
Total	16 (44.4%)	15 (41.7%)	5 (13.9%)	36 (100%)

The results in Table 1 above indicate that 16 (44.4%) participants confirmed that teachers use some of the common local signs in their teaching of literacy education in classes of hearing-impaired, 15 (41.7) reported that teachers did not use localised signs while, 5 (13.9%) participants reported both were used. One of the parents interviewed said:

*‘Teachers should use localized signs because I use the same signs at home when I want to talk to him’.*

In support, one head teacher had to say:

*‘Some teachers know how to sign using local signs while others do not know and children will not learn how to read and write in English if they are exposed to local sign first as it is characterised with variation of signing and they have difficulties in understanding as they come from homes where they speak different languages’.*

From the findings, it can be said that teachers were using local signs to teach literacy to learners in lower grades as used at home together with the family. However, a good number of participants reported that local signs were not used and teachers used English signs in lower grade as opposed to localised signs. Teachers felt comfortable using English signs rather than local signs in their literacy lessons. In confirmation, one head teacher said:

*‘Most teachers use sign English not localised sign language’.*

Further, when the parent-participants were asked on the type of sign language the teachers uses to teach literacy education to learners with hearing-impairment in lower grades, findings showed that some signs were similar, but most of them were different due to different tribes. One parent during interviews indicated:

*‘Other signs are very similar to these they learn at school but most of the signs are totally different. There are also similar items of some objects such as house, cup, drink, eat, bathing or walking in local sign language’.*

The study revealed that local and English signs were different in a way that in sign English hearing-impaired learners use short signing language while signs in local sign language tended to be longer at times. It was also said that it was different in such a way that one signs in local sign language sometimes means a different thing to hearing- impaired learners who use sign English to communicate on the same thing.

However, difference in localised signs did not affect the learning of literacy education among the hearing-impaired because they cannot hear the sound and if there was no picture, it became a problem to use it in the lesson. The study revealed that children when they see real objects or pictures mostly they will sign according to what they see. One parent said:

*‘It would also affect the hearing-impaired learners because of different meaning of those signs according to culture and it can only be seen to affect the learner depending on the ability of the learner’.*

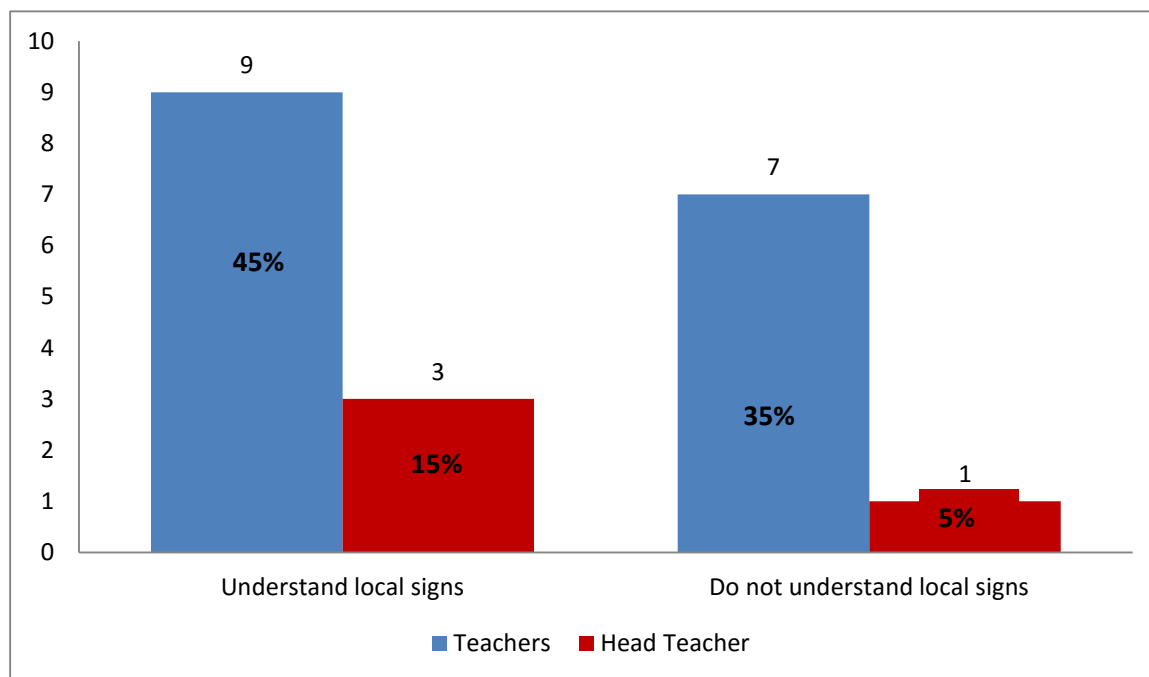
On contrary one teacher said:

*‘It has no effect; it depends on the teacher’.*

#### 4.2. 4 Teachers’ Understanding of Local Signs

Teachers were asked if they were able to understand the signs learners came with from home. The responses were as shown in Figure 1 below.

**Figure 1:** Teachers’ Understanding of Local Signs



From the results 9 (45%) and 3 (15%) of teacher and head teacher- participants respectively confirmed understanding local signs learners come with from home while 7 (35%) teachers and 1 (5%) of head teacher-participants did not understand local signs learners come with from home. In support of those teachers who did not understand local signs learners come with from home, one head teacher had this to say:

*‘It is difficult to understand them and in other local languages they may mean other signs and those local signs are only used in a home environment to facilitate communication.*

On the same, one teacher observed that;

*‘Notable that signs are developed according to understanding of the child, the culture the child is coming from and the education level of the child hence we seem to have variations in local signs which often confuse teachers’.*

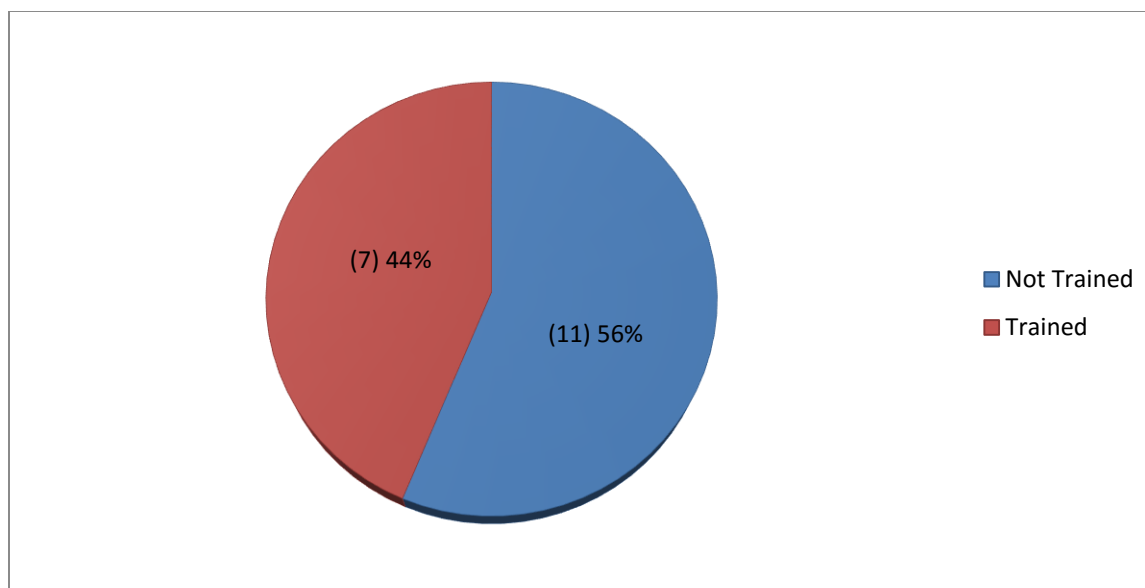
Findings from the observation of literacy lessons showed that teachers’ ability to understand learner’s local sign language was not very much competent as they needed more clarification from pupils, especially those from pre-grade and one. However, learners were able to follow attentively the localised sign language used by their teacher. It can be confirmed that some teachers were able to understand the local signs learners came with from homes while others, because of the way they described them, were not able to understand and effectively communicate through such local signs.

#### **4.3 Research Question 2. How do teachers and parents view use of local signs in literacy education?**

It should be recalled that another objective of this study was to establish views of teachers on the use of local sign languages in literacy education on learners with hearing impairment.

##### **4.3.1 Orientation and Training in Teaching Literacy Education to Hearing-impaired through localised signs**

One of the questions participants were asked was whether or not teachers were oriented and trained in teaching literacy education to hearing-impaired learners through use of localised signs and reading skills or not. Figure 2 below shows the responses:



**Figure 2:** Orientation and Training in Teaching Literacy Education to Hearing Impaired.

When asked if teachers were trained in teaching literacy education to hearing-impaired children in reading skills, the results collected revealed that majority 11 (56%) of the participants were not trained, while 7 (44%) participants said that they were trained in teaching literacy education to hearing-impaired learners in the area of reading skills. In support of the findings above, one female teacher (CT3) had this to say:

*‘I am not trained in teaching literacy education in local signs but am using the little knowledge I have and I correct them by using standardised sign language’.*

Another male teacher (CT2) observed:

*‘I manage teaching literacy education in local sign language by asking from teachers who are conversant with local sign language and pupils themselves.’*

Some teachers confirmed that they learnt some local signs from learners especially those in higher grades, when they used to teach them in their classes.

In support of those who teach in local sign language, one hearing-impaired learners male teacher (CT5) had this to say;

*“I manage to teach in local sign language reason being I am a hearing-impaired learner as well, so I understand local signs well using my experience and I learnt some of the local signs language from my parents and friends at school”.*

Other teachers learnt some of the local signs through teacher group meetings facilitated by the people who are conversant and also through interaction with the learners. In addition, one female head teacher (CT7) said:

*“Teachers are not trained in literacy education for the hearing-impaired learners using localized signs but they only manage according to their experience”.*

The teachers manage classes which learn literacy education through use of initiative and modifying of work by blending it with English signs.

#### **4.3.2 Effectiveness of Local Signs in Literacy Education of Hearing-Impaired**

When teacher-participants were asked if localised sign language was working well for the hearing-impaired children in school, the findings generally showed that it was working well as learners easily understood content using the sign languages they were familiar with. Just like the way the teachers teach the other learners from known to unknown, learners were able to learn using local signs. The teachers taught using local signs and eventually migrated the learners to English sign language. In support of the findings, one female teacher (CT2) said:

*“The children with hearing impairment are able to develop literacy education through localised sign language because from what they know it is where the local signs come from and since it is the language they use home, it makes them understand the concepts and they freely participate in literacy education lessons”.*

Contributing on the same one head teacher (HT3) said:

*“Teachers follow signs the hearing-learners come with from home into classroom and the teacher builds on the same before introducing sign English them”.*

Other teacher-participants indicated that localised sign language was not working well for hearing-impaired learners in school, reason being signs were not standardized ones. In support of the view, one male teacher (CT13) indicated:

*“It’s not working well because sign language is sort of generalised in the sense that an item is called by its name. It is also difficult to teach because we need to interpret in English and learners have different local signs due to environment they come from”.*

Responses from teachers showed that most local signs were found in sign English and very few signs were in localised sign language, which did make it easy for children to migrate to English Sign Language.

The teaching of literacy in localised signs language is working well as some local signs are similar to standardised sign language and learners with hearing impairment learn fast because they know them in local sign, so when it comes to use of sign English, does not give them a big problem to translate. This can be confirmed also from the lesson observation made in literacy education lesson time; it was observed that some sign used by the learners and the teacher were similar. But others were different, especially in the pre-grade and grade 1 as they have not standardised the ones to be in their communication in class and this was attributed, to some extent, to learners coming from different home cultures and tribes.

When parents were asked if the use of localised sign language in classroom was working well and they were able to follow signs their children come with from school, one female parent (P8) said:

*“I do not know because I am not there in the classroom where my child is and I don’t follow the signs my child comes with from school”.*

In addition, another male parent (P2) said:

*“Yes some of the signs yes, I am able to follow, but others no because what my child learns at school are different signs from the ones we are using at home. I think localised signs are not working well to my child because some signs are not sign in local languages and I am not found there in classroom when the teacher is teaching and I am not trained in sign language”.*

Contributing on the same question during the interview, other parents agreed saying some local signs they were able to follow because they were the same as the ones used at home. This means that localised signs were working well as some children were able to use the same signs both at home and school for communication. The study also showed that some parents had not paid attention nor understood signs their children were learning in literacy education using localised sign language because of variations in local languages and signs used in each local language.

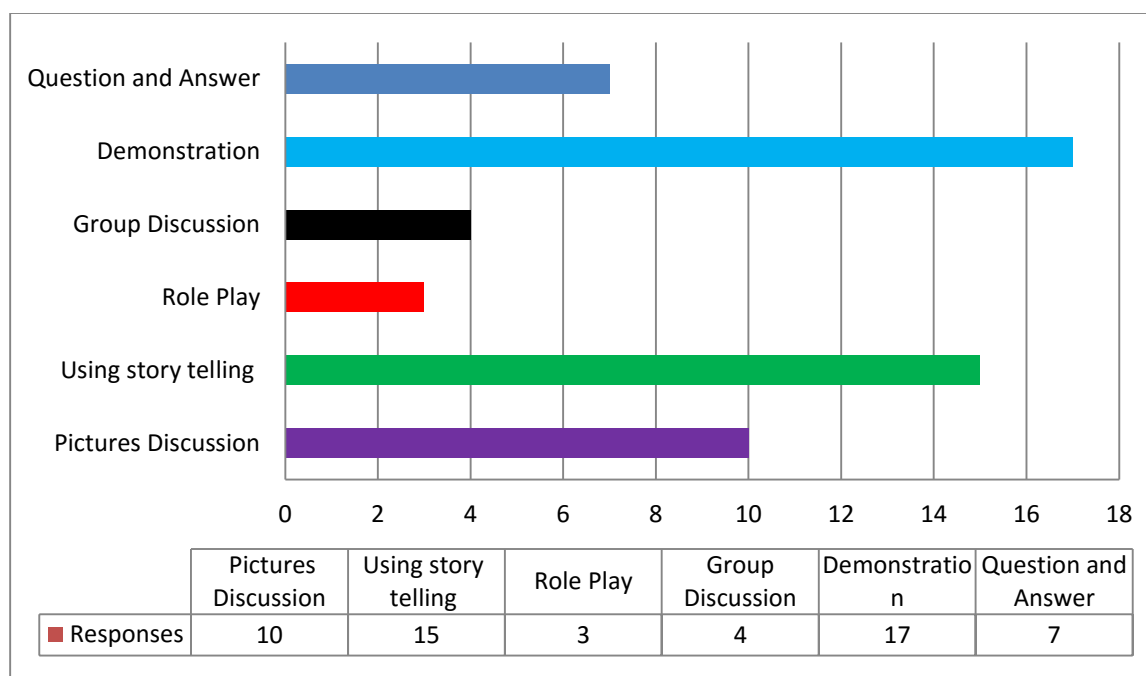
Further what was obtained from literacy lesson observation was that some learners showed abilities of understanding localised sign language as they were able to contribute during learning time. It was even observed that in their answering to the question or contributions during the lesson the researcher was able to observe local content when signing as the confirmation to show that some hearing impaired learners were able to sign using localized sign language as a medium of instruction at the lower grades. But with other classes observed, it was a different scenario from both the teacher and the learners as they were just into sign English because teachers said they were not trained to use local signs and they do not know even were to start from or else they would confuse learners.

#### **4.4 Research Question 3. What Approaches do Teachers Use in Teaching Literacy Education Using Local Signs to Hearing-Impaired?**

##### **4.4.1 Strategies Used in Teaching Literacy Education through Local Signs**

When the participants were asked on the type of strategies teachers use in teaching literacy using local signs, the responses were as shown in Figure 3 below.





**Figure 3.** Strategies Teachers Use in Teaching Literacy using Local Signs

From the findings, teachers use sign language charts more frequently in the teaching of literacy education using localised sign language at lower grades the findings show that 17 respondents were of the view that teachers use more demonstration to teach literacy in using local signs. This is followed by use of concrete then 10 indicated picture discussion was used while the list of the respondents, three felt role play was generally used.

#### 4.4.2 Awareness on other Strategies that could be Used

When parents were asked if they were aware of some of the strategies teachers used to teach their children using local signs, their responses were affirmative; 14 parents interviewed were not aware while all teachers were aware. One female parent (P4) said:

*“Because my child does not come with any homework at home and most of the times he does not show me what he has written at school”.*

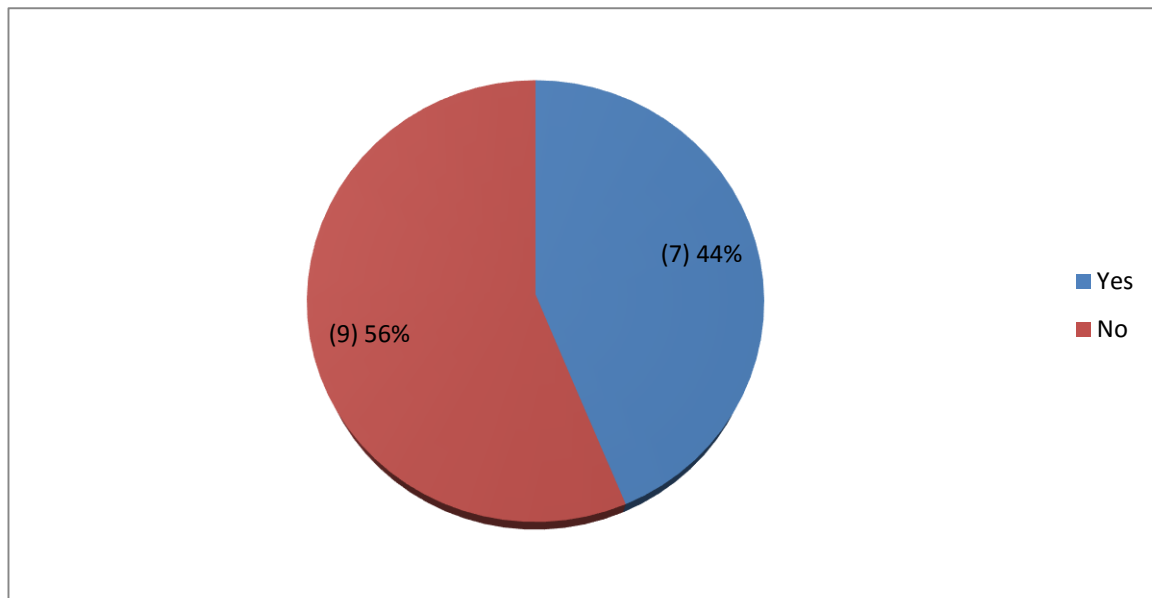
Another female parent (P11) said:

*“I am not aware of the strategies the teachers use but I am told that my child is being taught in local sign language following the revised curriculum, demands that the lower grades be taught using local languages”.*

From the study, it was clear that some parents were aware of the strategies teachers use to teach learners using local signs while others were not. Those who were aware were keen in following up what the children were doing in literacy education. The parents had keen interest to know what their children were learning at school although they do not know how it was taught. Majority of them expressed ignorance on how it was actually done.

Teachers were asked if they used Sentence Makers and Word Cards, Conversation Chart and the Phonic Flip Chart in teaching of literacy education to hearing impaired-learners using local signs at lower grades. Figure 4 below shows their responses:

**Figure 4:** Use of Sentence Makers and Word Cards, Conversation Chart and the Phonic Flip in Teaching of Literacy Education.



The question sought to find out whether or not teachers used Sentence Makers and Word Cards, Conversation Chart and the Phonic Flip Chart at Stage 1 to teach literacy to learners with hearing impairments with help of local signs. Nine participants represented by 56% indicated that they

were not quite aware while 7 (44%) said they were quite aware. Agreeing with those who said ‘yes’, one female teacher (CT14) had this to say:

*“We only use word card for example with concrete or real objects to help hearing-impaired learners to understand through sentence making and by matching pictures with the word cards”.*

Contributing on the same, female teacher said:

*“Yes, we do, by signing the letters on the flip chart, the word cards and sentences matching them with objects or pictures they represent”.*

On the contrary, one male teacher (CT7) lamented:

*“Stage 1 is a beginner stage, which means that the use of sentence maker and word cards will be advanced and hearing-impaired learners do not hear anything, so some of those materials are not necessary.*

Contributing on the same point, one head teacher (HT 4) said:

*“Teachers do not use local sentence maker words, they only use pictures, real objects to teach literacy education to hearing-impaired learners because the challenge the hearing-impaired learners have is that they cannot hear the sound in literacy education and some words in literacy education need to be blended”.*

However, the conclusions made during lesson observation on the instructional approaches teachers use to teach literacy education in the study schools were of demonstration, picture discussion and storytelling with support of sign language charts. Teachers use more of these than others to teach lessons on literacy education.

#### **4.4.3 Material and Equipment Used in Teaching Literacy Education in Local Signs**

When the teacher-participants were asked what materials and equipment’s they used when teaching reading and writing in localised sign language, it was found that most of the schools had no material and equipment to teach reading and writing in teaching literacy education to hearing-impaired learners. They just used books for so-called normal learners, and modified the work in sign English and translated it in local signs and teach literacy education on how to read and write

to hearing-impaired learners. The other materials teachers used were pictures, real object, and charts, chalk board and sign language alphabet to support teaching of literature.

In addition to the findings above, during the checkups and observation made on teaching and learning during literacy lesson, it was observed that charts, books and other materials were available but they did not depict local sign content, the teacher had to modify and translate the teaching and learning material content in local signs during teaching which was to some extent proven challenging and frustrating on the part of the teacher.

#### **4.5. Research Question 4: What Factors might have Influenced the Use of Local Signs in Teaching Literacy Education in the Study Schools?**

It should be remembered that one of the objectives of the study was to explore factors that might have influenced the use of local signs in teaching literacy education to learners with hearing impairment in schools.

##### **4.5.1 Factors that might have influenced the Use of Local Signs in Teaching Literacy Education**

The participants were asked on factors that might have influenced the use of local signs and the responses were as follows:

When participants were asked on what they thought would have influenced the use of local signs in literacy education for the hearing-impaired learners, the study revealed that diversity in local signs among hearing-impaired learners was one of the reasons. From the findings, teachers, parents and the hearing-impaired learners themselves felt that diversity in local signs affected use of local signs in literacy education for the hearing-impaired learners. Teachers and parents were not able to blend the different local signs to support teaching of literacy in the classroom. In support, one male teacher (CT6) had this to say:

*‘These children are coming from different homes where they use different local language so to come up with a standard local sign to use leaves much to be desired for curter for all learners’.*

Good learning environment was another factor with a lot of picture books, real learning materials and charts with different characters which teachers and learners found it easy to use local signs in literacy education. One female teacher (CT4) had this to say:

*‘a classroom with a lot of talking walls depicting different activities in community sets is a source of motivation for discussion to foster learning literacy education using local signs’.*

Other thing which was observed to be the promoter of the use of the localised sign language in teaching literacy education at lower grades was the demand by the education policy and the revised curriculum which emphasized on use of local languages in the learning of children. Teachers to use local sign as required in their teaching. This was evidenced by the comment one female parent of a child with hearing impairment made during an interview, where she observed that:

*‘Use of localised signs is good to teach my child because I also use local signs to talk to my son. Charts can be good facilitators of local signs in teaching my hearing-impaired child how to read and write in the classroom because it will help him to see the pictures and sign what he has seen’.*

Contributing on the same, one female parent observed that:

*‘Use of local signs is easier for us parents, even to help our children at home it becomes easier as we are familiar with the signs we use with them at home’.*

In an attempt to further establish if there were negative factors to teaching of literacy education in localised sign language, participants were asked whether or not there were some barriers to the use of local signs in literacy education. Findings showed that teachers were not trained in teaching literacy in local signs. In support one female teacher had this to say:

*‘I was not trained in teaching literacy education in local signs. What I was trained in is using English signs hence I find it difficult for me to translate those things in local signs’.*

The curriculum was not available in literacy education for the hearing-impaired learners for the use of local sign language for literacy education. Contributing on the same, one male teacher had this to say:

*‘The institution I went to for training to teach hearing-impaired learners did not have a curriculum supporting the teaching of literacy in local signs’.*

Teachers of hearing-impaired learners had no materials specifically for the hearing-impaired learners to use in their literacy education in schools. In support, one female teacher had this to say;

*‘In school there are no materials such as books or chart with illustrations depicting local signs for some of the words in literacy education to the hearing-impaired. What the teachers are using are books for regular learners, there is nothing specifically for hearing-impaired learners’.*

The local signs were very difficult to understand for the hearing-impaired learners and some words had no signs in local signs language, which often led to teachers using English signs in their lessons.

In support of this view, one male parent-respondent stated that:

*‘Teachers are not trained in teaching literacy in local signs and the school does not have relevant literacy books in localized sign language. Even most of the signs for the hearing-impaired learners are in sign English not in local signs and my child cannot understand most of the signs in cinyanja because the language I speak is different from cinyanja which the teacher uses to teach at school. Also certain signs are only known by family members and different languages have different names for certain things’.*

The findings generally revealed that there were various factors that seemed to have influenced the use of local signs in literacy education. These ranged from diversity in signs, limited resources, and untrained teachers to demands of policy on instructions in local languages.

Another question of the study was to explore the views of participants on how use of local signs in literacy education for the hearing-impaired could be improved. The responses were as shown below.

#### 4.5.2 Measures to improve the Use of Localised Sign Language

When the participants were asked on what should be done to improve the use of localised signs in teaching literacy education in lower grades for the hearing-impaired learners, the responses were as shown in Table 2 below.

**Table 2:** Measure to Improve the use of Localised Sign language

Emerg ed themes	Participants			Total
	Teachers	Parents	H/Teachers	
Training of teachers in localised sign instruction	9 (25%)	3 (8.3%)	2 (5.6%)	14 (38.9%)
Formulating localised literacy education curriculum	2 (5.6%)	1 (2.8%)	0	3 (8.3%)
Regular provision of localised sign material for literacy education	4 (11.1%)	6 (16.7%)	1(2.8%)	11(30.6%)
Parents work with teacher in reinforcing localised signs	1(2.8%)	4 (11.1%)	1(2.8%)	6 16.7%)
Teach local languages through localised sign language as a subject	0	2 (5.6%)	0	2 (5.6%)
Total	16(44.4%)	16(44.4%)	4 (11.2%)	36 (100%)

Findings from participants on what could be done to improve the use of localised signs in teaching literacy education in lower grades for the hearing impaired learners were varied: 14 (38.9%) of the participants felt that training of teachers on how to use localised signs would be ideal; 11 (30.6%) of the participants believed regular provision of localized sign material for literacy education; 6 (16.7%) participants were of the view that parents work with teachers in reinforcing use of

localised signs in order to support literacy education; while 3 (8.3%) and 2 (5.6%) participants thought formulating a localised literacy education curriculum and teaching local signs as a subject of study would help and make use of local signs more relevant. In support of this one head teacher indicated:

*‘Use curriculum for local sign language for the hearing-impaired learners should be there, teachers should be trained in teaching literacy education in localised sign language for hearing-impaired learners and materials in local sign language should be made available by the Ministry of General Education through Curriculum Development Centre’.*

Contributing on the same issue of how to improve on use of local signs in class, one male parent said:

*‘Also on television they should be using local signs as the children spend much time at home watching television and teachers who teach hearing-impaired learners children should be well-qualified and specialised in local sign language’.*

In addition, another male parent had this to say:

*‘Teachers in school should continue teaching children using localised sign language up to Grade 12 and as a father of a child with hearing impairment, I need also to be trained in localized sign language so that I supplement the teacher’s effort and am able to communicate with him effectively.’*

Teacher felt that knowledge both in localised sign language and English Sign Language to teach hearing-impaired learners at any level of education, especially in literacy education, is necessary. Teachers need to have basic skill for individual learning using local signs. Teachers need to know more local sign language to use in the classroom when teaching literacy education to learners. Parents, too, are supposed to be taught a lot of local sign language that allows communication on academic matters for them to support literacy education effectively.

#### **4. 6 Summary**

The study established that schools were using both localised signs and English signs to teach literacy education for lower grades. The participants felt that when literacy starts with local sign language, learners learn even faster and find it easier to switch to English signs. It has also



confirmed that teacher use pictures, real and concrete objects with support of charts with localised signs to teach literacy education in lower grades. The study suggested the training of teachers in use of local signs to teach literacy education. Teachers confirmed that it was difficult to teach local signs because learners took time to grasp them due to, among other factors, cultural background. The study felt the hearing-impaired learners could learn literacy education through localised signs but a lot needs to be done to make it possible for learners with hearing impairment to acquire literacy. The next chapter presents the discussion of the findings.

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

### **5.1 Overview**

This chapter presents the discussion of the findings of the study aimed at establishing views of teachers and parents on use of local sign language in teaching literacy education to hearing impaired learners in lower grades. The discussion is presented according to the objectives of the study, which were: (i) to establish local language signs used in the teaching of literacy education in schools; (ii) to examine the views held by teachers and parents on the use of local language signs in literacy education; (iii) to assess approaches teachers use in the teaching of literacy education through localised language signs; and (iv) to explore factors that might have influenced views of teachers and parents on the use of local signs in literacy education for the hearing-impaired learners.

### **5.2 Local Language Signs used in the Teaching of Literacy Education in Schools**

It was evident from the findings that teachers were using local signs to teach sign language literacy education. A follow-up question was asked to teacher-participants on their own experiences in teaching literacy education to hearing-impaired learners using localised sign language. The study revealed that learners were able to grasp concept easily as they were learning from known to unknown and some teachers only used sign English even if books are not written in local languages and it was difficult to teach sign language in local language and some learners were slow, which made it even more difficult for them to use local signs. But to some learners, it was like teaching them using a new sign language different from what they knew from home. Some teacher recounted that in using local signs to teach literacy education to hearing-impaired learners they faced a lot of challenges as the learners were slow and they did not know much about Cinyanja signs. These findings disagreed with Hearing-impaired learners Deafblind (2010), who felt that the mother tongue is the first language in which one can express oneself fully as a tool of communication and children acquire the mother tongue with seeming ease.

Findings from the lesson observations during literacy education periods revealed that both the teachers and hearing-impaired learners were able to use localised sign language on common iconic, action or descriptive signs and signed English. Teachers were better equipped with local signs than learners and the learner were coping well in trying to use localised sign languages in those classes

the researcher found teacher using local signs. It was also found that in other subjects hearing-impaired learners were mixing local signs with signed English an indication that they were trying to use local signs hence the use of sign English were they could not.

The findings showed that there were a lot of common local signs hearing-impaired learners come with from home and were being used in literacy education. The study established that children come from home already with local sign for 'father', 'mother', 'cup', 'eating'. Some participants pointed iconic signs such as 'ball', 'house', 'snake', action signs such as 'eat', 'drink', 'sleep', 'laugh', 'cook' as common local signs used in teaching literacy education. The study further revealed descriptive signs such as 'dark' complexion, 'think', and 'fat' as local signs children started with at schools and were used in literacy lessons. Findings resonated well with Mubanga (2010), who revealed that children were able to read familiar words and names of things based on what they see in their environment well before school. It was evident that there were a lot of familiar local signs the hearing impaired learners come with from home which were being used in the teaching of literacy education at lower primary schools.

With regards to whether or not localised sign language was used in lower grades for learners with hearing impaired, the findings indicate that 16 participants confirmed that teachers use some of the common local signs in their teaching of literacy education in classes for hearing impaired, 15 reported that teachers did not use localised signs but depended on English signs to teach literacy education. The study showed that schools and units for the hearing-impaired were using local signs as recommended methodology on initial literacy education even among the learners with hearing impairments while 5 participants felt that teachers used both local and English signs to teach literacy education. From the findings it can be said that teachers were using local signs to teach literacy to learners in lower grades as used at home together with their families. However, a good number of participants reported that local signs were used and teachers use localised signs mixed with sign English where possible. Teachers felt encouraged to use local signs in their literacy lessons as it was not easy.

Further, when the parent-participants were asked on the similarity of local signs the teachers used to teach literacy to children with hearing impairment in lower grades, findings showed that some local signs were very similar to those learnt at school but most of the signs were totally different. Objects such as house, cup, drink, eat, bathing or walking were cited to be some of the local signs which were similar across local sign language. This was confirmed during the lesson observations made in literacy education lesson times. It was observed that some signs used by the learners and teacher were similar. But others were different, especially in the pre-grades and grade 1 as they have not standardised the ones to be using in their communication in class and this was attributed, to some extent, to learners coming from different home cultures and tribes.

The local and English signs were different in a way that in sign English hearing impaired learners use short signing language while in local signs, signs tended to be longer at times while local signs had no equivalent in English. It was clear that local signs were different in such a way that one sign in local language sometimes meant different things to hearing impaired learners who used a different language background. Difference in localised signs, however, did not affect the learning of literacy among the hearing-impaired they sound them but use of pictures helped them to draw their required meaning and if there was no picture it became a problem to use it in that lesson. These findings are in line with Reubell (2011)'s findings that for the children to improve their proficiency in reading and writing in their mother tongue, the teachers need to use more instructional materials and design learning activities that promote children's interaction and participation and use of pictures in a literacy lesson to enable them to understand the phonic sounds of the words.

The study sought to establish whether or not teachers were able to understand the signs learners came with from home. Findings obtained showed that 9 and 3 of teacher and head teacher-participants, respectively, confirmed understanding local signs learners come with from home while 7 teachers and 1 of head teacher-participants did not understand local signs learners come with from home. Findings showed that teachers' ability to understand learners' local sign language was not very much competent as they needed more clarification from pupils, especially those from pre-grade and Grade 1. Learners were, however, able to follow attentively localised sign language used by their teachers. In short, the study showed that teachers were able to understand the local signs learners came with from their homes while others, because of the way they described them

were not able to understand and effectively communicate through such local signs. The findings were agreeable with Maambo (2011), who said the teachers responded that learners with hearing impairments do not use similar signs when they first come to school and that the signs they bring to school are usually different because they come from different places where different signs are used.

### **5.3 Views Held by Teachers and Parents on the use of Local Language Signs in Literacy Education**

As whether teachers were trained in teaching literacy education to hearing-impaired children in reading skills, the findings revealed that majority, 11, of the participants indicated that they were not trained. Others teachers manage teaching literacy education in local sign language by asking from teachers who are conversant with local sign language and pupils themselves. Some teachers confirmed that they learnt some local signs from learners, especially those in higher grades, when they are teaching them in the classes, while the least respondents, 7, said that they were oriented or trained in teaching literacy education to hearing impaired children in the area of reading skills. It was evident that some teachers manage to teach in local sign language because they are also hearing-impaired learners and understand local signs well using their experience as they learnt some of the local signs from their parents and friends at school. Other teachers learnt some of the local signs through teacher group meetings facilitated by the people who are conversant and also through interaction with the learners. Hence, teachers manage classes which learn literacy education through use of initiative and modifying of work by blending it with local signs. The results of this study are in line with Ndeleki (2015), who revealed that teacher lack adequate skills on the use of the existing local signs to enable them to fulfil the requirements in implementing the new trends in teaching literacy and move together with the other teachers in regular schools.

The findings generally showed local signs were working well as learners easily understood content using the sign language they were familiar with. Just like teachers teach the other learners from known to unknown, teachers were able to teach using local signs. The teachers would teach using local signs before eventually migrating the children to English Sign Language. The teachers would follow signs learners come with from home into the classroom and build on the same before introducing sign English to the hearing impaired learners. Some parents claimed they were able to

follow because they were the same as the ones used at home. This means that localised signs were working well as some children were able to use the same signs both at home and school for communication. The findings of the study are positively linked to those of Mich, Pianta and Mana (2013), who reported that hearing-impaired learners children need to learn through familiar home sign language as their first language of interaction from home before being exposed to formalised sign language in schools.

It was also evident from the findings that teaching of literacy in localised sign language is working well as local signs were similar to standardised sign language and learners with hearing impairment learn fast because they knew them in local sign using so when it came to using sign English, it did not give them a big problem to translate. Also, from what was observed literacy lesson, some learners showed ability to understand localised sign language as they were able to contribute during the lesson. From the learners' answer to question or contributions during the lesson, the researcher observed local content when signing as confirmation that some hearing-impaired learners were able to sign using localised sign language as a medium of instruction at the lower grades and not necessarily the formalised sign language. This finding is consistent with those of Ball (2010), who asserts that literacy in the mother tongue allows for linguistic foundation for learning additional languages.

Few teacher-participants, however, indicated that localised sign language was not working well for hearing-impaired learners in school. They cited several reasons why signs were not standardised: diversity of signs from Zambian languages; teachers having different orientations. In support of the view, one male teacher indicated that it did not work well because sign language was sort of generalised in the sense that an item was called by its name. It was also difficult to teach because they needed interpreting in English and learners had different local signs due to different environment they were coming from. Responses of teacher-participants showed that most local signs were also found in sign English and very few signs were in localised sign language. This did make it easy for children to migrate to English Sign Language as they entered higher grades. The findings agreed with Maambo (2011), who sidelined the cultural and social aspect of English Sign Language in preference for hearing-impaired culture. This hindered a continuity of interaction among hearing-impaired from diverse areas and negatively impacted on learning outcome. The findings showed also parents had not paid attention nor understood signs children

were using in learning literacy education because of variations in local languages used by learners and signs used in each local language, which negatively affected acquisition of literacy skill. The researcher observed of different scenario from both the teacher and learners they were just into sign English, as teachers were not trained to use local signs and did not know where to start from and would just confuse learners if they went on using local signs in literacy education lessons. This finding were in agreeable with the study of Mudenda and Nankamba (2017), who pointed out that one of the challenges encountered in attempt to implement the use of mother tongue education policy was the lack of enough teachers trained to teach the various mother tongues spoken in the country, of which local signs as the local language to use at lower grades for hearing-impaired learners was not an exceptional. Teachers, whether of Local Sign Language or English Sign Languages, must be exposed to the general methodology of teaching literacy education for effective teaching in the said languages.

#### **5.4 Approaches Teachers used in Teaching Literacy Education through Localized Language Signs**

Answering from the study, findings showed that parents were not aware of strategies being used in teaching literacy education using local signs. Because of this, parents were unable to support their children in acquisition of literacy skills. This was evident from 14 parents interviewed who were not aware while only few parent-participants were aware while all teachers were aware. In affirmation, a parent said her child did not come with any home work at home and most of the times her child did not show her what they had written at school for the parent to assist the child. It was clear parents were not aware of the signs and strategies teachers were using to teach literacy education to the children with hearing impairment. From the study, it was evident that those who were aware were keen on following up what children were doing in literacy education, while majority of those not aware did not support the children. The study showed that majority of parents expressed ignorance on signs and strategies teachers used to make children learn literacy skills. This was in line with Eisenbraum et al (2011), who observed that there was no consensus among researchers, educators, parents, or those who were hearing-impaired learners or hard of hearing about the best reading and writing strategies for students who were hearing-impaired learners or hard of hearing, and stakeholders confirm unawareness on the best strategies to use in teaching literacy in familiar local signs to the hearing-impaired learners children.

On whether or not teachers used Sentence Makers and Word Cards, Conversation Chart and the Phonic Flip Chart at Stage 1 to teach literacy to learners with hearing impairments with help of local signs, the findings revealed that most of the parents (15) indicated that they were not quite aware while a minority 6 believed teachers did use them. Those who were aware felt that use of sentence maker and word cards would be advanced and hearing-impaired learners did not hear anything, so those materials were not necessary in their learning of literacy. Teachers did not use local sentence maker words, instead they used only pictures and real objects to teach literacy education to hearing-impaired learners. While 7 teacher-participants expressed awareness on the use of word card with concrete or real objects to help hearing-impaired learners, few acknowledged and appreciated use of matching pictures with the word cards. In addition, by signing the letters on the flip chart, the word cards and sentences matching them with objects or pictures, participants felt it was easy for the learners to comprehend and use effectively local signs in literacy education.

From the findings, teachers use sign language charts more frequently in the teaching of literacy education in using localized sign language at lower grade. The findings show that 17 respondents were of the view that teachers use more demonstration to teach literacy in using local signs. This finding agree with Ndeleki (2015), who felt that the most common strategies used by teachers were sign language and demonstration in the teaching of literacy skills. Picture discussions, for example, were used more often in the representation of literacy lessons than role plays were generally used. The conclusion made arising from the findings was that instructional approaches teachers use to teach literacy education in the study schools were of demonstration; picture discussion and storytelling supported by language sign charts which greatly help the learner acquire literacy skills in the study schools.

The study further revealed that teachers often used 'phonic,' 'syllabic' and 'look and say' strategies in the teaching of literacy skills with the help of local language signs. For instance, participants taught literacy education through individual pupils signing whilst other participants were able to discriminate reading readiness through local signs and English signs activities. The study also cited other strategies used by teachers to enhance literacy education with help of local signs such as songs, storytelling and oral question. Chaoyu (2006) advocates that rich story books in a mother tongue studied by both teachers and pupils helped children learn literacy skills better. Further, the findings were also consistent with Muliya (2009), who encourages teachers to promote reading



among their pupils by developing love for intensive storytelling and language symbols which were with language experience of the learners such as pictorial or real object symbols.

On materials and equipment used when teaching to read and write with help of localised language signs, it was found that most of the schools had little or no material, equipment used to teach how to read and write in teaching literacy education to hearing-impaired learners which was in local signs. Teachers used books meant for normal learners, modified the work and translated it in local language signs for use in literacy lesson. The materials teachers reported included pictures, real objects, charts, chalk board and sign language alphabet to support teaching of literature but these were a mixture of signs from local and English Language Signs. In addition, the findings also showed that during the checkups and observation made on teaching and learning during literacy lesson, charts, books and other materials were available but they did not depict local sign content. The teachers were required to modify and translate the teaching and learning material content into local signs which often left the learners more confused during literacy lesson.

The findings above are in tandem with Fitzpatrick's (2011) study, which indicated that effective instructional approaches for teaching literacy education mainly revolved around demonstration, picture discussion and storytelling with support of sentence maker, word cards, conversant charts and phonic flip charts but these had little bearing on use of local language signs which learners were most familiar with.

### **5.5 Factors that might have Influenced Views of Teachers and Parents on the use of Local Language Signs in Literacy Education for the Hearing-Impaired**

When participants were asked on what they thought would have influenced the use of local signs in literacy education for the hearing-impaired learners, the findings were quite diverse on local signs used among hearing-impaired learners. The study revealed that teachers, parents and the hearing-impaired learners themselves felt that diversity in local language signs affected use of such signs in literacy education at classroom level. As a result, teachers and parents were not able to blend the different local language signs to support learning of literacy in the classroom. Partly this was attributed to children coming from different oral language backgrounds with use different local language signs which made it difficult for the teachers to use effectively local language signs. This was evidenced by Maambo (2011), who noticed that the challenges range from different local

signs which children bring from their homes and the difficulties teachers find in using one of these in teaching reading and writing in primary school.

Further, findings showed that a good learning environment with a lot of picture books; real learning materials and charts with different characters did not exist for teachers and learners to effectively use local language signs in literacy lessons. In support of these findings, Reubell (2011) reported that good learning of literacy skill requires support of a lot of learning materials; such material served as source of motivation and fostered learning literacy education among the learners. A classroom with a lot of talking walls, for example, depicting different local language signs work to motivate teacher-pupil interaction in a literacy lesson. The study also observed that use of the localized sign language in teaching literacy education was supported by education policy as well as revised curriculum but not supported relevant and sufficient materials as well as retraining of the teachers to support literacy education for the hearing-impaired learners. These findings were in line with those of Mudenda and Nankamba (2017), who argued that learning to read and write requires enough textbooks available because sufficient textbooks support mother tongue education for the first three years of primary education as stipulated by the policy. The hearing-impaired learners' ability to read is compromised by lack of textbooks, teacher guides, story books, and other materials.

In an attempt to further establish if there were negative factors to teaching of literacy education in localised sign language, participants were asked whether or not there were barriers to the use of local signs in literacy education. The study showed that teachers were not trained in teaching literacy in local signs but trained in using English signs to teach literacy skills to learners with hearing impairment. This is supported by Mubanga (2010), who showed that the training package for the teachers of the hearing-impaired did not address the aspect of local literacy, making it difficult to integrate the local signs with the American Sign Language when teaching literacy education using local signs. This difficulty to integrate local signs has created a gap between what the revised curriculum demands and what teachers were trained to teach in reading to the lower grades.

The study also showed that the new revised curriculum was not localised to support hearing-impaired learners. There were no localised materials to use. This was in line with Fitzpatrick (2011) whose study revealed that teachers needed adequate skills on the use of the existing local signs to enable them to fulfil the requirements in implementing the new trends in teaching of literacy skills.

The study showed that teachers of hearing-impaired had no materials specifically for the hearing-impaired learners to use in their literacy education in schools. In support, teachers felt that in school there were no materials such as books or chart with illustration depicting local signs and that some words did not have local language signs to use in literacy education for hearing-impaired. Teachers were instead using books for regular learners; there was nothing specifically for hearing-impaired learners. Further, the local signs were very difficult to understand for the hearing-impaired learners and some words had no sign in local signs language which often led to teachers using English signs in their lessons. In support of this view, Wakumelo (2009) noted that teachers are not trained in teaching literacy in local signs and schools do not have relevant literacy books in localised sign language. Even most of the sign for the hearing-impaired learners were in sign English, not in local signs, and some children could not understand most of the signs in local language. Also certain signs were only known by family members and different languages have different names for certain things. The findings generally revealed that there were various aspects that seemed to have influenced the use of local signs in literacy education. These ranged from diverse signs, limited resources, untrained teachers to demands of policy on instructions in local languages. The findings above correlate well with Wakumelo (2009), who revealed that diversity in signs, limited resources, untrained teachers, demands of policy on instructions in local languages all affect the teaching of literacy education. Therefore, this study has also shown that in most cases teachers had a challenge of the availability of teaching resources for use, especially when certain programmes are being introduced. In this study, teachers needed other resource materials to support the teaching of reading using local signs. Sometimes, even orientation on how the teaching resources should be used was inadequate. It, therefore, showed that training for teachers of the hearing-impaired in the use of local language signs in literacy needed recasting in certain cases to meet relevance of methodology and be based on a system of identified literacy skills among the hearing-impaired (Chikopela and Ndhlovu, 2017).

With regards to what could be done to improve the use of localised language signs in teaching literacy education in lower grades for the hearing-impaired, views of the participants were varied. Majority, 14, of the participants felt that training and retraining of teachers on how to use localised signs were necessary. This was in line with Benson (2004), who argued that teacher training must be addressed no matter what the innovation and serious consideration be made for in-service (especially in the short run) and pre-service training (in the long run). She, however, was not in favour of short in-service programmes because provision of short in-service trainings often leaves bilingual teachers with limited language skills and inadequate understanding of the bilingual teaching methodologies required. Teachers need training in using their localised sign language in the classroom; materials have to be appropriate, available, and used. If they were not being used, it was important to learn why. This correlates well with 11 of the participants, who believed that regular provision of localised sign materials for literacy education in the teaching of local literacy using local signs, then 6 participants, however, were of the view that parents work with teachers in reinforcing use of localised signs in order to support literacy education, while 3 and 2 participants had thoughts on making localised literacy education curriculum and teaching local signs as a subject. These actions were seen to have the potential to help and make use of local signs more relevant. The findings were generally in line with Mubanga (2010), who recommended that the curriculum for local language should be availed; teachers should be trained in teaching literacy education in localised language for the hearing impaired and materials in local sign language needed to be made available by the Ministry of General Education through Curriculum Development Centre (CDC).

In order to improve the use of local signs in class, it was suggested that even television should be using local signs as the children spend much of their time at home watching television and teachers who teach hearing-impaired learners children should be well-qualified and specialised in local sign language. In addition, teachers in school should continue teaching children using localised sign language up to Grade 12 and parents of a child with hearing impairment needed also to be trained in localised sign language so that they supplement the teacher's effort and be able to communicate with the child effectively.

Also, teachers felt that knowledge both in localised sign language and English Sign Language to teach the hearing-impaired learners at any level of education, especially in literacy education, was necessary. Teachers needed to have basic skill for individual learning using local signs. Teachers needed to know more local sign language to use in the classroom when teaching literacy education to learners. Parents, too, were supposed to be taught a lot of local sign language that allowed communication on academic matters for them to support literacy education effectively.

## **5.6 Summary**

This section presents a summary of the discussion on the views of teachers and parents on the use of local language signs in literacy education among hearing-impaired learners in primary schools in Lusaka. The study established that schools were using both localised signs and English signs to teach literacy education to lower grades. The participants felt that when literacy starts with local sign language, learners learn even faster and find it easier to switch to English signs. It has also confirmed that teachers use pictures, real and concrete objects with support of charts with localized signs to teach literacy education in lower grades. The study suggested training and retraining of teachers in use of local signs to teach literacy education. Although teachers confirmed that it was difficult to teach local signs because learners took time to grasp them due to factors including cultural background, the study felt the hearing-impaired learners could learn literacy education much better through localised signs but a lot needs to be done to make it possible for them to do so. The next chapter presents the conclusion and recommendations.

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

### **6.1 Overview**

This chapter concludes the study, also makes recommendations and suggests areas of further research based on the findings of the study.

### **6.2 Conclusion**

Based on the findings in line with the objectives, the teaching of literacy education in local language signs was viewed to be satisfactory. The study showed that there were more adapted signs than local signs used in literacy education. Learners with hearing impairment learnt fast literacy skills because of increased use of local language signs and adapted signs in their lessons. It was confirmed that teachers used pictures, real and concrete objects with support of charts with localised signs to teach literacy skills in lower grades. In order to fully teach the local signs to hearing-impaired learners, teachers often used approaches which ranged from demonstration, storytelling, picture discussion to role playing in teaching literacy education through use of local signs.

It also emerged from the study that local language sign differences were caused by a lot of factors such as diversity in local language signs in oral language, unenabling environment, cultural diversity and lack of training institutions and lack of standardised local signs. It could also be concluded that the challenges the learners with hearing impairment faced were as a result of home local sign variations which were not in line with signs used in class. The diversity in signs, limited resources, untrained teachers, demands of policy on instructions in local languages all affected the teaching and quality of literacy skills taught.

To a certain extent, it was evident that local signs learners were exposed to were often not the same. This negatively affected the teaching to learners with hearing impairment and that much needed to be done to improve the teaching of literacy skills to the hearing-impaired through use of local language signs in the study schools.

### **6.3 Recommendations**

Arising from the findings of the study, the following recommendations are made:

1. The government should train teachers in teaching literacy education using localised language signs to hearing-impaired learners. There is need to train more teachers in local signs who will teach learners with hearing impairment local sign language confidently.
2. The study recommends that government through the Ministry of General Education the curriculum providing use of local language sign for the hearing-impaired learners should be availed and there is need to improve and revise the Zambian Sign Language Dictionary, which has been in schools for some time, to accommodate effectively the language of instruction policy.
3. Materials in local sign language should be made available by the Ministry of General Education through Curriculum Development Centre and these should relate to specific oral language areas.
4. There is need for parents/caregivers and teachers to work in collaboration in the promotion of local language signs used in schools as well as in homes. This would bring consistency in the local signs learnt at school as well as those used in homes to enhance learning of literacy among the hearing-impaired.

### **6.4 Suggestion for Future Research**

Further research countrywide should be done on the variation of local signs as this study was restricted to only one geographical region.

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## APPENDICES

### Appendix I: Interview Guide for Teachers

I am a post-graduate student of the University of Zambia. I am carrying out a research to find out the views of teachers on the use of local languages in literacy education in lower grades of learners with hearing impairment. The answers which you give will be treated with the utmost confidentiality. They will not be used to injure your reputation nor that of your school.

### INSTRUCTIONS

- (a) Do not write real name or any other identity that might reveal participant identity.
- (b) For some questions, a list of responses should be given.

#### 1. Bio Data

- i. Age : \_\_\_\_\_
- ii. Sex: \_\_\_\_\_
- iii. Highest Qualification: \_\_\_\_\_
- iv. Years of Service: \_\_\_\_\_
- v. Grade now Teaching: \_\_\_\_\_
- vi. Current position: \_\_\_\_\_

#### 2. i. Have you ever taught lower class for the hearing impaired before?

Yes        [   ]                      No        [   ]                      Not sure    [   ]

ii. If so what were your experience in using local signs to teach literacy education to learners with hearing impairment.....

iii. If **No.** why.....

3. What are the common local signs used in teaching literacy at your school? (you give description)
4. Do lower grades for hearing impaired learners use similar signs? And why
5. a. Are there any local signs which the hearing impaired use that are similar and that are different. (You can give example)
- b. How does the similarities or difference affect the learning of literacy among the hearing impaired?
6. Are you able to understand the signs learners come with from their homes? If no what are the challenges.....
7. a. Were you trained in teaching literacy education hearing impaired children reading skills?
- b. If not how do manage teaching it using such local language in your school
8. How effective is the use of local signs in literacy education in your school? Why do you think so?
9. Is localized sign language working well for the hearing impaired children in your school? and why ?
10. Do you use Sentence Makers and Word Cards, Conversation Chart and the Phonic Flip Chart at Stage 1 to teach learners with hearing impairments learners with help of local signs
- a. If so how do you use them
- b. If no, why?
11. Is the use of phonemes effective in teaching reading and writing to lower Grades for hearing impaired learners using local signs? Why do you think so?

12. What other strategies teachers are using when teaching literacy education through localized sign language to hearing impairment learners.
13. What do you see as facilitators of effective use of local signs in literacy education for the hearing impaired.
14. Are there barriers teaching reading and writing using the localized sign language course to lower grades learners with hearing impairments? If so what are some of these barriers.
15. What do you think should be done to improve the use of localized signs in literacy education for the hearing impaired

**Thank you for your responses.**

## Appendix II: Interviews Guide for Headteacher

I am a post-graduate student of the University of Zambia. I am carrying out a research to find out the views of teachers on the use of local languages in literacy education in lower grades of learners with hearing impairment. The answers which you give will be treated with the utmost confidentiality. They will not be used to injure your reputation nor that of your school.

### INSTRUCTIONS

- (a) Do not write real name or any other identity that might reveal participant identity.
- (b) For some questions, a list of responses should be given.

#### 1. Bio data

i. Age: \_\_\_\_\_

ii. Sex: \_\_\_\_\_

iii. Highest Qualification: \_\_\_\_\_

iv. Years of Service: \_\_\_\_\_

v. Grade now Teaching: \_\_\_\_\_

vi. Current position: \_\_\_\_\_

- 2. What are some of the common local signs do the hearing impaired come within your school?
- 3. Do teachers use some of these local signs in their teaching of literacy education, if not why?
- 4. What type of sign language do they use when teaching the children with hearing impairment?
- 5. How similar of different are the local signs used in classroom, can you give some examples.



6. What methods, materials, equipment etc. do they use when teaching to read and write in a localized sign language?
7. What strategies do teachers use to teach literacy education to the hearing-impaired learners?
8. Are teachers able to follow signs learners come with from homes into classroom? Why do you think so?
9. Are teachers trained in literacy education for the hearing-impaired learners? If not how do they manage to handle their classes.
10. How effective is the use of local signs in literacy education in your school? Why do you think so?
11. Is localized sign language working well to teach literacy education to the hearing-impaired learners?
12. Do teachers use sentence markers, word cards, conversation charts and phonic flips charts in teaching literacy education to the hearing impaired? What have you seen as some of the challenges?
13. What have you seen as some of the facilitators in the use of local signs in literacy education and why?
14. What are some of the barriers to use of local signs in literacy education in your school?
15. What do you think should be done to improve the use of localized signs in literacy education in your school?

**Thank you for your responses**

### **Appendix III: Interviews Guide for Parents of Learners with Learning Impairment**

I am a post-graduate student of the University of Zambia. I am carrying out a research to find out the views of teachers on the use of local languages in literacy education in lower grades of learners with hearing impairment. The answers which you give will be treated with the utmost confidentiality. They will not be used to injure your reputation nor that of your school.

#### **INSTRUCTIONS**

- (a) Do not write real name or any other identity that might reveal participant identity.
- (b) For some questions, a list of responses should be given.

#### **1. Bio data**

i. Age: \_\_\_\_\_

ii. Sex: \_\_\_\_\_

iii. Highest Qualification: \_\_\_\_\_

iv. Years as a parent/guardian: \_\_\_\_\_

v. Grade the child is in: \_\_\_\_\_

- 2. What are some of the common signs you use at home to talk to your child?
- 3. Should teachers use localized signs to teach literacy to children who are hearing-impaired learners, why?
- 4. How effective is the use of local signs in literacy education in your school? Why do you think so?
- 5. How similar or different are local signs used by teachers in teaching your child?
- 6. Are you aware of some of the strategies teachers use to teach your child using local signs? If so what are some of them?

7. Are you able to follow signs that a child comes with from school? Is use of localized sign in classroom where your child is working well? Give reasons.
8. What do you think are some of the facilitators of effective use of local signs in learner's classroom? Why?
9. What are some of the barriers in using local signs to teach literacy to the hearing impairment? Give examples.
10. What do you think should be done to improve the use of localized signs in literacy education among hearing impaired?

**Thank you for your responses.**

#### **Appendix IV: Observation Checklist**

1. The signing system used by teachers.
2. The signing system used by the pupils when talking to teachers
3. Observe if teachers and learners well placed and better equipped to local Sign language in all subject
4. Teacher's ability to understand pupils local Sign language
5. Pupils' ability to understand local Sign language used by teachers.
6. Are local signs which the hearing impaired use if they are similar or different?
7. Observe if the teacher is mixing of signing system for instance both local Sign language and signed English.
8. Are pupils understanding and following local Sign language?
9. Observe if Hearing-impaired learner's children's way of signing contains local signs
10. Teaching and learning materials such as charts, books and other materials depict local signs
11. What instructional approaches do you use to teach literacy education?
12. Check how both teachers and learners fluent in local Sign language?