

CHAPTER ONE

INTRODUCTION

1.0 Background

Literacy is essential to effective learning both in schools and in the society at large. Achieving high literacy levels in school is a task requiring the involvement of all educators across the curriculum (Taylor, 1988). All children in schools are expected to acquire literacy skills normally in accordance with their level of development. However, children with hearing impairment arrive at beginning reading and writing with a very limited knowledge base and inadequately developed cognitive and linguistic skills. This is in line with the observations made by Kalabula, (2007) that children who cannot hear do not easily acquire literacy skills unless they have special help. This implies that, without literacy skills, children have difficulties in education as their survival in school is dependent on reading and writing.

It has been said that reading and writing require two related capabilities, firstly you must be familiar with a language and secondly, you must understand the mapping between that language and the printed word (Chamberlain & Mayberry, 2000). Deaf children are disadvantaged on both counts. Learning to read requires the child to learn the mapping between the spoken language and the printed words, for the deaf child this is not easy. The deaf child does not have access to phonological code and many do not know any language well.

Despite decades of concerted efforts, most deaf children progress only at a relatively low level in learning to read and write in comparison with their hearing counterparts. Current data indicate that on average, fourteen (14) year old deaf students leaving the final primary grade have reached only the third to fourth grade level in reading skills, more than 30% deaf students leave school functionally illiterate (Kelly, 1995).

Different researchers' have conducted studies to assess the reading abilities and achievements of the hearing impaired children. Among the studies include the one conducted by Pintner and Patterson (1917) who used the Woodworth and Wells test to assess the reading ability of hearing impaired students. The findings reported that deaf children of 14 -16 years of age had median (the middle measurement in a set of

measurements that are arranged in order) reading scores equal to those of 7 year old hearing children. This study is testimony that the hearing impaired children do not acquire literacy skills at the same level as the hearing children. Therefore, it is necessary that a study is conducted to establish the factors that contribute to low literacy achievement levels among the hearing impaired children.

The other study was conducted by Ministry of Education (2008) to assess the reading performance of Grade 7 pupils with the following impairments; vision, hearing and mental. The assessment indicates that the hearing impaired learners performed poorly in reading as compared to the other disability groups. The performances in percentages according to disabilities were as follows; “mentally impaired, 55%, visually impaired, 41.8% and hearing impaired, 33.5%” (p. 20).

These statistics are not equitable because the hearing impaired learners have continued to lag behind in literacy achievements. If the causes of these statistics are not established, the problem of low literacy achievement among school going children with hearing impairments will persist. Therefore, it is imperative that a study to establish the factors that contribute to low literacy achievement among school going children with hearing impairments be conducted.

In fact, Ministry of Education, Science, Vocation Training and Early Education (MOESVTEE) has committed itself to providing good quality education to all children by upholding the principle that every individual has an equal right to education. This is evidenced by the policy pronouncement which states that ‘... every individual, regardless of personal circumstances or capacity, has a right of access to and participation in the education system’ (MOE, 1996 p.66). However, despite this policy statement by MOESVTEE, pupils with hearing impairment have continued to lag behind in terms of literacy achievement, thereby limiting their access and full participation in education. It is against this background that the researcher wishes to establish the factors that contribute to low reading and writing achievement among the hearing impaired pupils.

1.1 STATEMENT OF THE PROBLEM

There is a long standing problem of low achievement of reading and writing among the hearing impaired pupils in Zambia (MOE, 2008). The factors that lead to this problem need to be established in order to prevent its recurrence. Ministry of education (1977) acknowledges that children who do not hear cannot learn language (reading and writing) unless they have special help. However, little is known on the factors that impede literacy development in learners with hearing impairment.

1.2 PURPOSE OF THE STUDY

The purpose of the study was to establish the factors that contribute to low achievement in reading and writing among grade seven pupils with hearing impairments in selected schools providing education to the hearing impaired children in Lusaka District.

1.3 OBJECTIVES OF THE STUDY

The study was guided by the following objectives:

1. To establish the factors that contribute to low achievement in reading among the grade seven hearing impaired pupils.
2. To assess the levels of competence in sign language among the teachers teaching the hearing impaired pupils.
3. To establish the factors that contribute to low achievement in writing among the grade seven hearing impaired pupils.
4. To determine whether the techniques used by teachers in teaching reading and writing to hearing impaired children are related to the communication mode of deaf children which is usually visual rather than auditory.

1.4. RESEARCH QUESTIONS

The study was guided by the following questions:

1. What factors could be responsible for low achievement in reading among grade seven (7) hearing impaired pupils?
2. What are the sign language competence levels of teacher's teaching hearing impaired children?

3. What factors could be responsible for low achievement in writing among grade seven (7) hearing impaired pupils?
4. Are the techniques used by teachers teaching reading and writing to hearing impaired children related to the communication mode of deaf children which is usually visual rather than auditory?

1.5 SIGNIFICANCE OF THE STUDY

This study was designed to establish the factors that contribute to low achievement of literacy among the hearing impaired students. It is hoped that this study would provide a better understanding of the problem from the perspective of pupils themselves. It is also hoped that the study would influence policy which will help address the challenges faced by hearing impaired pupils in the attainment of the required literacy. In addition, it is hoped that the study would help the Ministry of Education to develop reading materials that match the real world knowledge and linguistic development of deaf children more closely than do most of the materials developed for hearing children.

1.6 THEORETICAL FRAMEWORK

The theoretical framework for this study comes from two theoretical perspectives namely the constructivist and the social constructivist theories. Literacy researchers have adopted constructivist and social constructivist theoretical frameworks to explain literacy acquisition, growth, and development. These perspectives are informed by the work of theorists that believe that learning is an active, interpersonal, and social process. For example, Vygotsky's (1987) theoretical framework has been instrumental in illustrating the role of culture in literacy learning. In addition, Bruner's (1983) notion of scaffolding provides an understanding of the support that children receive from adults as they learn language, become meaning makers, and learn to communicate.

Adherents of the social constructivist approach argue that people's learning is influenced by the society in which they live (Bakhtin, 1986). Children learn literacy in the same way they learn language i.e from interacting and communicating with the people around them. They unconsciously develop ways of knowing, understanding, and communicating within the family, extended family, communities, and society.

The central theme is that learning occurs through interaction between a more experienced and competent individual (i.e. a master craftsman) and a less competent individual (i.e. an apprentice). Simply stated, interaction is the conduit through which knowledge is constructed, to help the learner internalize specific language or literacy-related concepts through the process of externalizing thought processes.

The two theoretical perspectives i.e. constructivist and social constructivist will help inform the study in that since learning is a social process, children are expected to interact freely with other members of the school community. It is through social interactions that deaf children can practice and sharpen their literacy skills by communicating with people around them. Therefore, it is important to find out whether hearing impairment limits the development of interaction. It is also important to find out the level of sign language use between the hearing impaired children on one hand and the hearing peers, adults and teachers on the other hand during interaction.

Additionally, the constructivist perspective will be of great help to the understanding of factors that contribute to low literacy achievement among grade seven pupils in that the perspective (constructivist) will help the researcher establish the amount of assistance (scaffolding) learners who are the apprentice, receive from their teachers (master craftsman) in literacy learning. This will be achievable through determining the amount of individualised education plans (IEP) teachers are offering to the hearing impaired children. It is hoped that these two models will help establish the factors that contribute to low literacy achievement levels among the hearing impaired children.

1.7 DEFINITION OF TERMS

- i. **Hearing:** The lowest level where the subjects responds in at least 50% of the tone presentation series.
- ii. **Hearing impairment:** A general term for the malfunction of the auditory mechanism
- iii. **Non-hearing impaired:** Learners with functional auditory system
- iv. **Literacy:** An individual's ability to read and write.
- v. **Low achievement:** According to the study, low achievement refers to a grade below the average mark of the tests set by teachers in the schools.

- vi. **Median:** The middle measurement in a set of measurements that are arranged in order.
- vii. **Reading:** The interpretation of letters and symbols into meaningful comprehensive situations in the media of vision and perception.
- viii. **Individualized Education Programme:** Extra learning activities designed to scaffold children with special educational needs often conducted outside classroom hours.
- ix. **Multi-grade:** a system of teaching more than one grade classes by the same teacher in the same classroom at the same time.
- x. **Mainstream:** Classes for non-impaired learners.

1.8 LIMITATIONS OF THE STUDY

This study was confined to schools that offer education to the hearing impaired pupils in Lusaka district. This means that the findings may not be generalized to other disability groups.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents the review of related literature on how literacy develops in deaf children. The chapter gives different perspectives of literacy, and later highlights difficulties faced by hearing impaired learners when learning to read and write, and the factors that should be considered in order for hearing impaired learners to succeed in learning to read and write. The chapter closes by reviewing literature related to the approaches needed to teach literacy to deaf children.

2.1 What is literacy?

There is no definite way of defining literacy. The term literacy can be defined differently based on one's orientation. Christie (2003) asserts that the term literacy can mean the ability to interpret pictures, (visual literacy), to create meaning through different media (media literacy), to deduce meaning from sounds (musical literacy) and to deal effectively with different subject areas and technology (for example mathematical literacy and computer literacy). Literacy enables individuals to use print or non-print, verbal or non-verbal means to think, communicate and act for a variety of purposes in school and in the world beyond school. This, therefore, means that it is through literacy that people can communicate and interact with written text. Literacy is an essential component of normal development in children and a means of success in education.

The fundamental skills in developing literacy are by learning to read and write. Whitehurst and Lonigan (2000) mentioned that learning to read is a key milestone for children living in a literate society. This means that the critical part of the foundation for children's academic as well as after school success is provided by reading skills. It is through reading that individuals who acquire more knowledge in various domains actually read well and read more. For this to happen, Whitehurst and Lonigan (2000) suggest that one must be in an environment that is conducive to learning. This environment must also be presented with learning instructions and medium of communication that make sense to the learner.

Literacy entails the mastery of spoken language and reading and writing. The development of written language is therefore linked to the development of spoken

language. These developments take place at both family and school levels (Taylor, 1988).

This study followed the definition that was advanced by Morris and Tchudi (1996) in which literacy was defined as the ability to decode and encode, to pick up a book and not only call the words but also to say what they mean. It is the understanding that print letters have sounds that can create words, and that these words can be read from left to right to tell a story. It is therefore the ability to interpret text and use writing skills to analyse and explain facts.

2.2.0 Literacy development in deaf children

Developing literacy according to Mc Gee and Richgels (2000) is concerned with supporting all children's growth, with thoughtful instruction to become reflective and motivated readers. Reading, writing, home and strategies applied by educators play significant roles in the development of literacy as briefly outlined hereunder:

2.2.1 Print knowledge and phonological awareness

Reading is viewed as part of the comprehension process and as such involves higher order cognitive, metacognitive and linguistic skills, such as inference, syntax, semantics, as well as lower order decoding skills and letter and word recognition. Dickinson and Neumann (2006) State that learning literacy includes such varied components as children's development of language, understanding the conventions of print, print knowledge and phonological awareness. It is the understanding that print letters have sounds that can create words, and that these words can be read from left to right to tell a story. The basic process underlying the phonic approach to reading is usually based on the sounds of individual letters or letter combinations.

However, hearing impaired children are not privileged to listen to these sounds and lacks phonological awareness. Whereas the typical hearing child comes to the reading task with a substantial amount of pre reading skills, deaf children typically lacks substantial development of any of them. By applying this higher order mental skill, the hearing children find it easy to learn to read and write (Marschare et al, 2002). The case is not the same with the hearing impaired child who must struggle to learn the letters whose sound they have neither heard nor comprehended. The task for this child becomes one of acquiring a real world knowledge base and basic cognitive and

linguistic skills as well as decoding skills. This task is further complicated by the use of reading techniques that assume the existence of an auditory language which the deaf child does not have and reading materials that assume a level of real word knowledge and basic linguistic skills which the deaf child has not acquired.

Clay (1975) argues that reading, like thinking is a complex process. He argued that children bring to the reading situation a control of oral language accumulated during play as they interact with friends and members of the family. This statement underscores the importance of oral language as a starting point to the teaching of all children in schools. Yet the hearing impaired children do not bring any oral language to a reading situation. This situation has a negative effect on the acquisition of literacy by the hearing impaired children.

It has been said that reading and writing requires two related capabilities, first you must be familiar with a language and second you must understand the mapping between that language and the printed word (Chamberlain & Mayberry, 2000). Deaf children are disadvantaged on both counts. The deaf child does not have access to phonological code and many do not know any language well. This makes it even more difficult for the hearing impaired learners to learn to read and write.

2.2.2 The role of Sign Language in Literacy Development

The other factor that supports education of deaf learners is sign language. Conrad (1979) defines sign language as language involving fingers, hands, arms, facial gesture-all visible. It emphasises a visual mode of language which provides a linguistic signal which is easily perceived. Learning sign language can help deaf children to learn to read and write since the acquisition of sign language is the primary mode of communication of the deaf. Deaf teachers find it easy to teach reading and writing to deaf learners who were exposed to signing in the home. This is supported by Zambia National Association of the Deaf (ZNAD 2001) which states that, "...when a deaf child grows amidst hearing people, the child and hearing people always develop some kind of signing as a means of communication. The statement underscores the importance of early exposure to signing, which helps when a child enters school. Additionally, teacher's competence levels in sign language and their training in special education is of great help to deaf children's acquisition of sign language.

Sign language, just like any other language is culturally determined and differs from community to community. ZNAD (2001 p.19) states that,

“...sign language is a true language, and that sign language has its own vocabulary (signs) and grammar, that sign language is not universal in the sense of there being only one sign language all over the world, and that sign language is not based on spoken languages”.

This is true in that the existence of several sign languages, many of which are not mutually intelligible, proves the non-universality of sign language. Since sign language is not universal, individual countries should create their own sign language system suitable to their environments.

The use of sign language has its impact educationally as a means of stimulating literacy development among deaf learners. Conrad (1979) explains that sign language has a vocabulary permitting discussion of education topics such as ethics, and poetry. This means that for teachers to effectively deliver teaching to the hearing impaired, they should have sign language skills. Moore (2001) defines literacy as patterns of language and cognitive development that can develop through teaching and schooling. He further states that a literate person is one capable of reading, writhing, speaking, computing, reasoning, and manipulation visual as well as verbal symbols and concepts. This means that speech is not the only way to language. Language can be learned through the eye rather than the ear. Deaf children can learn sign rather than spoken language. Therefore, the deaf child should have adequate skills in sign language to enable him read and write. The deaf child should be viewed as a whole, as a competent learner, but one who requires a visual environment in order to thrive and that the problem does not reside in the child but in the environment, this is to say deaf children should be met in the visual world where they are and help them understand our world, which takes hearing for granted. If this is done, learning to read and write will be an exciting activity to them.

2.2.3 The role of Parental involvement in developing literacy

The skill of reading and writing develop together as children grow in literacy (Marschare et al, 2002). Children whose parents have read to them good books over and over and who have been read to aloud again and again develop their writing

skills. These children also need to be encouraged to write their bits and pieces of experiences, thought and reflections down in their journals which can be turned into stories. To add on this Strickland and Strickland (2002) state that learners learn language and literacy simultaneously in environments that permit them to read, write, listen and speak for a variety of authentic purposes.

As seen above, reading and writing have been cornerstones of education. Reading may be considered more important to deaf individuals than hearing individuals. Moore (2001) supports this assertion by stating that limited to the amount of general information obtainable through the word of mouth; a deaf person's access to the larger world often depends on whether he/she has developed fluency in reading and writing. Similarly, a deaf person's ability to communicate with hearing individuals may rely heavily on reading and writing.

The great difficulty deaf children have in learning to read and write seems to lie in the auditory based nature of reading. Hearing children easily acquire literacy skills through fluent aural / oral communication with their parents. This provides a base of real world knowledge for use in reading readiness among the hearing children. (King and Quigley, 1985). It also aids the development of cognitive and linguistic abilities needed for success in reading. This is in support with Marschare et al (2002) who stated that, "...the first step in literacy development is to respect each students home language, prior knowledge, and cultural experience and to determine what he or she already knows and can do upon entering school".

2.2.4 Home Literacy Environment

For most children, reading begins at home, not in school. The first stage in becoming a reader begins as soon as the child is exposed to and becomes aware of books and other artefacts of a literate position in the home (Taylor, 1988). Children are exposed to print through television, through the environment, street signs, food labels, advertisements and through reading aloud to parents and others. Exposure to literacy events provides children with reading awareness. Factors such as parental monitoring of homework, the presence of reading materials in the home, and parental limiting of access to television may all have a positive effect on reading achievement.

Success in learning to read is, to a large extent dependent upon the amount of reading children do both in and out of school. Research studies indicate strongly that comprehension is directly affected by a reader's background knowledge (Rasinski 1995). Learners who are exposed to reading both at home and at school are in a better position to comprehend the text given to them. Involvement with reading activities at home has significant positive influences not only on reading achievement, language comprehension and expressive language skills, but also on pupils' interest in reading, attitudes towards reading and attentiveness in the classroom.

Children need their parents' assistance to be able to understand the relationship between the printed word and oral language, because not all children grasp the link between print and words immediately (Ferreiro, 1996). Parents should realise that they stimulate their children's adult intelligence and lay the foundation for formal reading instruction during story-book reading with their children (Anderson, 2000). It is therefore important that the critical role that parents play in providing a natural reading environment for their children should not be underestimated.

Studies by Hughes, Schumm and Vaughn (1999) and Ferreiro (1996) state that parents who are aware of their role of encouraging their children to read and write outside, display this by structuring activities to allow their children to be actively involved in reading and writing. They further state that parents for whom reading is part of their everyday life make an effort to stimulate their children's reading development. DeBaryshe (1995) also agree with the above mentioned studies, that these parents ensure that they have enough books, magazine or other printed materials at home to read to their children or to motivate them to page through on their own or read independently.

According to Baker & Scher (2002), parents who view reading as a source of entertainment, are more likely to have children who also enjoy reading and become skilled readers. Their study indicate that in homes where reading materials are freely available, parents read aloud to their children at least five or more times per week. On the other hand, in homes where reading materials are not as freely available, the majority of parents tend to read to their children only once or twice per week. Anderson (2000) also points out that parents' expectations of their children's abilities

influence their support of their children and the provision of positive home reading environments.

On the contrary, Baker and Scher (2002) believe that parents who perceive that their children are not interested in learning to read or who are not yet engaging with the printed word in their interactions with books, do not have the same expectations of their children. Research has also revealed that parents can make a significant contribution to the development of their children's literacy by providing a stimulating environment around language, reading and writing as well as supporting at home the school's literacy agenda, both during the early years as well as the foundation phase and senior phase years of schooling (Hornby, 2000).

In the case of deaf children, parents fail to monitor their home work because there is communication barrier between the deaf child and the hearing members of the family. Most books available in the home are not designed to suit the natural world of the deaf. Deaf children do not have any kind of reading assistance at home due to the nature of the impairment they carry. The home environment does not prepare deaf children to be literate in that most homes do not use school sign language to communicate with the deaf. This is in agreement with the observations of Moores (2001) who explained that parents seem not to understand how to approach reading to their deaf children, they may even fail to provide their deaf children with reading materials in the home. As a result, many deaf children experience fewer literacy events in the home than do their hearing brothers.

Deaf children do not approach reading with the same base that hearing children do, even if they have equivalent intellectual potential. Deaf children have difficulties in using oral communication expressively and receptively, they have problems in mastering the speech and grammatical systems. Commenting on the problems faced by the hearing impaired in reading, Reed (1984) states that hearing impaired children lack the auditory language and its associated experience, cognitive and linguistic skills. Thus, for them, learning to read becomes also a process of experience building, cognitive development and language learning. It should not be surprising therefore, that most deaf children do not learn to read and write well.

2.2.5 Use of technology in teaching literacy

In developed countries like the US, teachers incorporate latest technologies when teaching reading and writing to deaf learners. Moores, (2001) observes that the development of telecommunication devices for the deaf, access to electronic mail such as internet give deaf learners constant practice in reading and writing. This is helpful in that in order for an individual to have access to these communication devices, he must be literate. This is to say, technology becomes a motivating factor for deaf learners to learn to be literate.

Teaching reading and writing to deaf students requires the use of materials that are related to the natural world of the deaf, i.e. visual. Conrad (1979) commenting on the above statement asserts that materials and authentic texts are more appropriate since they give deaf readers a full and accurate picture of what the text is all about. Since deaf learners learn language at the same time they are learning to read, texts written with carefully controlled grammar and vocabulary would be most effective.

Marschare et al., (2002) writing about the deaf environment asserts that deaf readers perform better on tests that involve context than they do on tests that involve words in isolation. Deaf learners are more likely to understand and use concrete nouns and familiar action verbs rather than more abstract or general words with which they have less experience. As seen above, it can be deduced that poor environment and lack of access to authentic texts and pictures are likely to be responsible for poor reading and writing among deaf learners.

2.2.6. Approaches of teaching literacy

A study carried out by Carmen Simich-Dudgeon (1989) suggested the following strategies when dealing with literacy development of learners;

(a) Skills based approach

Teaching reading using the skills based approach is characterized by the assumption that learners learn how to read by mastering discrete elements of language at the onset of reading instruction. This approach explains that the student should master the phonemic letters of words that represent different sounds before comprehending

meaning. The skills of reading and writing develop together as children grow in literacy (Harwyne, 2001). Children need parents that will read to them over and over again to become good readers and writers at a later stage.

(b) Whole language approach

The whole language and language experience approaches emphasise a link between real communication situations and transition and from oral language to reading and writing. This takes place at home and school setting. The full commitment and involvement of parents and educators at this level cannot be overemphasised. These approaches support the literature that parents are involved at primary level of literacy learning.

The whole language approach can be used teach reading to deaf students. This approach, also known as the whole language movement is based on transactional (interaction) model of education rather than a transmission, (from teacher to students). In this approach, the teacher's role is to construct new meaning with the students. This is in line with the approach rejected Freire's (1970) called the banking concept of education which regarded the teacher as the source of all knowledge..

Proponents of the whole language approach maintain that students create meaning by interacting with the text and with other readers. This is supported by the work of Vygotsky and Piaget (Vygotsky, 1987). The whole language approach emphasise teaching language in context, and the need to understand the whole child as a socially and cognitively active participant in the world. In learning reading and writing, deaf children can benefit from this approach due to the emphasis made on interaction both with the text and other readers. Therefore, the deaf child can improve in reading and writing if the school creates an atmosphere where both deaf learners and non deaf learners are able to interact freely during reading and writing exercises. Mainstreaming can be a solution to the interaction problems that deaf learners may be experiencing. In fact, advocates of mainstreaming and inclusion often claim that deaf children benefit, both linguistically and socially, from being surrounded by hearing peers.

Children are active and creative learners, but they need to be provided with social interactions frameworks if they are to learn (Bruner 1977). Deaf children who are

exposed to sign language late in childhood turn out to be less proficient and may never catch up in adulthood than those who interact with it in early childhood. Findings suggest that deaf children read by using a code that is not based on sound and that deaf children of deaf parents are better readers than deaf children of hearing parents (Conrad, 1979). One reason for this is that deaf children of deaf parents are more likely to have their hearing loss identified earlier and get the appropriate educational needs and they are fluent in sign language.

(c) Language experience approach

The Language Experience Approach was designed to increase oral language skills and to build an understanding of the need for, and processes involved in, written language i.e. reading and writing (Hall 1978) In this approach the learner is allowed by the educator to share meaning events and stories which are then shaped into written form by teacher. The teacher presents the topic for discussion. This might be based on a previous field trip, as story that was read to the class, a video, or some other experience shared by the class. Write down the title on large lined chart paper with a marker.

The learner makes the initial transition from oral language to reading and writing. In this way the learner is allowed to read meaningful story units rather than isolated words, parts of words or sentences. When a child comes across any text, he/she will be able to empathise and construct imaginary meaning of events in their minds. The absence of reading material at home presents challenges for learners.

(d) The eclectic approach

The eclectic approach in literacy development allows the teacher to select those materials and methods that best fit the needs of the learners (Carmen Simich-Dudgeon,1989). It incorporates the learning of whole linguistic units, from words to phrases while stressing comprehension. Once word meaning relationships have been mastered, the phrase may be broken down into words, then into syllables next into letters and finally appropriate sounds can be given to the component parts. For the school learners' text is broken into phonics and this at a later stage help children to master spelling of words.

In this approach teacher decides the method of teaching himself. He is free to employ any relevant techniques for his lesson and learners. Several different teaching methods are borrowed and adapted to needs and abilities of learners. Learner's strength and learning style is always kept in mind. Wide range of resources is used to match the curriculum. It is flexible and elastic technique which keeps the needs of learners in mind (Murphy 1973).

(e) The didactic approach

The didactic approach is a flexible teaching approach in which teaching steps are structured in a step-by step method. Lewis, (1995) supported this method by stating that children with hearing impairment need a mixture of teaching approaches with a bias towards fairly structured methods. This calls for flexibility in teaching methods, carefully monitoring of children's learning, and the encouragement of a broad range of learning strategies remaining important characteristics of teaching. The didactic approach is a complete opposite of guided learning. In guided learning, the teacher prescribes what pupils will learn. This method is rigid.

The bottom line is that both hearing and deaf children need to be taught to read and write. Learning to read and write is totally different than learning to speak. Children will learn the language of their community just by living there. Reading and writing does not come naturally to children or adults, it must be taught. Therefore, for deaf learners to be taught to read and write, pictorial learning aids should always be made available.

Literature has established that one must be able read and write in order to store, retrieve, and make meaningful use of available information; in making informed decisions or application to other aspects of human endeavour such as travel and purchase of goods and services. It has been seen that childrens'academic success can only be attained if reading and writing skills are developed early in life. It is through reading that individuals will acquire more knowledge in various domains. However, the hearing impaired learners do not acquire reading and writing skills normally as non-hearing impaired learners do. This indeed, has been the area of great concern because hearing impaired learners have continued to achieve low performance in literacy. Therefore, there is need to establish factors that impede literacy development in children with hearing impairment.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methodology of the study. The various aspects of the methodology are summarised under the different sub headings; the research design, population, sample, sampling procedure, research instruments, data collection procedure and data analysis.

3.1 Research Design

A research design can be thought of as the structure of the research. Bogdan and Biklen (1982) define research design as the researcher's plan of how to proceed with the research. According to Kombo and Tromp, (2006) a design is used to structure the research, to show how all the major parts of the research project work together to try to address the central research questions. In other words, a research design can be regarded as scheme or outline that is used to generate answers to research problems.

This study combined the techniques of both the qualitative and quantitative methods. Qualitative method was selected for this study because the research places emphasis on theoretical assumptions; that meaning and process are crucial in understanding human behaviour that descriptive data are what is important to collect, and that analysis is best done inductively. Kothari, (2004) described qualitative method as being flexible, and that as a result of its flexibility, qualitative researches go off to study carrying the mental tools of their trade, with plans formulated as hunches, only to be modified or remoulded as they proceed.

On the other hand, quantitative method was used in this study because researchers believe that truth can only be established using science. Quantitative researchers believe that scientific method is the only way to build a more complete understanding of reality. Quantitative method is one that applies scientific investigation to establish relationships and regularities between selected factors in the world (Cohen & Manion, (1980).

Quantitative method was used to compare the reading abilities of the hearing impaired and non-hearing impaired learners. The designs applied under quantitative method were co-relation and descriptive results. The co-relation was achievable through establishing the correlations between different variables; age, impairment, letter knowledge, letter identification, reading, reading comprehension, narrative, social economic status and home literacy environment. Cohen and Manion, (1994) explains that Correlation techniques are generally intended to determine the relationship between two variables. 'A co-relation (or causal) study is concerned with identifying the antecedents of a present condition. It involves the collection of two sets of data, one of which will be retrospective, with the view to determining the relationship between them,' (p.147).

3.2 Population and sample

The target population of this study comprises all grade seven (7) hearing impaired pupils in Special Schools and Basic Schools with Special Education Units offering education to hearing impaired learners in Lusaka District. The sample was taken from four (4) schools distributed as follows; one (1) Special School and (3) Special Education Units .

3.3 Sample Size

The sample is distributed as follows; sixty (60) grade seven (7) pupils out of which thirty (30) were hearing impaired children from special education units, and the other thirty (30) were hearing children the from mainstream offering education to the hearing children. Additionally, ten (10) teachers and ten (10) parents/ guardians of the hearing impaired children comprised the sample. Overall, eighty (80) respondents participated in this study.

3.4 Sampling Procedure

Three sampling techniques were utilised in this study. These are simple random sampling, systematic sampling and purposive techniques (Cohen & Manion, 1994). The simple random sampling was chosen in order to accord each member of the population an equal chance of being selected, while the systematic sampling was used

to select respondents in hearing impaired and hearing classes. This was done in order to have a systematic way of selecting participants. Purposeful sampling was used to select teachers of the hearing impaired children. This was done because the participants needed to have specific skills to inform the study on the factors that contribute to low literacy achievement among the grade seven (7) children with hearing impairment.

3.5 Instruments and Data Collection Procedure

The following data collection instruments and procedures were used:

i. Structured questionnaire administered to hearing impaired pupils.

The first instrument used to collect data was the structured children interview guide. Cohen and Manion (1994) states that the structured interview is one in which the content and procedure are organised in advance. This means that the sequence and wording of the questions are determined by means of a schedule and the interviewer is left little freedom to make modifications.

The interview was divided into two parts. The first part is the home possession which aimed at finding out whether the children had access to the television, DVDs, fridge and electricity. Other factors considered were such things as the availability of reading and picture books in the home, if the parents of children with hearing impairment assist their children to read, and the existence of other reading materials like newspapers and magazines, and whether the parents write things like letters and shopping lists.

The second component looked at the parents' economic status i.e. whether the family income can support the education of children, whether the parents are in formal employment or not, and whether the family have access to economic symbols like a house and a car.

ii. Semi structured questionnaires administered to teachers of deaf pupils.

This questionnaire was aimed at establishing teachers understanding of literacy learning of children with hearing impairment, whether teachers were using technology and media in teaching literacy to the deaf since technology and media have been an

integral part of the education of the deaf (Moore, 2001). Since hearing impaired children benefit from information presented visually, the research aimed at discovering whether teachers were using such technological instruments as overhead projector, videodiscs, videotape, and computers. The questionnaire helped the researcher to generate qualitative data was recorded

iii. Test examination to both the hearing impaired and hearing children to establish their level of competence in skills that support literacy acquisition.

The La Rue reading skills assessment was used to assess pupil's literacy skills (La Rue, 2000). The assessment consisted of three activities namely alphabetical knowledge, sign language ability and writing exercises. The exercise was administered to both the hearing and non-hearing students to assess their reading skills.

Alphabetical knowledge: Two activities were used to assess knowledge of the alphabet: rearranging letters in order of the alphabetic appearance and filling in the blanks where some letters are missing.

In the first activity, eleven letters of the alphabet written in a manner that does not conform to the ordering of the alphabet were presented. Learners were asked to rearrange the letters in order of their alphabetical appearance.

In the second activity, eleven letters of the alphabet written in order of alphabetic appearance were presented. However, three out of the eleven letters were erased from the list thereby leaving blank spaces. Learners were expected to fill in the missing letters in order to conform to alphabetic appearance.

Sign language competence/Reading

The sign language competent assessment test (Baker, 2002) was administered to hearing impaired learners in order to assess their competence of sign language. The hearing impaired learners were expected to read the words using sign language.

The same task was administered to the hearing children to compare between the sign language reading levels of the hearing impaired learners and the English reading ability of the hearing children.

Writing task

The writing skills tool is a tool developed to measure the writing skills of children with hearing impairment (La Rue, 2000). Two sentences with words written in a disorganized manner were presented to learners. Learners were expected to construct meaningful sentences from the disorganized sentences. Furthermore, learners were asked to write five (5) names of the items given, e.g. name of parent, best friend, teacher, first president, and capital city of Zambia.

iv. Peabody picture vocabulary test (PPVT) to test receptive language levels of children with hearing impairment

The Peabody Picture Vocabulary Test Revised version (PPVT-R, Dunn and Dunn, 1981) was administered to test how well children can identify the pictures whose words were read to them by the teacher. Thirty (30) words were read to pupils using English Sign Language. At a given time, a child was shown groups of four (4) pictures and was asked to point to the picture corresponding to a particular word. The response was marked as correct or incorrect. Some of the words included were broken, pulling, tortoise terrified and tugging. Others included caterpillar, chain, arguing fighting and injection. The purpose of this exercise was to test whether hearing impaired pupils could read if the reading material was presented in pictorial form.

v. Picture narrative test.

The picture composition test was presented to the hearing impaired children to test their writing ability, being able to tell stories and describe things through writing (Dunn and Dunn, 1981). This was done using the six picture story line of which children were expected to develop a story from the pictures. The activity started by allowing pupils to narrate the story on the pictures orally. Thereafter, pupils were asked to write the story using the picture storyline provided.

vi. Reading comprehension

The reading comprehension test was utilized to ascertain the levels of comprehension of the hearing impaired learners (Cromley, 2005). The test consisted of a short reading passage followed by five questions. Children were expected to read the passage silently and then answer the questions that followed.

vii. Focus group discussions among special education teachers with researcher.

Focus group discussions are group interviews that are structured a particular way and have specific, well-defined goals (Bogdan and Bikilen, 1982). The focus group discussions were conducted in two hearing impaired schools among the teachers of the hearing impaired pupils. During the discussions, participants discussed their experiences of teaching reading and writing to the hearing impaired children. Teachers highlighted factors that could be responsible for low achievement in reading and writing among deaf students. The discussions were moderated by the researcher because he had the skills to draw valuable information as the proceedings of the discussions progressed.

The focus group discussions consisted ten (10) teachers of the hearing impaired learners, and the researcher. Among the ten (10) teachers who took part in the study, nine (9) were hearing while only one (1) was hearing impaired. Two focus group meetings were conducted. In both focus group meetings, the moderator set the tone for the entire group under the topic, 'Factors that contribute to low literacy achievement among grade seven (7) children with hearing impairment'. The group of teachers selected were experts on the topic at hand, and their contributions were valuable. The moderator phrased questions in such a way that participants of the group openly discussed factors that could be responsible for low literacy achievement among children with hearing impairment. Ultimately the emotional tone and atmosphere of the focus group discussions was so conducive that participants expressed themselves freely. This made it easy for the researcher to collect valuable data with less difficulty. Bogdan and Biklen (1982) supports the use of focus group discussions in qualitative method when they stated that group members are able to reflect together and stimulate each other to talk about a given topic.

viii. Unstructured participant class observations.

Participant class observation checklist was another instrument used to collect data. Observation technique was used to enable the researcher obtain first-hand information in order to find out the factors that could be responsible for low literacy achievement among hearing impaired learners. The researcher immersed himself in the classroom

as teachers conducted reading and writing lessons to children with hearing impairment. The researcher observed the availability of teaching/ learning aids, the competence of teachers in sign language, the amount of time for teaching literacy on the timetable.

During the process of observation, the researcher took field notes that were written in a note book. After returning from each observation, the researcher wrote field notes on a computer, describing all the happenings, i.e. people, objects, classroom appearance, and conversations. Bogdan and Bikilen (1982) states that "... field notes are a written account of what the researcher hears, sees, experiences and thinks in the course of collecting and reflecting on the data in a qualitative study" (p.107-108). Qualitative researchers rely most heavily on the use of field notes, which are running descriptions of settings, people, activities, and sounds. Field notes are jotted down to enable the researcher take stock of all the happenings during observation. Lofland and Lofland (1984) recommend jotting down notes that will serve as a memory aid when full field notes are constructed. This should happen as soon after observation as possible, preferably the same day.

Observational data was used for the purpose of description of teaching literacy to children with hearing impairment. Patton (1990) writes that observation can lead to deeper understanding because it provides knowledge of the context in which events occur, and may enable the researcher to see things that participants themselves are not aware of, or that they are unwilling to discuss. A skilled observer is one who is trained in the process of monitoring both verbal and nonverbal cues, and in the use of concrete, unambiguous, descriptive language.

Observation of classroom teaching was used as a strategy because qualitative researchers operate from a philosophical position where they recognize that the relevant reality as far as human experience is concerned is that which takes place in subjective experience, and in social context. Thus, qualitative researchers are often more concerned about uncovering knowledge about how people think and feel about the circumstances in which they find themselves.

ix. Structured interview schedule with parents of the hearing impaired children.

Structured interview is one in which the content and procedures are organised in advance (Cohen and Manion, 1984). This means that the sequence and wording of the questions are determined by means of a schedule and the interviewer is left little freedom to make modifications.

The structured interview schedule was administered to parents of the hearing impaired learners. The purpose of this instrument was to find out if the home environment was supporting literacy learning of children with hearing impairment. Some of the areas of concern were to find out whether the home had reading books suitable for hearing impaired children, whether the parents used sign language to communicate with the hearing impaired children and whether the parents help their children do the homework.

3.6 Data Analysis

Data analysis is the process of systematically searching and arranging the interview scripts, field notes, and other material that you accumulate to increase your own understanding of them and to enable you to present what you have discovered to others (Bogdan and Biklen, 1998). A variety of methods were used to analyze data. Qualitative data was analyzed during the process of data collection as the emerging factors were unfolding. Data that was recorded in a note book was analysed at the end of the data collection exercise through manual calculation. This was achieved through coding data based on specific questions it was answering. Excel accounting package was also used to analyse data presented in percentile. This made it easy to present data in frequency table form. In addition, quantitative data was analysed using Statistical Package for Social Sciences (SPSS) volume 16. This was achievable through inferential statistical analysis and percentile through finding the correlation between variables and to compare the performance between the hearing impaired and non-hearing impaired learners.

3.7 ETHICAL ISSUES

Research ethics involves the application of fundamental ethical principles to a variety of topics involving scientific research (Skovdal & Abebe, 2012) . These include the design and implementation of research involving human experimentation, human experimentation, various aspects of academic scandal, including scientific misconduct such as fraud, fabrication of data and plagiarism. Many different disciplines, institutions, and professions have norms for behaviour that suit their particular aims and goals. Ethical norms also serve the aims or goals of research and apply to people who conduct scientific research or other scholarly or creative activities. There is even a specialized discipline, research ethics, which studies these norms. Shamo & Resnik (2009) explains that there are several reasons why it is important to adhere to ethical norms in research.

Firstly, norms promote the aims of research, such as knowledge, truth, and avoidance of error. For example, prohibitions against fabricating, falsifying, or misrepresenting research data promote the truth and avoid error.

Secondly, since research often involves a great deal of cooperation and coordination among many different people in different disciplines and institutions, ethical standards promote the values that are essential to collaborative work, such as trust, accountability, mutual respect, and fairness. For example, many ethical norms in research, such as guidelines for authorship, copyright and patenting policies, data sharing policies, and confidentiality rules in peer review, are designed to protect intellectual property interests while encouraging collaboration. Most researchers want to receive credit for their contributions and do not want to have their ideas stolen or disclosed prematurely.

Thirdly, many of the ethical norms help to ensure that researchers can be held accountable to the public. For instance, conflicts of interest and the human subjects protections to make sure that researchers who are funded by public money can be held accountable to the public. Fourth, ethical norms in research also help to build public support for research. Finally, many of the norms of research promote a variety

of other important moral and social values, such as social responsibility, human rights,

The following are some ethical principles that guided the research as proposed by Shamoo & Resnik (2009).

(a) **Honesty:** The data, methods, procedures and results in this research are honestly reported.

(b) **Objectivity:** The researcher strived to avoid bias in the designs applied. All the stages of the research such as data analysis, data interpretation, peer review, personnel decisions, and other aspects of research were done objectively.

(c) **Integrity:** The researcher kept the promises and agreements made during the process of data collection by acting with sincerity and striving for consistency of thought and action.

(d) **Carefulness:** The researcher carefully and critically examined his own work by keeping good records of research activities, such as data collection, research design, and correspondence with teachers and parents of hearing impaired learners.

(e) **Respect for Intellectual Property:** This research is the researcher's own work. The researcher honoured patents, copyrights, and other forms of intellectual property. Proper credit and acknowledgement has been given for all contributions to this research.

(g) **Confidentiality:** Responses from parents, teachers and learners were kept as confidential as possible, and were meant for research purposes only.

(h) **Legality:** The researcher followed all the relevant laws of the University of Zambia and other scholarly rules governing research.

(i) **Human Subjects Protection:** Since the research was conducted on human subjects, the researcher respected human dignity, privacy, and autonomy. The researcher respected the views of all the people who participated in this research.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.0 Introduction

This section presents the findings of the study which sought to find out the factors that contribute to low literacy achievement among learners with hearing impairment. The section is divided into two parts; the first section presents findings according to the variables under investigation. These are age, gender, impairment, letter knowledge, PPVT, reading, reading comprehension, Writing, narrative, home possession, social economic status and home literacy environments.

Both qualitative and quantitative methods addressed all the four objectives of this study. These are:

- To establish the factors that contribute to low achievement in reading among grade seven hearing impaired pupils.
- To assess the levels of competence in sign language among the teachers teaching the hearing impaired pupils.
- To establish the factors that contribute to low achievement in writing among grade seven hearing impaired pupils.
- To determine whether the techniques used by teachers in teaching reading and writing to hearing impaired children are related to the communication mode of deaf children which is usually visual rather than auditory.

4.1 Descriptive Results: This section presents frequencies and percentages on literacy outcomes and other associated variables on the factors that contribute to low reading and writing achievement among learners with hearing impairment. The scores

Table 1: Descriptive results of literacy outcomes between hearing impaired and non-hearing impaired learners

READING MEASURES	Mean (SD)	Highest score (%)	Mean (SD)	Highest score (%)
	Hearing Impaired		Non-Hearing Impaired	
Alphabetic Knowledge				
letter name knowledge	.17 (.37)	1 (17%)	.57(.50)	1 (57%)
letter identification	.63 (.49)	1 (63%)	1.00 (.00)	1 (100%)
Peabody Picture Vocabulary Test				
Peabody Vocabulary Test	28.57(1.69)	30 (95%)	27.10 (2.72)	30 (90%)
Reading	1.93(1.33)	5 (19%)	9.10 (1.66)	10 (91%)
Comprehension	1.66 (.95)	4 (33%)	3.33 (1.15)	5 (67%)
Writing	2.80(1.88)	7 (40%)	5.96 (.85)	7 (85%)
Narrative	4.53(1.77)	6 (38%)	9.00 (3.00)	12 (75%)
Home possession	4.63(2.38)	7 (66%)	4.17 (1.82)	7 (59%)
Socio-economic status	2.10(1.34)	5 (42%)	2.73 (1.36)	5 (55%)
Home Literacy Environment	2.90(1.84)	6 (48%)	3.80 (1.39)	5 (63%)

Table 1 presents descriptive results of performance in literacy skills between hearing impaired and non-hearing impaired learners. The table shows that the mean score in alphabetical knowledge (letter knowledge) among the hearing impaired respondents was 0.17 (Standard Deviation= 0.13) and a percentage of 17%. On the other hand, the non-hearing impaired learners had a mean score of 0.57 (SD = 0.50). The percentile performance was 57%.

The table shows that hearing impaired learners performed better on the PPVT as compared with the non-hearing impaired learners. The mean, standard deviation and percentile for the hearing impaired were 28.57, 1.69 and 95% respectively. For the non-hearing impaired learners, the mean score was 27.10, (SD =was 2.72) and a percentage was 90. The total score for PPVT items was 30.

The ability to read words had a maximum of ten (10) items. The mean score in reading among children with hearing impairment was 1.93, (SD= 1.33) and percentage of 19. The highest score in reading was 5. For the non-hearing impaired learners, the mean score was 9.10, (SD=1.66) and 91% performance. The highest score among the non-hearing impaired learners was 10.

Furthermore, the table shows the performance in reading comprehension between the hearing impaired and the non-hearing impaired learners. Among the hearing impaired learners, the mean was 1.66 (SD=0.95); (33%). On the other hand, the non-hearing impaired learners scored a mean of 3.33, (SD=1.15) (67%). The total items for reading comprehension were five (5).

The table also shows the performance in writing between the hearing impaired and the non-hearing impaired learners. The average score among the hearing impaired was 2.80 (SD= 1.88); (40%). Among the non-hearing impaired learners, the mean performance was 5.96 (85%), (SD=0.85). The total reading items were seven (7). The findings are in agreement with the hypothesis that writing achievement among children with hearing impairment is low.

The other variable measured was narrative. The table shows that the hearing impaired learners performed poorly at narrative as compared with the non-hearing impaired learners. The mean performance in narrative among the hearing impaired learners was

4.53(SD=1.77); (38%) mean score among non-hearing impaired learners was 9 (SD=3.00) (75%). Twelve items were available.

Table 2: Bivariate Correlations

Table 2 presents bivariate correlations between all variables included in the analyses.

		1	2	3	4	5	6	7	8	9	10	11
	VARIA											
1	Age	1										
2	School	-.20	1									
3	IMPT	-.43**	.55***	1								
4	PPVT	.13	-.10	-.31*	1							
5	COMP.	-.21	.22*	.62***	.04	1						
6	L.K.	-.28*	.19	.41**	.13	.38**	1					
7	L.ID.	-.28	.19	.47***	.02	.46***	.27	1				
8	Reading	-.29	.48***	.92***	-.22*	.64***	.42**	.47***	1			
9	Writing	-.26	.29*	.74***	-.16	.51***	.54***	.64***	.75***	1		
10	Narrativ	-.30		.67***	-.01	.54***	.51***	.34**	.71***	.62***	1	
11	HLE	.02	.15	.27	.06	.30	.17	.38**	.28	.25	.30	1

Note: correlation is significant at .05

Key: IMPT.= Impairment

COMP. =Comprehension

L.K. = Letter Knowledge

L.ID. =Letter identification

HLE. =Home Literacy Environment

Table 2 presents bivariate correlations between all variables included in the analyses. These are impairment, Peabody Picture Vocabulary Test (PPVT), letter knowledge, letter identification, reading, reading comprehension, writing, narrative, and home literacy environment (HLE). All these variables are moderately to strongly correlated

with one another ($r > .64$). The correlation between impairment and reading was rather high ($r = .92$) thus, supporting the hypothesis that reading skills in children with hearing impairment are relatively low. Additionally, the correlation between impairment and writing was also high ($r = .74$) supporting the hypothesis that writing skills in children with hearing impairment are low. Impairment correlated with age and grade but not with gender. Gender was therefore not included as background variable in further analyses. The correlation between impairment and age was rather negative implying that children with hearing impairment were relatively older than the non-hearing impaired children. The correlation between impairment and PPVT was negatively significant but remarkably low given the fact that children are assumed to have poor language skills ($r = -.31^*$). This however, suggests that children with hearing impairment did better on the PPVT (a non-verbal language test) compared to the non-hearing impaired learners.

4.2.1 Factors that contribute to low achievement in reading among the grade seven hearing impaired learners.

Since the first objective of the study was to find out the factors that contribute to low reading achievement levels of the hearing impaired children, two questionnaires; one for teachers and the other for parents, were administered to the respondents.

The first questionnaire, administered to teachers aimed at finding out if they (teachers) had materials that support reading of deaf learners, such as visual teaching aids. Teachers were asked to describe how they found teaching reading to deaf learners; i.e. whether easy or difficult, the availability of reading books designed to suit deaf learners (pictorial), and reading skills attained by the hearing impaired learners who have gone up to grade seven (7). Teachers were also asked to state whether they have enough literacy time on the timetable and how often they administered reading assessment tests to the hearing impaired learners. The last component of the teachers' questionnaires tasked teachers to state whether or not deaf learners were stigmatised by their hearing friends and whether the deaf learners interacted with hearing learners during reading lessons.

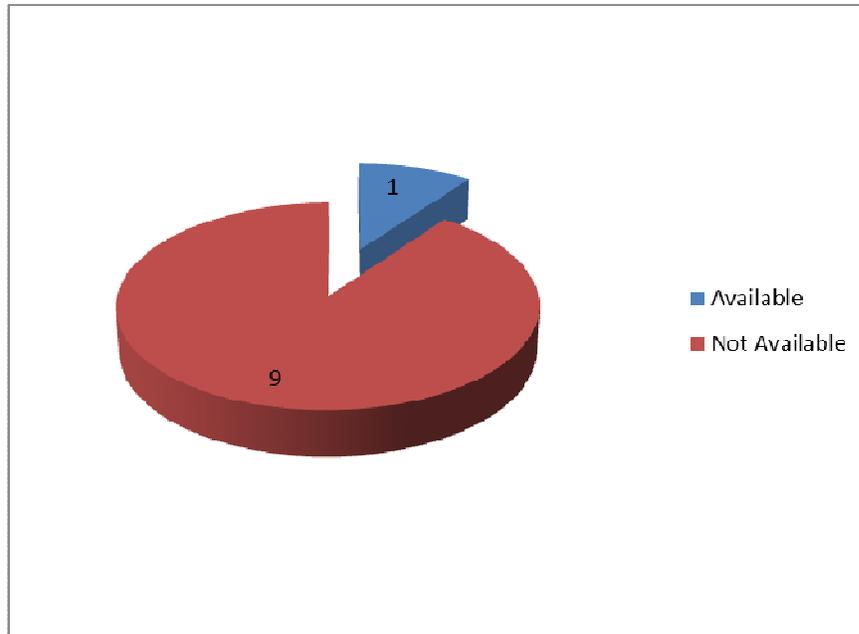
The questionnaire administered to parents was aimed at finding out whether the parents of the hearing impaired learners were reading together with their deaf children at home.

The findings from teachers were categorised based on particular variables that the questionnaire was trying to assess.

4.2.1 (a) Availability of teaching aids

The table below shows responses on the availability of visual aids in the classroom.

Figure 1: Availability of teaching aids



On the availability of visual teaching aids in the classroom, nine (9) teachers out of ten (10) stated that their schools did not have visual teaching aids. This represents 90% of teachers stating that visual teaching aids were not available, while only one (1) teacher, (representing 10% of respondents) said they had enough visual teaching aids in the school. One respondent said,

“...we do not have visual learning materials to suit deaf learners. The only teaching aids available are those designed for hearing children”.

Yet another teacher had this to say:

“The issue of visual learning aids has been discussed over and over, but our administrators do not seem to prioritise it. Yet they spend a lot of money to buy teaching materials for the main stream at the expense

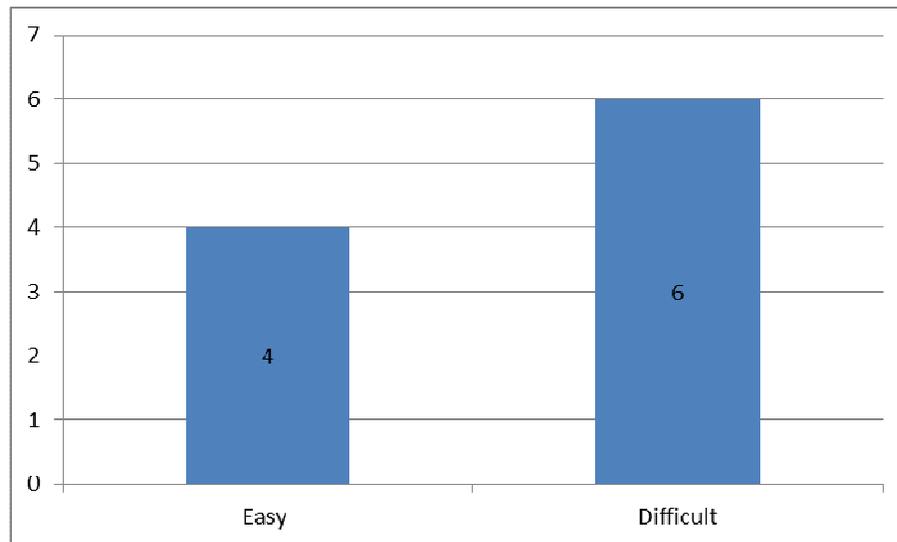
of deaf learners. Deaf learners have continued to use materials designed for the main stream”.

Responses from teachers interviewed confirm that schools and units for hearing impaired learners do not have visual learning aids to assist them to learn to read and write.

4.2.1 (b) Description of teaching reading

The table below gives the responses from teachers on how they experienced teaching reading to children with hearing impairment.

Figure 2: Description of teaching reading



When asked on how they could describe teaching reading to deaf learners, four (4) out of ten teachers (40%) stated that they found it easy to teach reading to the hearing impaired learners while six (6) (60%) said they found it difficult to teach reading to deaf learners. One teacher observed that;

“It is difficult to teach reading to deaf learners because there is no definite sign for a any given word, one sign may refer to many other different things, or the same word may be signed in many other different ways depending on the location. Therefore, we spend a lot of

time finger spelling particular words. This makes it difficult for hearing impaired learners to learn to read”.

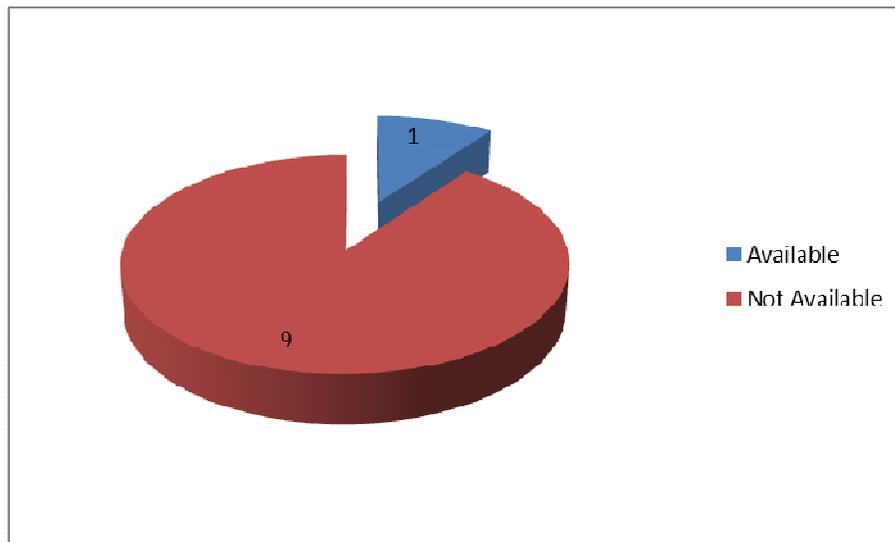
The other respondent had this to say:

“I find it difficult to teach reading to hearing impaired learners because I am not trained in special education. I have inadequate sign language skills, so I learn most of the things from the children”.

4.2.1 (c) Availability of reading materials

The graph below shows teacher’s responses on the availability of reading materials.

Figure 3



Teachers were also asked to state whether the school provided reading pupils books designed for learners with hearing impairment. Out of the ten respondents, only one (representing 10% of respondents) confirmed that pupils books designed for the hearing impaired learners were available in the school, while nine (90%) of respondents said their schools did not have reading pupils books designed for the hearing impaired learners. One respondent said schools do not have reading books that suit deaf learners. She complained that;

“...the only reading books available are those designed to suit hearing learners. Books designed for hearing learners do not motivate hearing impaired learners to read because they do not have the much needed

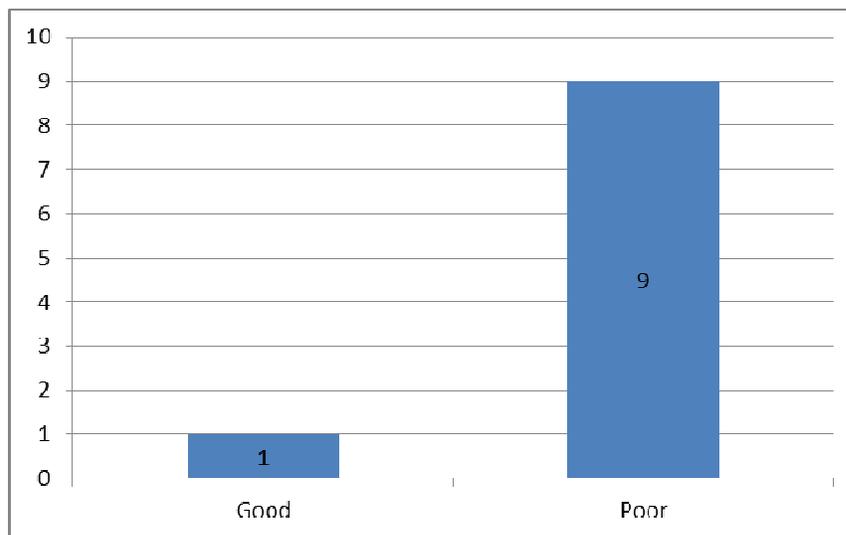
pictorial illustrations. Personally, I have never seen books designed for hearing impaired learners”.

The statement above confirms that most schools providing education to hearing impaired learners do not have reading books tailored to meet the needs of children with hearing impairment.

4.2.1 (d) Reading skills of hearing impaired learners.

The chart below indicates the responses about the reading skills of learners with hearing impairment.

Figure 4: Reading skills of learners with hearing impairment.



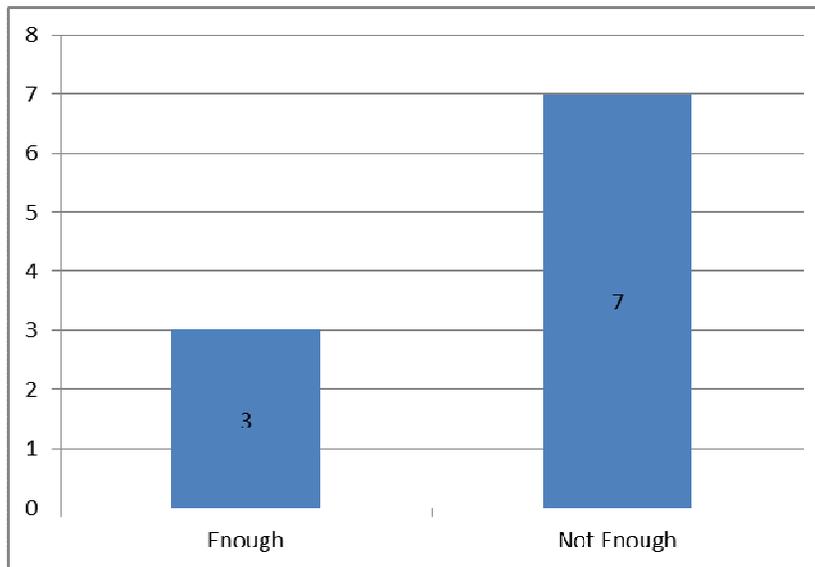
One (1) out of the ten (10) respondents said the reading skills for hearing impaired learners were good, while nine (9) said that the reading skills of hearing impaired learners were poor. One respondent said;

“Reading skills of hearing impaired learners are so bad that one can hardly comprehend. They read slowly, word for word, thereby distorting the sentence structure and meaning. The deaf are affected primarily by English grammar due to the fact that they have problems with phonetics, hence incapable of dealing with reading”.

4.2.1 (e) Time for teaching literacy on the time table

Asked to state the time assigned to literacy on the timetable, three (3) respondents said time for literacy lessons on the timetable was enough, while seven (7) said the time for teaching literacy on the time table is not adequate.

Figure 5: Time for teaching literacy on the time table



One respondent stated that time for teaching literacy on the timetable was not enough because hearing impaired learners did not have a timetable of their own. Instead, they follow the mainstream timetable which does not take into account, the needs of the special child. Another respondent said,

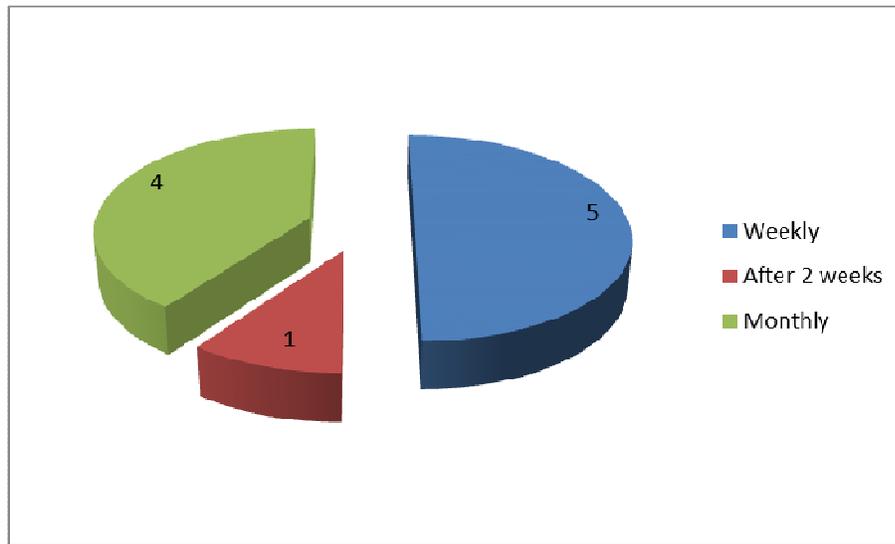
“Teachers handle multi-grade classes. So time for literacy is very little especially that literacy for hearing impaired learners has different components like reading, writing and sign language. With the limited time available in schools, it is difficult to attend to all the literacy skills”.

This is to say the majority of respondents (70%) felt that the time assigned to teach literacy was not enough.

4.2.1 (f) Frequency of Literacy Assessment

Teachers were also asked to state how often they administered assessment reading tests to the hearing impaired learners.

Figure 6: Frequency of literacy assessment



Out of the total number of respondents of ten, four (4) said that reading tests were administered monthly, five (5) said they gave tests weekly while one (1) said that tests were administered every after two weeks. In percentage form, the responses were 40%, 50% and 10% respectively. One teacher complained that teachers handle multi-grade classes, so it is not easy to assess pupils from time to time due to work overload;

“I teach three grades in the same classroom at the same time, grade five (5), grade six (6) and grade seven (7). All these grades require to be assessed regularly, but how do you just manage with this kind of workload? It is not easy to assess pupils from time to time due to pressure of work.

4.2.1 (g) Interaction between hearing Impaired and Non-hearing impaired learners

Later, respondents were asked to state if the learners with hearing impairment were stigmatised by their hearing colleagues, and to state if there was interaction between hearing impaired and the hearing learners during reading lessons. The findings were that five (5) respondents stated that there was stigmatisation of hearing impaired learners by the hearing learners while the other five (5) said that hearing impaired learners were not stigmatised by their hearing friends. On the issue of interaction, four (4) respondents said that hearing impaired learners interacted with the hearing learners during reading lessons, while six (6) respondents said that there was no interaction of hearing and hearing impaired learners during reading lessons. One respondent had this to say:

“Hearing impaired learners learn literacy on their own in classes meant for them, they do not mix with hearing learners during learning. However, they mingle freely with hearing learners during non-learning hours, and in fact hearing and non-hearing learners are seen having group studies together.

4.2.1 (h) Evidence of Parents Reading to their hearing impaired Learners

The second questionnaire was administered to parents. In the questionnaire, respondents were asked to state if children with hearing impairment were stigmatised by their hearing counterparts, if parents were reading with their hearing impaired children at home, i.e. if parents were helping the hearing impaired children to read, and if they (parents) were providing the much needed scaffolding to the hearing impaired learners.

Figure 7: Stigmatisation, interaction between deaf and hearing learners

Description	Yes	No	Total
Are deaf pupils stigmatised	50%	50%	100%
Do they interact freely	40%	60%	100%
Parents scaffolding deaf learners	20%	80%	100%

Out of ten parents interviewed, only two said they helped their children to read at home representing a percentage of 20, while eight (8) representing 80% said they did not help their children to read at home. One respondent said,

“I try to read with my child but it is difficult because there is always a challenge with communication between the child and me. I do not understand the signs used at school”.

Figure below shows the percentage of the levels of stigmatisation, interaction between deaf and hearing learners and views of respondents on the provision of scaffolding by parents as described above.

4.2.1 (i) Why hearing impaired learners achieve low in reading

Focus group discussions

In the focus group discussions conducted among teachers of hearing impaired learners, and chaired by the researcher, on the factors that contribute to low reading achievement among hearing impaired learners, most teachers cited understaffing in special education units as the biggest contributor to poor reading. One teacher observed that:

“A good number of teachers trained in special education opted to remain in the main stream there by making the problem of shortage of teachers in special units to persist. Shortage of teachers in our unit has made most us to teach more than one grade in the same classroom at the same time making it difficult for us to concentrate on teaching. As a result, the quality of teaching is compromised”.

Additionally, teachers complained that most head teachers do not support Special Education Units as they consider special children as taking the much needed space for children without disabilities. The implication is that materials needed in the special units are not provided. In fact, even the problem of trained special education teachers being marooned in the mainstream has been perpetuated by head teachers who refuse to allocate special education classes to trained teachers.

Another problem that contributes to poor reading is lack of classroom space to conduct literacy lessons. One teacher complained that:

“We only have one classroom where all the grades (grade 1 to 9) are heaped. This creates a challenge because there is distraction as pupils do not concentrate on learning due to interruptions from other classes within the classroom. There are unnecessary movements because of having too many pupils in one classroom”.

The other issue raised by teachers during focus group discussions was the poor foundation of hearing impaired learners in reading and writing due to inadequate early childhood education facilities for deaf learners. Most teachers complained that a good number of deaf children entering school have poor literacy background. As they move up the education ladder, they fail to catch up with the challenges of education and hence they have continued to score poorly in reading.

One teacher observed that:

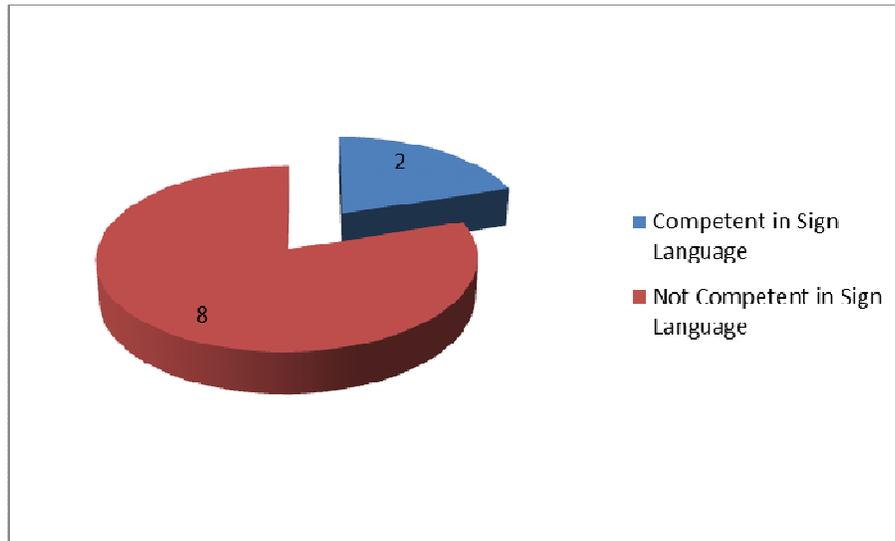
“Zambia has no Early Childhood Education Centres where deaf learners can acquire pre-school education before they enter grade one (1). The government has not invested in this area, so the deaf have continued to lag behind in reading and writing due to poor educational background”.

4.2.2 Levels of competence in sign language among teachers teaching the hearing impaired pupils.

4.2.2 (a) Teacher’s Competence in Sign Language

Since one of the factors that support reading of deaf learners is sign language, teachers were assessed on the levels of their competence in sign language.

Figure 8: Teachers Competence in Sign Language



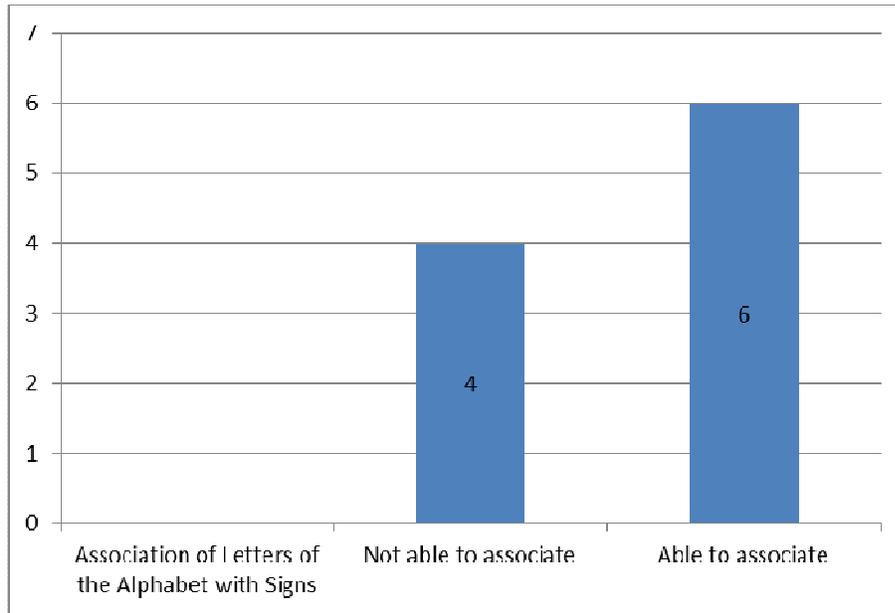
Out of ten teachers assessed, only two (2) were qualified (with diplomas) to teach hearing impaired learners. The other eight (8) were not qualified and did not know sign language. When asked how competent they were in sign language, one teacher had this to say:

“Most teachers teaching in this unit do not know sign language very well. Most of us have learnt the skills of sign language by interacting with hearing impaired learners. We are five in our unit. Only two are trained in special education. Some of us were just seconded to teach in here because we showed interest”.

4.2.2 (b) Association of Letters of the Alphabet with Signs

Respondents were also asked to state if pupils were able to associate letters of the alphabet with signs.

Figure 9: Association of Letters of the Alphabet with Signs



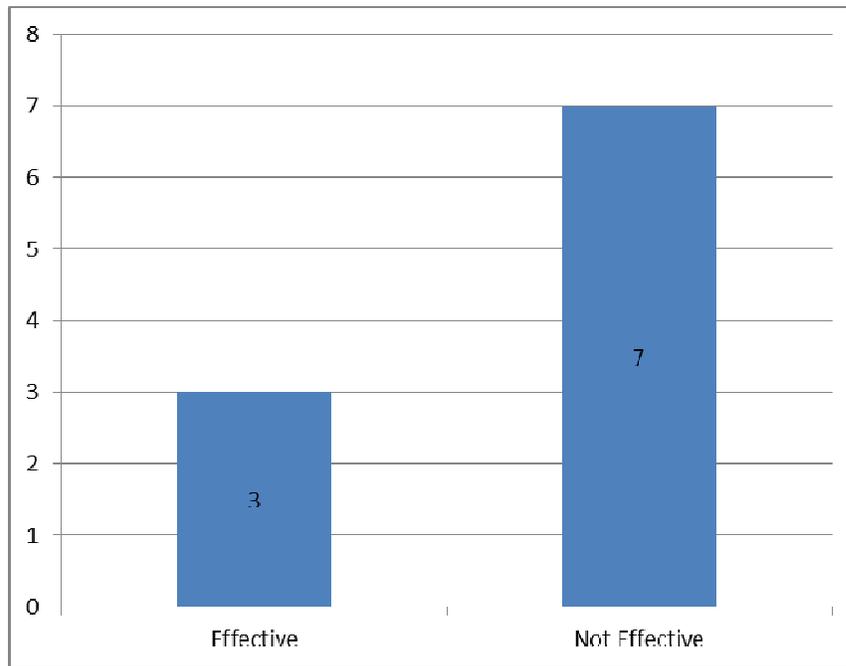
The responses were as follows; four (4) respondents said pupils were not able to associate letters of the alphabet with signs, while six (6) said pupils were able to associate letters with signs. So, the majority of respondents said pupils found it easy to associate letters of the alphabet with signs, as observed by one respondent:

“Hearing impaired learners are very good at associating letters of the alphabet with hand shapes. The problem they have is not with letters of the alphabet, but with vocabulary of signs and use of traditional sign language”.

4.3.2 (c) How effective is American Sign Language in Zambian Schools

Respondents were also asked to state whether or not American Sign Language which is used in Zambian Schools to teach deaf learners was effective.

Figure 10: Effectiveness of American Sign Language



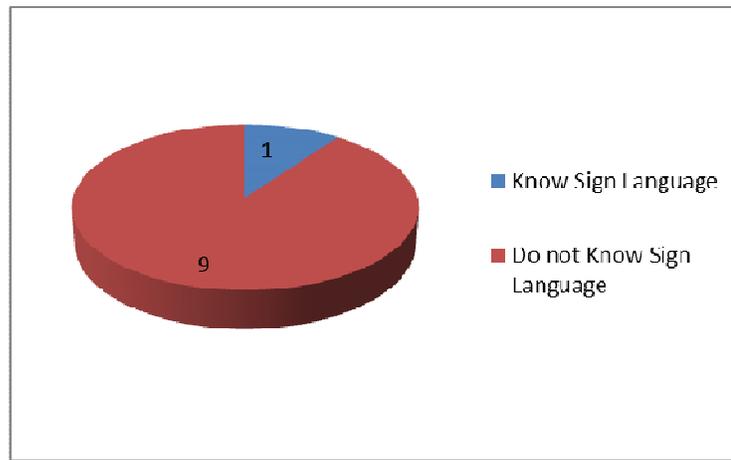
The findings indicate that three (3) of the ten respondents representing 30% said American Sign Language was effective in teaching literacy. On the other hand, seven (7) respondents, representing 70% said American Sign Language was not effective to Zambian children with hearing impairment. One respondent had this to say:

“American Sign Language is not effective in Zambian Schools because sign vocabulary differs from one country to the other. Unless American Sign Language is first transformed to the language pupils know, (Zambian Sign Language), it will continue being ineffective”.

4.2.2 (d) Parents Knowledge in Sign Language

Parents of hearing impaired learners were asked to state if they were knowledgeable in sign language. Only one (1) parent said he had knowledge in sign language, while nine (9) said they did not have knowledge any sign language. This shows that the majority of respondents did not have knowledge in sign language.

Figure 11: Parents Knowledge in Sign Language



The table above indicates that out of ten (10) parents interviewed, only one had knowledge in sign language (was able to sign), while nine (9) did not have the knowledge. Asked to explain the reasons for lack of knowledge in sign language, one parent had this to say;

“I haven’t bothered to learn, but I would love to learn if opportunity came my way. I hope in future, the school can come up with sign language orientation for parents of deaf children”

4.2.3 Factors that contribute to low achievement in writing among the grade seven hearing impaired pupils.

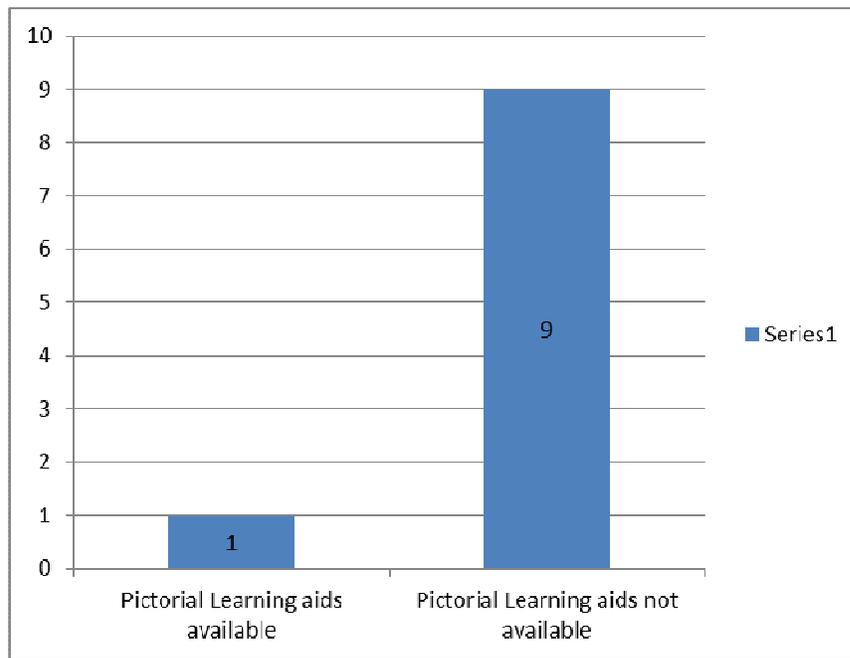
The objective of the study was to find out factors that contribute to low writing achievement levels of the hearing impaired children.

The research sought to investigate whether schools had visual learning materials that motivate pupils to write, teachers experiences in teaching writing to the hearing impaired learners, and whether schools/homes provided pictorial books suitable for learners with hearing impairment. Other variables investigated were the general writing skills of deaf children, whether good or poor and the amount of time allocated for writing activities on the timetable.

4.2.3 (a) Availability of Pictorial Learning Aids

On the availability of pictorial learning aids in the classroom, nine (9) teachers out of ten (10) stated that they did not have pictorial learning aids to use when teaching pupils with hearing impairment, while only one (1) teacher said they had enough pictorial learning aids in the school.

Figure 12: Availability of pictorial learning aids



Asked to describe the availability of pictorial teaching aids in school, one teacher observed that:

“There is a shortage of visual learning aids suitable for hearing impaired learners. To be frank, writing books specifically designed for hearing impaired learners are not there”.

In line with the above observation, another respondent complained that:

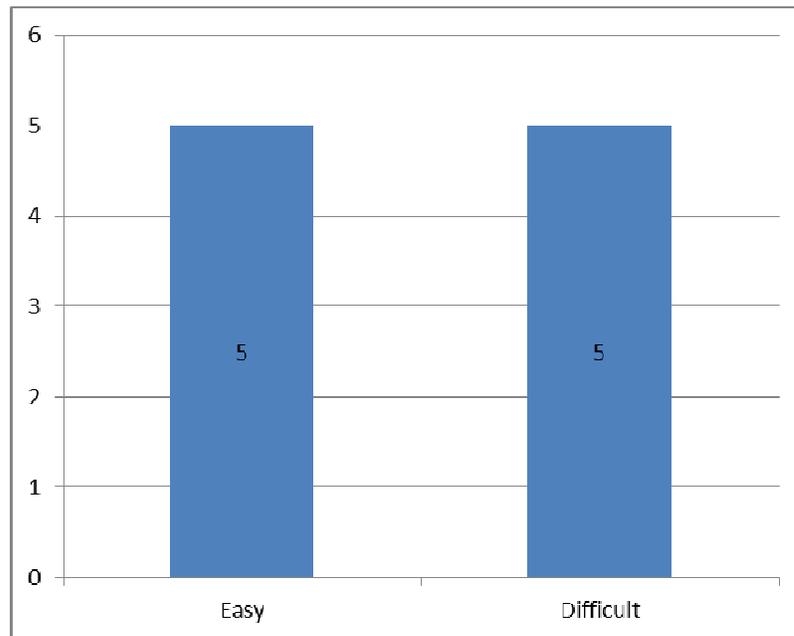
“Schools do not have visual aids to use during writing lessons. I know that pictorial books are used in other countries, but in Zambian schools, there is nothing”.

The above responses confirm that schools offering education to hearing impaired learners do not have pictorial learning aids to use when teaching.

4.2.3 (b) Teachers Experiences on Teaching Writing

When asked on how they could describe teaching writing to learners with hearing impairment, five (5) out of ten respondents stated that they found it easy to teach writing to the hearing impaired learners, and the other five (5) said they found it difficult to teach writing to deaf learners.

Figure 13: Teachers Experiences on Teaching Writing



The table indicates teacher's responses on how they have experienced teaching writing to hearing impaired learners. The responses show that out of ten (10) teachers interviewed, five(5) said they found it easy to teach writing to hearing impaired learners while the other five (5) said they found it difficult. In trying to describe his experiences in teaching writing, one teacher had this to say:

“Teaching writing to hearing impaired learners is easy because writing concerns motor skills. Since hearing impaired learners do not suffer from motor deficiencies, they are able to write well”.

4.2.3 (c) Availability of Pictorial Pupils Books

Teachers were also asked to state whether the school provided pictorial pupils books designed for learners with hearing impairment. Out of the ten (10) respondents, only one (1) confirmed that pupils books designed for the hearing impaired learners were available in the school, while nine (9) said they did not have reading pupils books designed to teach writing to hearing impaired learners.

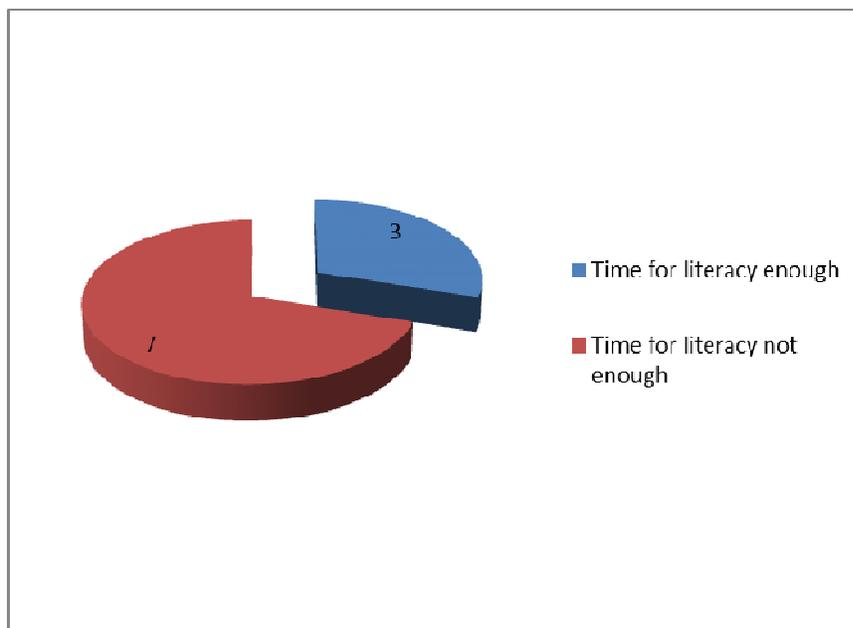
4.2.3 (d) Writing Skills of Hearing Impaired Learners

Next, teachers were asked to describe the writing skills of hearing impaired learners. One (1) out of the ten (10) respondents said the writing skills of hearing impaired learners were good, while nine (9) said the writing skills of the hearing impaired learners were poor. The majority of respondents stated that hearing impaired learners generally had poor writing skills.

“The writing skills of hearing impaired learners are generally bad. They only depend on copying the teachers black board work. Hearing impaired learners find it difficult even to construct simple sentences”.

4.2.3 (e) Time for Writing Activities on the Time Table

Figure 14: The figure below indicates teachers’ responses on time for teaching literacy on the timetable.



Asked to state the time assigned to writing activities on the timetable, three (3) respondents said time for writing activities on the timetable was enough, while seven (7) said the time for writing activities was not adequate. This shows that the majority, (7) said time for writing activities on the time table was not enough. Commenting on time for writing activities on time table, one teacher made the following observation:

“There is little time for teaching literacy on the timetable especially that we teach multi-grade classes. In the same two (2) hour period meant for teaching literacy to one class, I have to teach three (3) classes, i.e. grade 5, 6 and 7”.

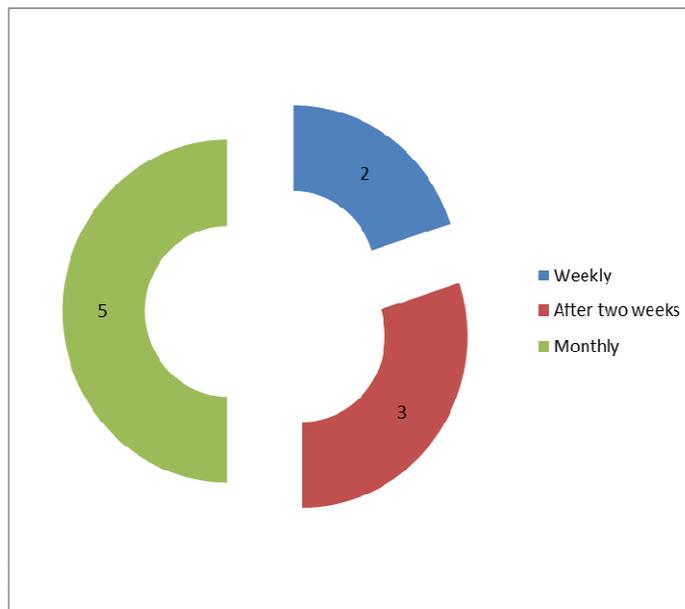
The other respondent noted that:

“Each subject takes about two (2) hours duration. So when it comes to literacy, we often give pupils extra time because time on the timetable is not enough.

4.2.3 (f) Frequency of Writing Assessment Test

Respondents were also asked to state how often they administered assessment writing tests to the hearing impaired learners.

Figure 15: Frequency of Writing Assessment Test



Out of ten (10) teachers interviewed on how often they administered writing assessment tests to hearing impaired learners, two (2) stated that they assessed pupils weekly, three (3) said they conducted assessment every after two (2) weeks while five (5) said they assessed monthly.

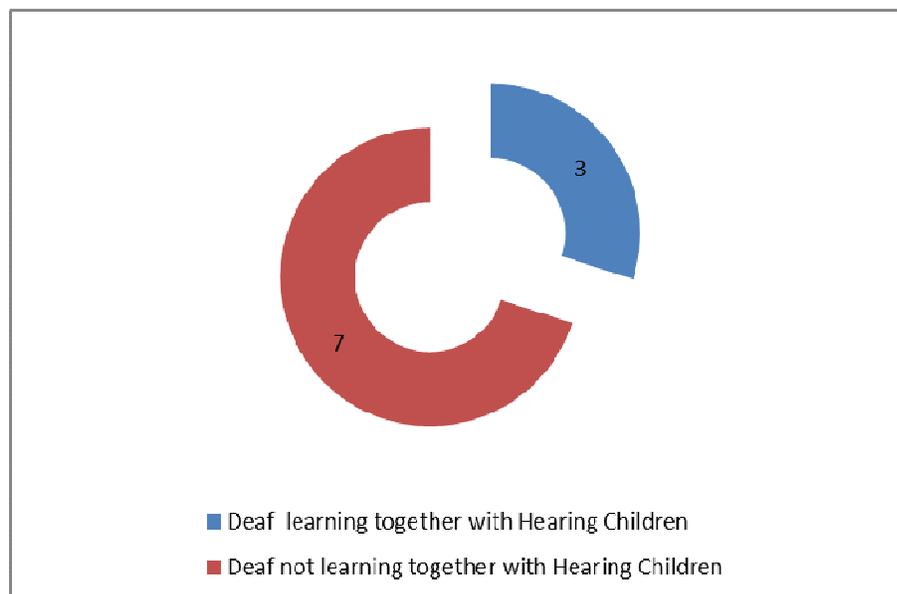
In reference to the frequency of writing assessment tests, one teacher said:

“We don’t regularly give writing assessment tests. It is practically impossible to assess many classes especially that our school is understaffed. The only assessments given are the exercises at the end of each literacy lesson”.

4.2.3 (g) Evidence of Mainstreaming of Hearing Impaired learners in the Mainstream

Teachers were asked to state if hearing impaired learners were mainstreamed during writing lessons, and to state if there was interaction between hearing impaired and the hearing learners during reading lessons.

Figure 16: Evidence of mainstreaming and interaction



The findings were that three (3) respondents said hearing impaired learners were mainstreamed and learnt together with the hearing learners, while seven (7) said

hearing impaired learners were not mainstreamed, and that there was less interaction between the hearing impaired learners and the hearing learners.

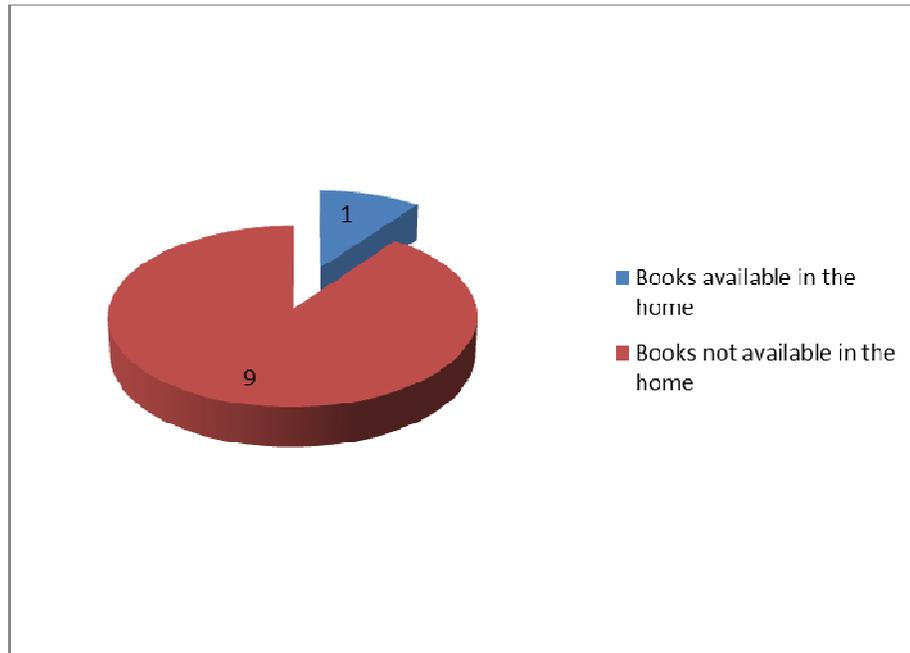
“Learners with hearing impairment are not mainstreamed. They have their own section and building away from the main stream. They have their own teachers which make it difficult for mainstreaming to be done”

4.2.3 (h) Responses from Parents on the availability of pictorial story books at home

After getting responses from teachers, the researcher administered a questionnaire to parents. Parents were asked to state if they provided pictorial story books where hearing impaired learners could draw writing activities in the home. The findings show that only one (1) parent said he provided story books to the hearing impaired learner, while nine (9), said they did not provide pictorial story books to their children at home. One parent observed that:

“We don’t have pictorial story books which can help the child to learn at home. I don’t exactly know the type of books recommended for deaf children because there hasn’t been any sensitisation to the parents about the educational needs of deaf children. I am appealing to the school authorities to organise meetings with parents of deaf children so that as parents, we get the correct needs of our children from experts, who are the teachers in this case”.

Figure 17: Evidence of books that support writing in the home



Parents were asked to state the availability of books that support writing of hearing impaired learners in the home. The table indicates that only one (1) parent said there was availability of writing books in the home, while the other nine (9) said they did not have reading materials.

“We do not have school writing books in the home for the child to use. The only books we depend on are exercise books used by pupils at school”.

4.2.4 Techniques used by teachers in teaching reading and writing to hearing impaired children:

The aim of the fourth objective was to establish whether techniques used by teachers in teaching reading and writing to hearing impaired learners are related to the communication mode of deaf children which is usually visual rather than auditory.

4.2.4 (a) Do the Teachers Books Suggest Teaching Strategies for Hearing Impaired Learners?

Teachers were asked to state whether the teachers’ guides/books available in schools had suggested reading and writing teaching strategies that suit hearing impaired learners. Out of ten (10) respondents asked, one (1) stated that teachers’ guides/books had writing teaching methods. On the other hand, 9 respondents said teachers’ guides/

books had no methods recommended to use when teaching children with hearing impairment.

“We don’t seem to have strategies specifically meant to teach reading and writing to hearing impaired learners in Zambia. I say so because teachers’ handbooks meant for hearing impaired learners are not there. Therefore, we just modify the teaching strategies meant for the mainstream”.

4.2.4 (b) Do hearing impaired learners understand work presented in abstract?

Asked to state whether deaf learners easily understand words presented in abstract (not pictures), only one (1) out of ten respondents said deaf learners understand words presented in abstract, while nine (9) said deaf learners find it difficult to understand words presented without pictures. The response from a teacher was that:

“From my experience, it is not possible to teach the deaf without the aid of pictures. If you present your work in abstract, learners fail to connect the lesson. But if you use picture story lines and illustrations, they learn faster”.

Another teacher observed had this to say:

“I find difficulties when I teach reading and writing without pictures. If you teach without pictures, pupils will just be looking at you, they will ask questions that are confusing and out of context. So what I do is to draw pictures on the board or Manila paper showing the scenario of the material I am teaching”.

The statements above indicates that hearing impaired learners require the use of concrete teaching aids as opposed to presenting work in abstract.

4.2.5 Results from Classroom Observation on the factors that contribute to low literacy achievement among learners with hearing impairment

Participant class observation was used in order to find out teacher preparedness in teaching literacy to the hearing impaired learners e.g. availability of text books, availability of picture books, quality of pupils activities, availability of concrete objects and availability of television and other media equipment that supports the learning of the hearing impaired learners.

During literacy teaching observation in classes of the hearing impaired learners by the researcher, several factors that could be responsible for low literacy achievement among hearing impaired learners were identified.

Firstly, it was observed that all the classes' seen did not have text books for learners to use. The teacher relied on board work for teaching. Additionally, classes lacked picture books and wall charts. The reading books available were learner centred, requiring independence of learners. However, hearing impaired learners require constant interaction with their teachers. This means that they if books designed to meet their needs are not there, learning becomes hard.

Secondly, it was noted that a good number of teachers did not use concrete objects to aid their teaching. Instead most of the teaching conducted was in abstract. This made it had for hearing impaired learners to learn the literacy concepts the teacher was teaching.

The other factor observed was that generally, hearing impaired learners lack concentration. This was evident because they were not able to recall what they learnt a little while, worse off, what they learnt the previous day. Most learners were passive and dosing most of the time.

It was also observed that learners did not practice what they learnt because most teachers did not regularly give exercises after a lesson is taught. A check in pupils' books indicated that learners were not even given home work to practice at home, what they learnt at school. Worse off, the classes did not have visual teaching materials displayed to aid the learners. Teachers are expected to make an effort in coming up with teaching aids which they can use when teaching. It was observed that teachers were not making these teaching aids. Instead, they relied on schools to buy these materials.

Materials like television, video games, wall charts and picture books were not available in classes for hearing impaired learners. It was also observed that hearing impaired learners in schools in Lusaka are not yet exposed to Information Communication Technology (ICT) facilities such as computers and internet. This has contributed to low achievement levels in reading and writing.

The other factor that could be responsible for low literacy achievement among hearing impaired learners was shortage of teachers in hearing impaired units. All the classes visited had more grades than the number of teachers available. It was observed that in most instances, one teacher taught more than one grade class at a given time in the same class. Above all, there was overcrowding in most classes because most schools have only created one classroom space for all learners with hearing impairment.

The researcher also observed that most teachers teaching hearing impaired learners did not know sign language. It was observed that teachers struggled to explain certain concepts using signs; they could not narrate a story using signs fluently. This in itself has negative consequences over the acquisition of literacy.

It was also observed that teachers did not pay attention to the needs of individual learners due to overcrowding of hearing impaired classes. It was evident from the observation that teachers were overloaded with work due to teaching multiple of classes. This makes teachers less efficient in their work.

4.3 Summary

This chapter presented findings on the factors that contribute to low reading and writing achievement among learners with hearing impairment. The findings were presented in line with the four objectives of the study. The findings were presented in two parts namely quantitative and qualitative findings.

Quantitative findings were presented in form of percentages by comparing the scores of hearing learners with those of hearing impaired learners. The comparative analysis of the performance between hearing impaired and hearing learners reveal that hearing impaired learners performed poorly in all aspects that support reading and writing.

The hearing impaired learners showed poor knowledge of the awareness and identification of the letters of the alphabet. They also showed poor knowledge in comprehension, narrative, reading and writing. On the other hand, hearing learners performed far much better than hearing impaired learners. When it came to reading with the aid of pictures, the story was different. The hearing impaired learners scored a higher percentage at picture reading using the Peabody Picture Vocabulary test than the hearing learners

Qualitative findings were presented in form of tables and narratives. The findings reveal that most schools teaching hearing impaired learners do not have visual teaching aids to help them teach hearing impaired learners. Reading and writing aids that can support hearing impaired learners are not made available in schools. It was also noted that most teachers do not have sufficient sign language skills there by making it hard for them to communicate with children with hearing impairment. Other findings presented are that parents of hearing impaired learners do not provide pictorial books that can help hearing impaired learners to learn to read and write at home, and that teachers seem not use appropriate teaching aids that can support reading and writing to deaf learners.

CHAPTER FIVE

DISCUSSION OF RESEARCH FINDINGS

5.0 Introduction

This chapter discusses the findings of the study whose aim was to establish the factors that contribute to low literacy achievement levels of grade seven (7) hearing impaired learners in selected Special Schools and Hearing Impaired Special Units of Lusaka's Basic Schools. All findings presented were discussed in line with research questions and objectives of the study. The findings are discussed in the same sequence they have been presented in the preceding chapter based on the objectives of the study.

5.1. Why learners with hearing impairment attain low reading

5.1 (a) Poor alphabetic Knowledge

The findings revealed that hearing impaired learners had poor knowledge of the letters of the alphabet. The reading measures test indicates that the hearing impaired learners performed poorly on both letter knowledge and letter identification tasks. Non-hearing impaired children performed far much better than the hearing impaired Children. Hearing impaired children performed poorly at identifying letters of the alphabet and at displaying knowledge about the alphabet. Lack of the ability to identify letters of the alphabet renders one unable to learn to read and write. The findings are in line with the assertion of Marschare et al, (2002) who stated that “...whereas the typical hearing child comes to the reading task with a substantial amount of pre reading skills such as knowledge of the alphabet, deaf children typically lacks substantial development of any of them”. Most deaf children were unable to prove knowledge of the letters of the alphabet and identification of the given letters.

Therefore, lack of the ability to identify the letters of the alphabet could be responsible for poor literacy achievement among children with hearing impairment.

5.1 (b) Non availability of visual reading materials

The findings of the study established that deaf learners had little access to pictorial learning materials. Most teachers admitted that their schools did not have visual reading materials which could motivate and aid hearing impaired learners as they learn to read. The study revealed that most reading materials available were designed for hearing children. This indeed has contributed to poor reading among the deaf in that most reading materials are not appropriate for them. Non availability of visual materials retards the literacy development of children with hearing impairment. (Marschare et al, 2002). Deaf children should be exposed to visual learning materials such as the use of telecommunication devices e.g. internet which helps them to improve skills in reading and writing as internet use requires the use of visual materials like computers. Without exposure to these, these learners will continue to retard in literacy development.

The findings revealed that lack of visual reading materials has made teachers to use reading books that are not appropriate for hearing impaired learners. Hearing impaired learners are made to read books designed for hearing children, books with uncontrolled and difficult grammar which makes it hard for deaf children to comprehend. This has contributed to low literacy achievement levels among learners with hearing impairment.

5.1 (c) Difficulties in teaching reading to hearing impaired learners

The study also established that generally, teachers faced difficulties in teaching reading to hearing impaired learners. It was noted that reading materials which deaf learners are exposed to were not written in deaf learner's familiar language which is telegraphic i.e. reading word-by-word with focus on content words. It was noted that learners with hearing impairment perform poorly in reading because they are given long reading texts containing complicated grammar without any modification made to the text to make it appropriate to the deaf. The reading text given to the deaf should be different from the text given to other learners because the deaf seem to have limited vocabulary, speech and grammatical development Reed (1984)

The above discussion shows that hearing impaired learners achieve less in reading because teachers themselves find difficulties in teaching reading. As seen above,

teaching reading to deaf learners depends on the deaf's attainment of adequate vocabulary. Since sign language has limited vocabulary, the reading achievement of deaf children has continued to be low.

5.1 (d) Poor interactions between hearing impaired and non-hearing impaired learners.

Next, the findings revealed that there was poor interaction between hearing impaired learners and non-hearing impaired. The study established that learners with hearing impairment learnt in their own classes separate from non-hearing impaired learners. This creates stigma among learners. Learning is a social process which requires social interaction among learners, especially where a more capable learner interacts with those who are less capable. This is not the case with hearing impaired learners.. Studies have indicated that children learn better when they interact with peers during play and other social gatherings. As a child interacts with both the other peer readers and the text, he/she creates meaning from the environment, and learns the various skills of language. This assertion was supported by the work of Piaget and Vygotsky (1987) and Brunner, (1977) whose works emphasise on social interaction as a tool to teaching reading to deaf learners.

However, deaf learners have interaction problems and seem to be stigmatised by the hearing children. One respondent attested to this fact and said deaf learners suffer stigmatisation, rejection and name calling especially from the hearing children during play. The hearing children make fun of the deaf learners. This kind of attitude among hearing children on hearing impaired children make hearing impaired children feel stigmatised and rejected.

The above statement confirms that deaf learners fail to read at the same level as normal children due to poor interaction, stigmatisation and name calling. If deaf learners interacted freely with all the members of the community, the problem of poor reading can be minimised.

5.1 (e) Failure by Parents to read with deaf learners at home

Next, the study established that most parents and other family members of deaf children did not engage their deaf children in reading activities at home. Firstly, parents confirmed that it was difficult to help their hearing impaired children in the

home because of communication problems. One reason cited for poor communication between the hearing impaired learners and their parents is inadequate skills in sign language on the part of parents. Secondly, one parent complained that it is difficult to read with their hearing impaired learners because the school did not provide reading materials to the hearing impaired learners to read at home. These factors have contributed to poor reading achievement of children with hearing impairment.

The home environment plays a major role in helping learners improve their reading skills. Pupils' reading at home with their parents or other members of the family is a critical ingredient to helping children learn to read. Parental monitoring of homework, the presence of reading materials in the home, and parental limiting of access to television may all have a positive effect on reading achievement. Taylor, (1983) writing about the importance of parental interaction in the home stated that the first stage in becoming a reader begins as soon as the child is exposed to and becomes aware of books and other artefacts of a literate position in the home. Therefore, lack of parental involvement in reading activities of deaf children, and non-exposure of deaf children to reading books in the home have been found to have contributed to low literacy achievement among learners with hearing impairment.

5.2 Poor sign language skills among teachers of deaf learners

This section discusses the findings as brought out by teachers and parents on how qualified they (teachers of deaf learners) were in special education, and their competence levels in sign language.

5.2 (a) Poor sign language skills among teachers

The findings of the study revealed that most teachers teaching learners with hearing impairment did not have adequate sign language skills. The study showed that a good number of teachers were not trained in special education, and were not competent enough to teach deaf children as they (teachers) did not have the necessary training and qualification to teach deaf learners. Most teachers interviewed confirmed that they did not have training in special education. Most of them said they have learnt most of the skills of signing from learners. Lack of teacher qualification in Special Education and poor skills in sign language have been found to be responsible for low literacy achievement among learners with hearing impairment.

The findings are in agreement with Kalabula, (2007) who stated that teacher's competence levels in sign language and their training in special education is of great help to the acquisition of sign language on the part of deaf learners. This is to say without training in special education, and without teachers adequate skills in sign language, deaf learners will continue to lag behind in reading and writing. The success of children in school can only be achievable if teachers are well qualified to teach. However, since most teachers of the deaf were found to be less qualified, it should not be surprising that deaf children are still achieving low in reading and writing.

5.2 (b) The Use of foreign sign language system

The other factor that was found to be responsible for low achievement in reading and writing among the hearing impaired learners was the use of a foreign sign language system. The findings revealed that Special Schools teaching deaf children use American Sign Language which is alien. Teachers complained that the type of sign language used in Zambian Special Schools (American Sign Language) is just too foreign as it does not respond to the needs of the Zambian deaf community. Sign language can only be effective if it is transformed to the language of the Zambian deaf child which is Zambian Sign Language. This means that the use of a foreign sign language system in Zambian schools offering education to the deaf is one of the factors that impede deaf learners from succeeding in reading and writing.

It should be noted that sign language has its own vocabulary (signs) and grammar which is culturally determined. Therefore, the use of a foreign language system cannot help develop the literacy levels of another community as culture differs from community to community.

The study went further to look at the parents' ability in sign language. This was done knowing that reading and writing starts way back even before a child enters school. The findings of the study indicate that most parents did not know sign language. This indeed has a negative impact on the academic achievement of deaf learners in literacy since there is no link between what deaf learners learn at school and what they do at home. This makes it difficult for parents to prepare their children for school education, and hence hearing impaired children have continued to lag behind in reading at school.

5.3 Why learners with hearing impairment attain low in writing

The findings revealed that learners with hearing impairment had poor writing skills. A comparison made between hearing impaired learners and hearing learners indicated that hearing impaired learners performed poorly at writing than non-hearing impaired learners. Some of the reasons given for poor writing included shortage of teachers in special units, overcrowding in hearing impaired classes, and teaching multiple grades. Other reasons are lack of visual aids that support writing and poor interaction between hearing impaired and non-hearing impaired learners.

5.3. (a) Shortage of teachers, overcrowding and teaching multiple grades

The findings showed that hearing impaired classes had a critical shortage of teachers qualified in special education. It was established that as a result of shortage of teachers; classes were overcrowded, making teachers attend to more than the recommended number of deaf children. Additionally, most teachers of deaf learners were found to be teaching multiple grades. This made it difficult for both teachers and learners to concentrate. Most teachers complained that pupils were not able to concentrate due to distractions from other learners belonging to other grades in the same class.

Since hearing impaired learners are a special case, they require the presence of teachers even more than the non-hearing impaired learners. Shortage of teachers, overcrowding in classes and teaching multi grade deprives the hearing impaired learners from having regular face-to-face contacts with the teacher as the teachers has no time to attend to individual needs of learners. This is to say scaffolding is limited. This factor could be responsible for low achievement in literacy among hearing impaired learners.

5.3. (b) Lack of visual aids that support writing

A classroom observation checklist indicated that most classrooms for hearing impaired learners did not have visual materials that support writing, such as picture illustrations books, wall charts, and concrete learning aids. Lack of visual materials such as books, charts, pictures and illustrations make it difficult for teachers of deaf

pupils to teach well. Since most teachers complained that they found trouble in teaching writing to hearing impaired learners due to lack of teaching materials, the problem of low writing achievement has continued to persist. Strickland & Strickland (2002) states that learners acquire literacy simultaneously in environments that permit them to read, write, listen and speak for a variety of authentic purposes. This assertion is contrary to the findings of the study. The study indicates that the environments in which deaf children are exposed to do not permit them to learn to write. Such environments lack authentic texts which are useful in helping the deaf to comprehend and make meaning from texts.

Writing is one of the skills which deaf learners can rely on in their quest to communicate with non-deaf individuals who may not know sign language, and have to depend on reading and writing to communicate. Therefore, teaching writing to deaf learners becomes important. However, not much emphasis has been placed to the teaching of writing to deaf learners as evidenced by this study. Deaf learners have continued to lag behind in writing due to non-availability of support materials that can aid them to learn to write.

5.3 (c) Poor interaction between hearing impaired learners and hearing learners

The findings of this study indicate that there was poor interaction between the deaf and hearing children; deaf learners were not mainstreamed into the normal stream making it difficult for them to share experiences with hearing children. Respondents stated that children with hearing impairment learn separately from the hearing children. There were rooms set aside for hearing impaired children and others set aside for hearing children. This situation promoted social isolation of children with hearing impairment.

Interaction among readers and between readers and the text helps readers to improve their reading skills. Poor interaction between deaf and hearing readers and between deaf readers and the text have contributed to low reading achievement among the hearing impaired readers.

5.4 Poor techniques used by teachers in teaching reading and writing to hearing impaired children.

This part of the study discusses the findings of the relationship between the techniques used by teachers in teaching reading and writing to the hearing impaired learners with the communication mode of deaf children which is usually visual rather than auditory.

The findings of the study indicate that the techniques used by teachers are not related to the communication mode of deaf children. It is a well-known fact that the hearing impaired learners are a special case, who needs specialised methods of teaching to meet their special educational needs. Lewis, (1995) asserted that hearing impairment learners need a mixture of teaching approaches with a bias towards fairly structured methods. He said teachers should use flexible teaching methods, carefully monitoring of children's learning, moving step-by- step as they teach.

However, the findings of this study indicate that the case is not the same in *Zambian* schools offering education to the hearing impaired learners. As opposed to the use of the didactic step-by-step approach, teachers used the guided approach where they prescribed what they thought children needed to learn. Teachers' books available in schools are not designed to cater for the needs of children with hearing impairment. Teachers complained that there was no single teachers' book in schools which suggests the teaching methods which teachers can employ as they teach reading and writing to children with hearing impairment. This has made it hard for children with hearing impaired to succeed in reading and writing.

CHAPTER 6

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.0. INTRODUCTION

This chapter is divided into three sections namely;

- Summary of major findings
- Conclusion
- Recommendations for the improvement of literacy among the hearing impaired learners.

6.1. SUMMARY OF FINDINGS

This study was aimed at finding out the factors that contribute to low literacy achievement among grade seven (7) learners with hearing impairment.

The findings will be summarised in line with the discussion of findings..

6.2. Factors that contribute to low achievement in reading among grade seven hearing impaired learners

(a) Poor alphabetic Knowledge

The reading measures test indicates that the hearing impaired learners performed poorly at both letter knowledge and letter identification tasks. The non-hearing impaired learners performed better than the hearing impaired learners. Poor performance in alphabetical knowledge could be responsible for poor literacy achievement among hearing impaired learners.

6.2.(a) Non availability of visual reading materials

Non availability of visual reading materials has contributed to low reading achievement among children with hearing impairment. The study established that schools offering education to hearing impaired learners do not have reading materials that are suitable for these learners. Most reading books do not have pictures. This makes it hard for learners to learn to read. In order to underscore the importance of pictorial materials to children with hearing impairment, this study used the PPVT. The

findings indicate that children with hearing impairment performed better on reading tasks that came with pictures. In fact, the reading performance of children with hearing impairment using the PPVT was better than that of non-hearing impaired learners.

6.2. (c) Poor interactions between hearing impaired and non-hearing impaired learners.

Deaf learners were found to have interaction problems and seemed to be stigmatised by the hearing children. Deaf learners suffer stigmatisation, rejection and name calling especially from the hearing children during play. The hearing children make fun of the deaf learners. This makes the hearing impaired learners lose their self esteem and feel worthless. Poor interaction between hearing children and the deaf makes hearing impaired learners not improve in reading because they lack the social interaction which is a vital ingredient for learning.

6.2. (d) Failure by Parents to read with deaf learners at home

Parental monitoring of homework, the presence of reading materials in the home, and parental limiting of access to television have a positive effect on reading achievement. However, most parents of hearing impaired learners do not read with their deaf children at home. This is because of lack of reading materials and poor communication between parents and children as most parents have inadequate skills in sign language. The finding confirms that non availability of visual materials have retarded the literacy achievement of children with hearing impairment.

6.3. Levels of competence in Sign Language among teachers of hearing impaired pupils.

Learning to read and write among hearing impaired learners depends on sign language. The study established that most teachers were not able to use sign language effectively. Their sign language skills are so limited that they depend on their learners skills in order to teach. This is indeed a big challenge in that under normal circumstances, teachers are expected to be competent enough in the subject matter they teach. This builds confidence in learners. Most teachers said they had no training in special education in general and sign language in particular. This situation has made it difficult for learners to improve in reading and writing.

The other factor that has contributed to low literacy achievement in reading and writing among hearing impaired learners is lack of sign language system that suits the Zambian situation. Zambian uses sign language called American Sign Language (ASL) developed for American learners. Since sign language is not a universal language among the deaf, American Sign Language has failed to work in Zambia due to limited vocabulary.

The next factor that hinders hearing impaired learners from succeeding in reading and writing is lack of sign language skills among the parents of these children. Communication between Parents and their hearing impaired children is not that effective. Parents use unconventional sign language, different from the conversational sign language used at school. As a result, parents cannot read with their hearing impaired children at home. This is to say parents of deaf learners do not provide scaffolding to their children due to problems with communication.

6.4 Factors that contribute to low achievement in writing among grade seven hearing impaired learners

The factors that contribute to Low achievement in writing among Children with hearing impairment are as follows:

The first factor is lack of teaching and learning materials that suit children with hearing impairment. Most schools offering education to hearing impaired learners not have pictorial writing aids such as picture narratives and picture wall charts which can motivate learners to practice writing. Hearing impaired learners requires a visual world to learn. However, most text books available in schools do not have adequate pictures because they are not designed for deaf learners. So Hearing impaired learners have continued to perform poorly at writing activities.

The second factor that contributes to poor performance in writing is lack of adequate time on the time table. Most hearing impaired learners are said to slow at writing. Therefore, more time is needed for them to complete writing tasks. Since the timetable does not provide sufficient time for writing, the hearing impaired learners have continued to perform poorly at writing.

The problem of poor staffing levels in schools for the hearing impaired learners has contributed to poor performance in reading among the learners. Most classes for the

hearing impaired learners are overcrowded, with one teacher teaching more than one grade level. As a result, no attention is given to individual children, thereby making it difficult for teachers to monitor the writing progress of their children.

6.5 Techniques used by teachers in teaching reading and writing to hearing impaired children.

Poor techniques used to teach reading and writing to hearing impaired learners has contributed to low achievement in reading and writing among the hearing impaired learners. The findings show that most teachers did not use recommended approaches like didactic approach where the teacher and pupil move step-by step during literacy learning. Instead, teachers used the guided approach where they prescribed what they thought children needed to learn. This has a negative impact on the acquisition of literacy skills by hearing impaired learners.

This study also established that the Zambian school system has not yet developed teachers' guides with suggested teaching techniques to guide teachers of hearing impaired learners. As a result, there is no uniformity in the way reading and writing is taught to deaf pupils. There is indeed an oversight in that the needs of children with hearing impairment seem to be neglected.

6.4 CONCLUSION

The study has established that learners with hearing impaired do not achieve high scores in reading and writing due a combination of factors. Learning to read and write is daunted task for learners with hearing impairment. The study has established several factors that impede children with hearing impairment from acquiring literacy skills.

Lack of visual learning and teaching materials in schools offering education to deaf learners has contributed to low achievement of reading and writing among learners with hearing impairment. Most of materials used to teach deaf learners are not related to the natural world of the deaf which is visual. The study established that materials used in schools for the deaf are designed to meet the needs of learners without impairment.

The other factor that contributed to low literacy achievement among children with hearing impairment was inadequate teaching time on the timetable. The timetable does not provide for extra teaching time to meet the challenges that come with hearing

impairment. Other factors include stigma and isolation suffered by hearing impaired learners at the hands of non-hearing impaired learners, understaffing in schools for the deaf and inadequate classroom space.

The study has also established that teachers of hearing impaired learners are not competent enough in sign language. Additionally, the sign language used in Zambian schools (American Sign Language) does not suit the Zambian situation. Worse off, parents of hearing impaired learners do not have sign language skills. This makes it very difficult for hearing impaired learners to practice sign language at home, thereby making them (hearing impaired learners) not read and write at the same level as their hearing counterparts.

The study also established that the techniques used by teachers of hearing impaired learners to teach reading and writing are not suitable for hearing impaired learners. There are no teachers guides with suggested teaching methods; there is no curriculum and syllabus designed for learners with hearing impairment. The end result is that there is no uniformity in the way learners with hearing impairment are taught. This has impacted negatively on the literacy achievement of children with hearing impairment.

6.5 RECOMMENDATIONS

Recommendations are made to the government and other organizations involved in the provision literacy to learners with hearing impairment.

6.5.1 Recommendations to Ministry of education

- **Provision of visual Teaching and Learning materials:** The Government Republic of Zambia through the Ministry of Education should develop and provide visual teaching and learning materials to all schools offering education to hearing impaired learners.
- **Deploying more trained teachers in special schools:** The Government should remove all special education teachers teaching in special schools and deploy them in special schools and special education units to beef up staffing in special schools.
- **Building more classroom space in special schools:** There is need for Ministry of Education to build more classrooms to meet the rising demand of special education. Many special education units were found to be overcrowded

with many grades learning in one classroom space. In order to address this problem, more classroom spaces should be created.

- **Promotion of Early Childhood education to the hearing impaired learners**
This is another area which government should consider seriously. The challenges faced by pupils in reading and writing may be attributed to lack of early childhood education centre's where deaf learners can be introduced to literacy activities at a tender age. Therefore, the ministry of education should come up with centres where deaf children can access education at a tender age.

6.5.2 Recommendations to Parents

- **Provision of reading and writing materials in the home:**
Parents should improve the home literacy environment by providing reading and writing materials for deaf pupils to practice at home. Picture story books, magazines, newspapers, television and story charts should be made available to children.
- **Home possession**
Since the home literacy environment helps pupils to learn to read and write parents should work hard and make sure that they acquire the home possessions which help children to improve their literacy skills. Such possessions of a rich literacy environment of the home include television, radio, computer, stove, calendar, newspapers and magazines
- **Parents of hearing impaired learners should learn sign language**
There is also need for parents of children with hearing impairment to consider learning sign language to enhance communication between parents and their children.

6.5.2 Recommendations to Teachers

- **Time for teaching literacy on the timetable:** Teachers should create more literacy time on the timetable. Due to the nature of their impairment, deaf learners require sufficient time to learn to read and write. Most deaf people tend to be slow at reading and writing because they do not attain the literacy skills at the same level as normal children. Additionally, their learning requires sufficient time to learn sign language itself. This means that deaf learners are

expected to have more time on the timetable, and hence the need for teachers to create more teaching time on the timetable of deaf learners.

- **Promotion of mainstreaming**

Teachers should promote integration between the hearing impaired and the non-hearing impaired learners. Integration is important in that pupils are able to learn from one another. This makes the deaf feel accepted in society.

- **Understanding the telegraphic language of hearing impaired learners.**

Teachers are advised to understand the language of the deaf, which is mostly telegraphic. Deaf people have a challenge in learning to read and write because they have limited vocabulary. Most of their reading and writing is in short and grammatically wrong sentences. If teachers are to help the deaf to learn to read and write, they should meet the deaf in their natural way of reading and writing.

- **Provision of visual materials and facilities like internet**

School authorities should work on the production and procurement of visual learning aids to help children with hearing impairment. Schools should provide internet services to enable learners improve their reading and writing skills

- **Multi grade teaching should not be promoted in schools**

Schools should stop the system of multi-grade teaching when handling learners with special educational needs. Classes for special needs should be kept small, with a teacher assigned to a particular grade. Head teachers should avoid the habit of keeping teachers trained in special education in the mainstream. Instead special education teachers should be deployed into the special education units.

6.6 Suggestion for Further Research

The research focused on finding out the factors that contribute to low literacy achievement levels among grade seven (7) children with hearing impairment. The study did not actually establish factors that affect pupils in other grades other than grade 7. There is need for further research in order to establish the factors that contribute to low literacy achievement levels among children with hearing impairment at all levels of education.

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APPENDICES

APPENDIX A

QUESTIONNAIRE FOR TEACHERS OF HEARING-IMPAIRED LEARNERS.

Dear Respondent,

I am a master's student at The University of Zambia (UNZA) carrying out a study on **Factors That Contribute to Low Literacy Achievement Levels among Grade Seven Pupils with Hearing Impairment** in selected Special Education Units. This study is part of the fulfilment for the award of a Master's in Education. Therefore, the information that will be collected is purely for research purpose only. Please spare a few minutes to answer this questionnaire.

Your cooperation is highly appreciated.

INSTRUCTIONS

- A. Do not write your name on the questionnaire
- B. Tick in the box provided for 'YES or 'NO" depending on your opinion about the issue.
- C. Give an explanation to qualify your responses where possible.

RESPONDENTS SEX MALE FEMALE

SCHOOL:

1. Do you have enough visual aids to use during reading lessons for the hearing impaired learners in your school?

Yes No

.....

.....

2. Do you have enough visual aids to use during writing lessons for the hearing impaired learners in your school?

Yes No

.....
.....
3. Do you have enough trained teachers for the hearing impaired in your school?

Yes No

.....
.....
4. Do all the teachers have adequate skills in sign language?

Yes No

.....
.....
5. How do you describe teaching reading to children with hearing problems?

Easy Very Easy Difficult Very difficult

.....
.....
6. How do you describe teaching writing to children with hearing problems?

Easy Very Easy Difficult Very difficult

.....
.....
7. Do you have teacher's guides/books with recommended and appropriate writing teaching methods that suits the hearing impaired children? Yes

No

.....
.....
8. Do you have teacher's guides/books with recommended and appropriate reading teaching methods that suits the hearing impaired children? Yes No

.....
.....
9. Has your school got reading pupils books (readers) designed for hearing impaired children? Yes No

10. Has your school got pupils books designed for writing activities that suit the hearing impaired children? Yes No

.....
.....
11. Do you as a teacher of pupils with hearing impairment have trouble in teaching reading to your pupils?

Yes No

.....
.....
12. Do you as a teacher of pupils with hearing impairment have trouble in teaching writing to your pupils?

Yes No

.....
.....
13. Do you have enough visual teaching aids in your unit? Yes
No

.....
.....
14. Do the hearing-impaired pupils have problems in associating the letters and symbols using hand shapes? Yes No

.....
.....
15. Do the hearing-impaired pupils have difficulties in understanding words or sentences presented to them in abstract (not in picture form). Yes No

.....
.....
16. How would you describe the use of English/ American Sign Language in the acquisition of reading skills of the hearing-impaired children? Effective
Not effective

.....
.....
17. Has your school provided a conducive learning environment for teaching literacy to the hearing impaired children (e.g. acoustic room) Yes No

18. Generally, do the hearing-impaired pupils have good reading skills?

Yes No

.....
.....

19. Generally, do the hearing-impaired pupils have good writing skills?

Yes No

.....
.....

20. Is there sufficient time (on the timetable) required for teaching all literacy skills to the hearing impaired? Yes No

.....
.....

21. How often do you conduct reading assessment tests to your hearing impaired pupils? Weekly Every after two weeks

Monthly Termly

.....
.....

22. How often do you conduct writing assessment tests to your hearing impaired pupils? Weekly Every after two weeks Monthly Termly

.....
.....

23. Are the hearing impaired children stigmatized (as a result of their impairment) by the so called 'normal' during play? Yes No

.....
.....

24. Are the children with hearing impairment learning together with their hearing peers during reading lessons? Yes No

.....
.....

25. Are the children with hearing impairment learning together with their hearing peers during writing lessons? Yes No

.....
.....

26. How is the teacher/ pupil ration in your class? Explain the grades you teach.

Normal for a special class Overcrowded for a special class

APPENDIX B

QUESTIONNAIRE FOR PARENTS OF HEARING-IMPAIRED LEARNERS

Dear Parent,

I am a master's student at UNZA carrying out a study on **Factors That Contribute to Low Literacy Achievement Levels** among grade seven pupils with **hearing impairment** in selected special education units in Lusaka district. The information that will be collected is purely for research purposes only. Please spare a few minutes to answer this questionnaire.

Your cooperation is highly appreciated.

INSTRUCTIONS

1. Do not write your name on the questionnaire
2. Tick in the box provided for **'YES or 'NO'** depending on your opinion about the issue.
3. Give an explanation where possible.

SEX OF RESPONDENT: F M

1. Do you read with your hearing impaired child at home?
Yes No
2. Do you have story books for the hearing impaired child to read at home?
Yes No
3. Do you know English sign language? Yes No
4. Are you in formal employment? Yes No
5. Do you help your child to do home work? Yes No
6. Does the school provide reports about the academic performance of pupils?
Yes No
7. Do you think teachers have adequate training and skills to teach the hearing impaired children? Yes No
8. Do the children with hearing impairment often experience isolation and bullying by their hearing peers? Yes No
9. Do you think the school environment is conducive for educating deaf children?
Yes No

10. Do you involve yourself in deciding and determining the methods of learning which your child is engaged in? Yes No

APPENDIX C

PEABODY PICTURE VOCABULARY TEST

CHILD INSTRUMENT (ENGLISH)

Child family name		Child first name	
Parent family name		Parent first name	
Child's birth date		Town	
District		Province	
Sex	<input type="checkbox"/> Male <input type="checkbox"/> Female	Date	
Testing setting	<input type="checkbox"/> Home <input type="checkbox"/> School		
Primary language spoken by child in home	<input type="checkbox"/> Nyanja <input type="checkbox"/> Lozi <input type="checkbox"/> Bemba <input type="checkbox"/> Tonga <input type="checkbox"/> Lunda <input type="checkbox"/> Kikongo <input type="checkbox"/> Lwale Other		
Assessor		Start time	End time

PEABODY PICYURE VOCABULARY TEST

Practice:

I want you to look at some pictures with me. [turn to practice **sample 1**]

See all the pictures on this page. [pointing to each of the four pictures]

I will say a word, then I want you to put your finger on the picture of the word I have said. Let's try. Put your finger on **cat**.

If the subject is correct:

That's fine. [Turn to practice **sample 2**] Now put your finger on dog.

If the subject again makes the correct response, turn to practice **sample 3**, saying:

Good! Show me **sleeping**.

If the subject chooses the wrong illustration at any point, before going on to the next item, point out the correct responses while saying: You made a good try, but this is the correct answer.

Test:

Fine. Now I am going to show you some other pictures. Each time a say a word, you find the best picture of it. When we get further along, you may not be sure you know the meaning of the word, but I want you to look carefully at all the pictures anyway, and choose the one you think is right. Point to [begin test items below]

SET 1

ITEM	WORD	KEY	RESPONSE	ERROR	DK
PPV 1	Brocken	2		E	
PPV 2	Yawning	2		E	
PPV 3	Tortoise	1		E	

PPV 4	Dressing	1		E	
PPV 5	Picking	4		E	
PPV 6	Pair	3		E	
PPV 7	Pulling	1		E	
PPV 8	Pouring	4		E	
PPV 9	Empty	4		E	
PPV 10	Liquid	4		E	
PPV 11	Washing	4		E	
PPV 12	Terrified	1		E	
PPV 13	Sharing	2		E	
PPV 14	Bucket	1		E	
PPV 15	Tugging	2		E	
TOTAL					

SET 2

ITEM	WORD	KEY	RESPONSE	ERROR	DK
PPV 16	Full	2		E	
PPV 17	Caterpillar	3		E	
PPV 18	Arguing	1		E	
PPV 19	Branch	2		E	
PPV 20	Chain	2		E	
PPV 21	Goat	4		E	

PPV 22	Fighting	1		E	
PPV 23	Root	2		E	
PPV 24	Coming	3		E	
PPV 25	Hoeing	2		E	
PPV 26	Printing	4		E	
PPV 27	Time	3		E	
PPV 28	Reading	4		E	
PPV 29	Leaking	3		E	
PPV 30	Injection	4		E	
TOTAL					

APPENDIX D

COMPREHENSION TEST EXERCISE

Read the following passage and answer the questions that follow.

Chimuka saw a big egg lying. He took the egg to an old hen. The old hen was happy. She sat on the egg. And one day the egg hatched out. A little duckling came out. The old hen said to Chimuka: Is that a chick?

Questions:

1. What is a hen?

- A. a duck
- B. a cock
- C. a chicken
- D. a stork

2. What is correct:

- A. an egg came out of the duck
- B. The duck layed an egg
- C. There came an egg out of the duck
- D. Out of the egg came a duck.

3. Who sat on the egg?

- A. the hen
- B. the duck
- D. the chicken
- D. Chimuka

4. What did Chimuka do when he found the egg?

- A. He was happy
- B. He sat on the egg
- C. He brought the egg to a hen
- D. He went with the egg to a duck

5. About what is this story?

- A. a chicken hatches out a duck
- B. an old hen lays an egg
- C. Chimuka bakes an egg
- D. what Chimuka says to the duck

APPENDIX E

TEST EXERCISES TO ASSESS PUPILS LITERACY SKILLS

La Rue reading skills assessment

A. Alphabetical knowledge

1. Rearrange the following letters in order of the alphabetical appearance:

E, Z, Y, B, X, C, P, R, N, M, S, A,

.....

2. Fill in the missing letters

F, G.... I, J, K, L.... N.... P

B. Reading exercises to test pupils sign language ability

3. Read the following words:

(i) Motorbike

(ii) Market

(iii) Photograph

(iv) Camera

(v) Garden

(vi) Memory

(vii) Bicycle

(viii) Aeroplane

(ix) Shadow

(x) School

C. Writing exercises to test the cognitive ability of pupils

Construct meaningful sentences from the following disorganized sentences.

4. Completed Mr Kasonde yesterday making furniture.

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

5. Boy Sunday the to went on church

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

Test exercises to test recall (**cognitive ability of pupils**)

Write the names of the following

6. Your best friend.....

7. Your teacher.....

8. Your father.....

9. The capital city of Zambia.....

10. The first president of Zambia.....

APPENDIX F

Children interview guide

SEX: MALE FEMALE

Home possession

1. Do you own a Television Set in your home? Yes No

.....
.....

2. Do you have a DVD for watching videos? Yes No

.....
.....

3. Do you have a stove? Yes No

.....
.....

4. Do you own a Fridge? Yes No

.....
.....

5. Do you live in an Electrified house? Yes No

.....
.....

6. Do you have running water? Yes No

.....
.....

7. Is there a flashable toilet? Yes No

.....
.....
Home literacy environment

8. Do you have reading story books in your home? Yes No

.....
.....

9. Are there picture books in your home? Yes No

.....
.....

10. Do your parents help you to read books? Yes No

.....
.....

11. Do you play video games at home? Yes No

.....
.....

12. Do the adults read newspapers/ magazines/ books in the home? Yes
No

.....
.....

13. Do your parents write things like notes, shopping lists etc Yes No

.....
.....

Parental economic status

14. Are your parents in formal employment? Yes No

.....
.....
15. Do you live in your own house or a rented house? Yes No

.....
.....
16. Are your parents earning enough income? Yes No

.....
.....
17. Do you have a car? Yes No

.....
.....
18. Do you have enough food at home? Yes No

NAME OF SCHOOL:

