THE EVALUATION OF THE IMPLEMENTATION OF THE PRIMARY LITERACY PROGRAMME (PLP) TO ENHANCE THE READING SKILLS AMONG GRADE 3 CHILDREN WITH HEARING IMPAIRMENT IN SELECTED SCHOOLS IN ZAMBIA

BY

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DECLARATION

I, **LANGSON CHIBUYE**, do hereby solemnly declare that, the Thesis is my own work and has not previously been submitted for a degree at the University of Zambia or any other University and that it does not incorporate any published work or material from another University.

Signed: …… Date……

CERTIFICATE OF APPROVAL

This thesis by LANGSON CHIBUYE is approved as fulfilling the requirements for the award of the degree of Doctor of Philosophy of the University of Zambia.

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DEDICATION

This work is a special dedication to my dear wife Monica and my children Margaret, Memory, Emmanuel and Mavis who have been with me throughout the period of my studies. You indeed made my academic journey look short and simple because you stood by my side even during the lowest moments of my life. Your support and encouragement are immeasurable. I have come to believe that family is much more treasured than anything else. Special dedication goes to Edrick Mulenga, a child living with deafness in our household. He is the reason for my inspiration to undertake studies in the field of hearing impairment.

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ABSTRACT

The goal of this study was to evaluate how well the Primary Literacy Programme (PLP) was working to improve the reading abilities of Grade 3 pupils with Hearing Impairment (HI). This is in light of persistently poor reading among pupils with HI. The PLP is aimed at developing reading abilities of pupils in early grades. However, it is unknown how well the programme is working to improve the reading abilities of Grade 3 pupils with HI.

The objectives of the study were: To assess the levels of proficiency in sign language among teachers of Grade 3 learners with HI; To establish the availability of teaching and learning materials to support in the implementation of the PLP to children with HI in grades 3; To assess the home literacy environment to support the implementation of the PLP to learners with HI and to compare the reading performance of learners with HI to that of non-hearing impaired learners in order to assess the effectiveness of the implementation of the PLP to learners with hearing impairment.

Qualitative data was collected through in-depth interviews with teachers, administrators and parents of children with HI and focus group discussions with teachers. Qualitative data was analysed during the process of data collection. Quantitative data was collected through assessment tests of both HI and non-hearing impaired learners and was analysed using SPSS in order to establish relationships among variables. Descriptive analysis helped to calculate frequencies of variables using the cross tabulation and bivariate correlations. The research involved 30 learners with HI, 30 non-hearing impaired learners, 26 teachers of HI learners, 16 administrators and 13 parents.

The results revealed that the PLP was poorly implemented and did not support reading skills development of HI children because: teachers were not proficient in sign language; the phonic approach was not suitable to children with HI due to its reliance on the use of sounds; children with HI had low alphabetical knowledge, materials for instruction and learning, such as teachers' manuals, visual aids, and reading books, magazines and other printed materials were not readily available at school and at home. It was also established that schools did not have digital hearing aids, cochlear implants and digital communication tools like computers, projectors, and video games to factilitate effective implementation of the PLP to children with HI.

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ACRONYMS

BASAT	Basic Skills Assessment Tool
CDC	Curriculum Development Centre
CPD	Continuing Professional Development
DEBS	District Education Board Secretary
DFID	Department For National Development
ERIC	Education Resource Information Centre
ICT	Information Communications Technology
MoE	Ministry of Education
MOESVTEE	Ministry of Education Science Vocation Training and Early Education
MOGE	Ministry of General Education
NBTL	National Break Through to Literacy
NLF	National Literacy Programme
OECD	Organisation Economic Cooperation and Development
PEO	Provincial Education Officer
PLP	Primary Literacy PROGRAMME
PRP	Primary Reading Programme
ROC	Ready On Course
SD	Standard Deviation
SEN	Special Education Needs
SITE	Stepe Into English
TLM	Teaching and Learning Materials
TLR	Teaching and Learning Resources
UNESCO	United Nations Educational, Scientific and Cultural Organization
UTH	University Teaching Hospital
ZECF	Zambia Education Curriculum Framework
ZNAD	Zambia National Association for the Deaf
ZPC	Zambia Primary Course

CHAPTER ONE

INTRODUCTION

Similar to other nations in sub-Saharan Africa, Zambia has implemented policy changes throughout the past few decades with a specific focus on promoting the development of reading skills, particularly in the early grades. According to Serpell (2014), the search for efficient techniques, methods, and resources to solve the issue of subpar reading outcomes in widespread basic schooling has been the driving focus. Poor reading among learners is a widely acknowledged social problem in Zambia and in many countries in sub-Saharan Africa. This is due to the fact that majority of the region's constantly expanding population finds it difficult to effectively participate in societal advancement and economic growth due to low literacy rates.

World Bank (2022) notes that there is a global learning crisis where too many children experience learning poverty, reaching the age of 10 without acquiring foundational skills such as literacy. This is a worrying situation in that children who fail to acquire literacy skills during foundational grades have limitations to access future education and are excluded from full participation in economic activities of their countries. The issue of learning poverty is critical in the Zambian context. Findings by World Bank (2022) reveal that on a global scale, Zambia has one of the highest global learning poverty estimated at 98.5%. Children of age 10 and below are unable to acquire reading proficiency thereby creating a learning crisis. These findings are consistent with the EGRA report of 2021 (USAID, 2021) which confirms that only 2% of pupils in Grade 2 were able to read the appropriate grade level material. This shows that learners in foundational grades demonstrate consistently low levels of literacy acquisition, creating a weak foundation on which any meaningful education can be anchored.

All children are expected to acquire basic literacy skills at the initial stage of formal education to equip them with a tool for learning. To give them a tool for learning, basic literacy skills are expected of all children at the beginning of formal education. As a result, reading has received priority since many educators and policymakers consider it to be the main objective of education. Reading has received a lot of attention because children in the lower grades consistently demonstrate usually low levels of reading (World Education Forum, 2000; World

Bank, 2022). As a result, one of the main concerns for primary school education is making sure that children learn to read.(MOE, 2013). Therefore, there is a need to enhance all facets of educational quality and ensuring that every child performs to the best of their ability in order for them to attain recognised and quantifiable learning outcomes, particularly in reading, numeracy, and vital life skills. The UN Sustainable Development Goal no. 4 ensures that by 2030, all the youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy (Montoya, 2021). This means that achieving high literacy levels in the classroom is a task that calls for the participation of all educators, and this participation should occur across the curriculum.

All school-age children, regardless of whether they have a learning disability, are therefore expected to pick up reading skills normally in line with their stage of development and their learning capacities. All pupils across the curriculum, including those with Special Educational Needs (SEN), should have access to effective reading instruction to support their reading development. This is because citizens who have reading skills can contribute to national development, will understand their civic rights and obligations through civic engagement and participate in a critical analysis of the national development agenda (Lakstian, 2016). However, the region's constantly expanding population faces major barriers to effective involvement in societal advancement and economic growth due to low levels of reading (Serpell, 2014). Every educational system assumes that all pupils will develop literacy abilities early in life.

Children with hearing impairment may fail to learn or enhance critical reading skills, even though it is assumed that all children will acquire literacy skills naturally in accordance with their level of development (Banda, 2021). Even with the aid of contemporary technical advancements like cochlear implants, there are on-going worries that people with hearing impairment generally do not reach their potential (Scott, 2011) and that they function at a subpar reading level (Archbold, 2015). The Ministry of Education (2008) assessed the reading skills of Grade 7 pupils who had visual, auditory, and mental disabilities. When compared to the other disability groups, it was discovered that pupils with hearing impairment performed badly on reading tests. Following are the performance scores: visually impaired pupils had a score of 41.8%, followed by mentally impaired pupils with a score of 55%. Pupils who have hearing impairment scored the lowest, 33.5%.

The findings of MOE (2008) concur with those made by Van Staden (2013) in a different setting, who noted that:

> *"The reading skills of many hearing impaired children lag several years behind those of hearing children, and there is a need for implementing effective reading support strategies in this population". (p.305).*

Accordingly, Kalabula (2007) echoed that without particular assistance, deaf children struggle to learn to read and that without language, children have trouble understanding and communicating. This suggests that learning to read may take more focus for children who have hearing loss than for those who do not. Better curriculum implementation tactics are therefore required to improve reading abilities, particularly for pupils with hearing impairment.

Chibuye, (2013); Bickham, (2015); Muzata, (2021) are only a few of the research that have been done to attempt and discover a solution to the poor reading development of hearing challenged learners. The findings showed that, in comparison to their hearing peers, most, children with hearing impairment still proceed only at a relatively low level in learning to read and write, a problem that has endured for more than a century (Pintner & Patterson, 1916) and continues to remain today (Qi & Mitchell, 2011, Chibuye, 2013; Bickham, 2015, & Muzata, 2021).

Although research on the reading development of children with hearing impairment have received a lot of attention and interventions, it is discouraging to notice that their reading abilities have remained underdeveloped. Learning the skills necessary to develop as confident readers and to comprehend what they read might be difficult for pupils with hearing impairment. Additionally, hearing impaired individuals have trouble reading and writing since they are unable to decode written words phonetically and understand them (Bickham, 2015). Their capacity to acquire language is constrained and delayed, and they are thus given less opportunities to read than their hearing peers.

More than 30% of pupils with hearing impairment leave school functionally illiterate. Studies by Kelly, (1995); Lederberg et al. (2013); and Gallaudet Research Institute, (2016) all show that eighteen (18) year old pupils with hearing impairment leaving high school grade have only reached the third to fourth grade level in reading skills. This statement demonstrates that pupils with hearing impairment have lower reading skills than pupils without hearing impairment. Reading is an enabling skill. A child who can read can use this ability to learn, whereas those who are unable to read cannot learn on their own. Children who struggle to learn to read in the early primary grades lag behind others and are more likely to leave school because they are less likely to develop into independent learners. According to Reading Horizons (2011), pupils who

struggle with reading leave school at a higher rate than those who come from poor homes. All pupils, especially those with special education needs, should have access to reading programmes in order to reduce the high dropout rates among pupils. In order for disabled children to benefit from education and live fulfilling lives while being able to stand on their own, special education should be supported and promoted in all Zambian schools.

According to Kalabula (2007), special education is instruction that is given to pupils who have obvious physical and mental problems, like being partially blind, partially sighted, deaf, or partially hearing. Salend (2011) provided a different definition of special education, stating that it involves delivering and monitoring a specifically designed and coordinated set of comprehensive, research based instructional and assessment practices and related services to pupils with learning, behavioural, emotional, and physical, health and sensory disabilities. These instructional practices and services are tailored to identify and address the individual strengths and challenges of pupils to enhance their educational, social, behavioural and physical development and to foster equity and access to all aspects of schooling.

This description is consistent with MOE (1996), which states that special education is the type of instruction created and modified to meet the requirements of unlucky children with disabilities who are extraordinary and who are unable to fully realise their innate potential. Children with hearing impairment are one such sad group of children.

The historical background of Special Education in Zambia can be traced from as far back as 1905 in Magwero, Chipata, when Mrs. Isie Hofmeyer, the wife of a Dutch Reformed Church missionary, taught blind individuals how to read and write in braille (Muzata, 2021). The main reason that visually challenged pupils were taught to read and write was to evangelise and spread Christianity. Additionally, people with visual impairment were taught how to operate telephones, become teachers, and become evangelists. In Zambia, special education started at this point.

When Mrs Hofmeyer died, another missionary, Miss Ella S. Botes continued with the provision of education to children with special educational needs by opening a school for the learners with hearing impairment in Magwero, Chipata in 1929 (Snelson, 1970). Later in the years, the Zambian Government continued to provide organised education for special educational needs children through development of educational policies (MOE, 1977);MOE, (1992) and MOE (1996). KasondeNgandu & Moberg (2001) states that the first educational policy document in Zambia pertaining to special education is the Educational Reforms established in 1977. The

document suggested that all handicapped children, like any other child, are entitled to education and should receive basic and further education by full time-study. Further, the document known as Focus on Learning (MOE, 1992) emphasised the mobilisation of resources for the development of school education for all children including children with special educational needs. Finally, another policy document known as Educating Our Future (MOE, 1996) upholds the principle that every individual, regardless of personal circumstances or capacity, has a right of access to and participation in the education system (MOE, 1996). These policy documents stressed on the right to education and the delivery of resources for special learners.

The construction of a college to train teachers of children with Special Educational Needs helped Zambia's efforts to enhance special education. So, in 1971, Lusaka College for Teachers of the Handicapped (now ZAMISE), a college for teachers of children with disabilities, was established with the help of the first president of Zambia (Muzata, 2021). Next, the Special Education Inspectorate was established in the Ministry of Education's main office. As more teachers received training in this area, education for pupils with hearing impairment expanded. It was anticipated that the expansion of schooling for pupils with hearing impairment would lead to greater access to education through the development of literacy. Therefore, in order to encourage the development of children's literacy, it is necessary for education stakeholders and policy makers to continuously monitor and review the implementation of all educational programmes. According to research on some adopted educational initiatives in developing nations, the majority of them have frequently fallen short of their goals because of inefficient execution (Ward, Bourne, Penny & Poston, 2003). The Primary Reading Programme (PRP), which operated in Zambia from 1999 to 2013, was one such programme that aimed to raise early-grade literacy levels of children (Chibamba, Mkandawire & Tambulukani, 2018). It was found that children's reading levels remained low even after this programme had been fully implemented (Mwanza, 2012; Chibamba, 2012). As a result, it is now widely acknowledged that for curricular to be successful, policy makers must take into account and plan for the curriculum implementation stage. A subsequent implementation strategy is necessary for successful programme planning. Consequently, a precise road map and schedule for the implementation process should be provided. Surprisingly, the implementation procedure in developing nations has received little attention (Rogan and Grayson, 2003). In order to gain understanding of the real process of change, potential concerns and problems, and solutions, Dyer (1999) contends that it is vital for research to concentrate on effective implementation processes. Any programme innovation will only fully pay off if it is implemented to the fullest.

The Ministry of Education in Zambia has placed high priority on programs and new curricular to improve reading levels of children. Such programmes frequently have high targets to reach and are carefully designed throughout the planning stage. Due to inefficient execution, these well-intended programmes have not been effectively converted into classroom reality, resulting in less-than-desirable results and significant time and resource loss (Rogan and Grayson, 2003). This means that if a program's key components are not implemented properly, even the best educational initiatives will not provide the desired outcomes (Scheirer and Rezmovic, 1983).

As reading abilities are fundamental and essential for children to operate successfully in life as well as giving chances for future learning, significant efforts have continued to be made to design policies that focus on the promotion of literacy in general and reading in particular. This means that early reading development is essential for children to succeed in higher grades (Whitehurst & Lonigan, 2000). As a result, the curriculum for education in the early grades should emphasise the development of reading abilities. In keeping with what the Ministry of Education (MOE, 1996) asserts,

> *"...a fundamental aim of the curriculum for lower and middle basic classes is to enable pupils to read and write clearly, correctly and confidently, in a Zambian language and in English, and to acquire basic numeracy and problem-solving skills" (p.34).*

This was supported by Ministry of Education, Science, Vocational Training and Early Education (MESVTEE, 2012) which states that;

> *"...at Grade 2 the emphasis is to develop and consolidate the levels of literacy and basic mathematical skills achieved earlier" (p.30).*

According to MESVTEE (2013), effective reading instruction in the early grades creates a solid basis for pupils' retention and accomplishment in later grades. The significance of reading as a fundamental ability for learning across topic areas is emphasised. According to the Education Resources Information Centre (ERIC, 1996), children who learn to read can go on to read to learn other topics, becoming autonomous learners for life. This encourages the early reading development of children.

Concern over the large number of Zambian children who struggled to learn to read and write was growing (Matafwali, 2010; Matafwali & Bus, 2013). The Southern African Consortium for Monitoring Educational Quality (SACMEQ; 1998) showed poor reading performance at

grade six level in the Zambian Basic Schools, supporting the evidence of poor reading among Zambian children. Children from Zambia and Zimbabwe demonstrated the worst reading skills among the six subSaharan nations studied (Mauritius, Namibia, Zambia, Tanzania, Zambia, and Zimbabwe), both in English and in their native tongues. As a result of these unfavourable literacy achievement levels in contrast to other Sub-Saharan countries the Zambian Government has been motivated to reform the language policy in an effort to raise literacy standards in the country (Nkamba & Kanyika, 1998). A language policy that would help pupils read fluently and confidently is needed to be put in place immediately.

As a result, Zambia has created numerous programmes over the past 20 years to raise children's reading levels. One of the interventions was the implementation of the Primary Reading Programme (PRP), a literacy programme that was created in 1999 with assistance from the Department for International Development (DFID) of the United Kingdom between 1999 and 2005. After DFID's project life cycle concluded in 2005, MOE continued to fund the programme through 2014. The PRP's goal was to raise pupils' reading and writing proficiency in the lower and middle basic schools (MOE & DFID, 2000). Due to the pupils' persistently poor levels of literacy in primary schools, some measures have been made. Poor reading among children creates a barrier to the full attainment and benefit of education programmes.

The New Breakthrough to Literacy was the first of the PRP's various components (NBTL). According to MOE & DFID (2000) and Chibamba et al. (2018), the NBTL was a child-centred, language experience method that placed an emphasis on teaching literacy to pupils in their mother tongues—languages that they are already exposed to at home. The NBTL acknowledges the importance of mother tongue in the acquisition of early reading abilities. According to the programme, first-graders must be taught to read in a language they are acquainted with, preferably their mother tongue, and second-graders must solidify their reading abilities in the local language (Kotze & Higgins; 1999).

The second part, known as Step In-To English (SITE), saw a build-up to the NBTL (Mwanza, 2011). This literacy course was designed to prepare pupils for Grade 2 fluent and accurate reading and writing in English. In addition to NBTL and SITE, there was also an Oral English Course (Pathway 1 and 2), a teacher's manual for oral competence in English, to give pupils in grades one and two the oral vocabulary they needed to be prepared for the Read On Course (ROC), which was available from Grades three through seven. As was previously mentioned, the PRP was a very ambitious programme that placed a strong emphasis on the development of

reading among pupils in the first through third grades. The poor levels of literacy among pupils in Primary schools were expected to be remedied with the complete implementation of the PRP. , Educational administrators and other stakeholders hoped that the PRP's implementation would boost early grade school children's reading levels in Zambia.

The PRP, however, ran into difficulties following its implementation period since it fell short of its objectives. The PRP's goal was to ensure that children in Zambian schools would attain improved reading and writing skills at the lower and middle basic levels by the end of first grade so they could study more successfully across the curriculum. Kanyika (2002). According to MOE (2006) and Mwanza (2012), reading proficiency among school-aged children was still quite low. The usefulness of the PRP on the reading development of children with hearing impairment has not been established in studies pertaining to this topic.

Through the Zambia Education Curriculum Framework (ZECF), which it designed, the MOE created yet another programme as part of its on-going efforts to enhance and successfully administer reading programmes in schools (MESVTEE, 2012). Based on the ZECF, the National Literacy Framework (NLF) was developed (MESVTEE, 2013). The (NLF) established a set of guidelines for teaching and learning literacy in all Zambian schools using the seven local languages distributed as follows- Lunda, Luvale and Kikaonde in North-Western province, Silozi in Western province, Chinyanja in Eastern and Lusaka provinces, Citonga in Southern and parts of central province, Icibemba in Northern, Luapula, Muchinga, Copperbelt and parts of Central province. The approach emphasizes on creating successful readers through the integration of the nine components of reading which include Pre-reading and pre-writing, Sounds (Phonemic Awareness, Phonics, Words, Sentences, Comprehension and Writing, Punctuation and Fluency (Kapambwe, 2013; Kapambwe, 2022). These competences, once incorporated in the teaching context, were expected to develop a learners ability to read, write, speak and listen.

The NLF further developed a programme to advance early grade literacy in Zambia. This programme is called the Primary Literacy Programme (PLP) which makes sure that pupils have literacy abilities before moving on to Grade 2 and higher grades. (MOE, 2013). Kapambwe (2014) states that the PLP, an approach to Early Grade literacy, focuses on reading instruction which is anchored on developing key competence skills in phonemic awareness, phonics, fluency, vocabulary and comprehension. The PLP emphasized the use of a local familiar Zambian language as a medium of instruction from Pre-school to Grade 4. This is so because the use of a local language as a medium of instruction at foundational level eases transition from

local language to English (MOE, 2013). In line with the statement, Kabamba, Mkandawire and Tambulukani (2018) states that the PLP is based on building pupil's oral language skills and vocabulary by ensuring that pupils attend to specific letter sounds and ensure a link is made between letters and sounds. This develops pupils ability to identify sounds, read syllables, form and read words and through attacking letters and syllables. Once this is achieved, learners are able to develop fluency reading and become proficient readers.

The purpose of this study was to evaluate the PLP's efficacy in enhancing the reading abilities of Grade 3 learners with hearing impairment in a few schools in the Lusaka, Mansa, and Samfya districts. The study's main objective was to evaluate how well the PLP was promoting the reading development of third-grade pupils with hearing impairment. The issue of poor reading among school-going children with hearing impairment in the early grades will endure if the present PLP being used in schools is not studied to determine its efficacy.

The Ministry of Education (1996) has committed itself to providing good quality education to all children by upholding the principle that:

> *"...every individual, regardless of personal circumstances or capacity, has a right of access to and participation in the education system" (p.66).*

The Ministry has committed to addressing the educational requirements of exceptional children by creating suitable curricula and instructional materials (MOE 1996). It is clear from the statement above that the Zambian Ministry of Education made sure that pupils with Special Educational Needs have equal access to educational opportunities (SEN). This assertion is in keeping with Serpell & Jere's (2011) views, who suggested that plans for the majority of children's schooling should also include children and youth with SEN. This implies that every educational curriculum created by the Ministry of Education must take children with SEN into account. All initiatives to raise children's literacy levels should take into account the types of disabilities that pupils in schools may have. The purpose of special education is to guarantee that all children with SEN are successfully educated in mainstream or special settings from early childhood through high school (MOE, 1996).

However, despite this commitment to special education, reading skills development among pupils with hearing impairment has continued to lag, limiting their access to and full participation in education (MOE, 2008).

As a result of the continued low reading development among learners with hearing impairment, the researcher examined the effectiveness of the implementation of the Primary Literacy Programme (PLP) to enhance the reading abilities of Grade 3 learners with hearing impairment.

1.2. Statement of the Problem

Poor reading development in the early grades among learners with hearing impairment is a persistent challenge around the world (Pintner and Patterson, 1916, Conrad, 1979, Goff, Pratt and Ong, 2005, MOE, 2008, Van Staden, 2013, Chibuye, 2013, Muzata, 2021). Zambia's MOE is implementing a programme called the Primary Literacy Program (MOE, 2013) to address the challenge of poor reading among children. The programme's objective is to enable pupils to read simple sentences by the end of Grade 1 and to ensure that pupils have knowledge before moving on to Grade 2 and higher grades. Though the PLP is being applied and implemented, it is unknown how well it is improving the reading abilities of Grade 3 learners with hearing impairment. This study sought to investigate the benefits of PLP to pupils with hearing impairment in terms of improvement of their reading abilities. Further, based on an understanding that reading is a skill, it is not known as to what is the best methodological approach to teaching pupils who have hearing loss. Hence this study sought to gain an understanding of the effectiveness of the PLP in enhancing reading skills of learners with hearing impairment.

1.3. Purpose of the Study

The study sought to examine the effectiveness of the implementation of the PLP to enhance the reading skills among Grade 3 learners with hearing impairment in selected schools of Lusaka, Mansa and Samfya districts.

1.4. Objectives of the Study

The main objective of the study was to evaluate the effectiveness of the implementation of the PLP to enhance the reading skills among Grade 3 learners with hearing impairment in selected schools of Lusaka, Mansa and Samfya districts.

The study was guided by the following specific objectives:

1. To assess the levels of proficiency in sign language among teachers of Grade 3 learners with hearing impairment.

2. To establish the availability of teaching and learning materials to support the implementation of the PLP to children with hearing impairment in grades 3.

3. To assess the home literacy environment to support the implementation of the PLP to learners with hearing impairment

4. To compare the reading performance of learners with hearing impairment to that of non-hearing impaired learners in order to assess the effectiveness of the implementation of the PLP to learners with hearing impairment.

1.5. Research Questions

How effectively is the PLP being implemented to enhance the reading skills among Grade 3 learners with hearing impairment? The study sought to answer the following specific research questions:

1. How proficient are teachers in sign language to support the Implementation of the PLP to enhance the reading skills among Grade 3 learners with hearing impairment?

2. Is there support from school administrators in the provision of teaching and learning materials suitable in the implementation of the PLP to children with hearing impairment in grade 3?

3. Is there parent involvement to support the reading skills development of learners with hearing impairment?

4. How is the performance of learners with hearing impairment and non-hearing impaired learners in reading skills?

1.6. Significance of the Study

This study is designed to examine the effectiveness of the implementation of the PLP to enhance the reading skills among Grade 3 learners with hearing impairment in selected schools of Lusaka, Mansa and Samfya districts.

It is hoped that the study will provide some information to teachers and educational administrators on how successfully the PLP can be implemented to improve reading skills of pupils with hearing impairment since little is known about the reading abilities and difficulties faced by pupils with hearing impairment. The study would present a chance to develop better PLP implementation techniques, which would result in increased reading abilities among pupils with hearing impairment. Additionally, it is hoped that the study will offer data based on research on how to raise reading proficiency, particularly among teachers of pupils with hearing

impairment. It is also hoped that the study will have an impact on the formulation of regulations that will help teachers create teaching and learning materials that will help them overcome obstacles when attempting to teach the PLP to learners with hearing impairment. The study is also anticipated to spark interest in teacher educators and educational leaders for additional investigation into the literacy development of pupils with hearing impairment.

1.7. Theoretical Framework

Constructivist and social constructivist theories served as the foundation for the study's theoretical framework. Constructivist and social constructivist theoretical frameworks have been embraced by child learning and development experts to explain how children learn and develop their reading abilities. These theories' proponents contend that participation in social interactions is essential for learning to occur (Vygotsky, 1987). Vygotsky believed that the growth and acquisition of literacy are rooted in culture, through learning language as a cultural tool. According to him, culture is crucial in supporting learners through adult and peer support as children develop, learn, and give their education meaning (Bruner, 1983; Clark, 2019).

Similar to this, Vygotsky's (1978) socio-cultural theory of cognitive development was said by Kozulin (2001) to be built on the idea of "psychological instruments." He noted that the psychological tools are representations of the symbolic cultural artefacts, such as signs, symbols, texts, formulas, and language itself, which is the most fundamental of all. According to him, learning a language is the key to developing psychological skills such as memory, perception, and attention in a way that is appropriate to one's culture. Language is so essential for children's reading development.

Ramsey (1997) supported the constructivist and social constructivist theories by asserting that the educational context places a strong emphasis on pupils' development as "social beings," on schools as places where group life is valued highly, and on social interaction as the primary catalyst for learning and growth. Ramsey (1997) asserted that teaching and learning have strong social roots for all children. This is in line with the firm assertions by Vygotsky (1978) that learning triggers a number of internal developmental processes but that these processes can only function when a child interacts with others in his surroundings and works cooperatively with his peers. According to Vygotsky's (1978) theory of learning and development, children can only learn with the help of outside resources like tools, materials, and symbolic objects. The tool's purpose, he said, "was a mechanism through which human exterior action was directed at conquering and triumphing over nature."

Uttal and DeLoache (2006) found that utilising concrete objects in a symbolic way to symbolise the contents of boxes helped children understand the concept of using letters as representations. This finding is in line with Vygotsky's (1978) who found that learners can easily grasp the reading abilities with the use of materials like crayons, scissors, pencils, and line paper on the one hand, and symbolic ones like alphabetized word lists on notice boards, calendars, and other teaching aids on the other. With the help of these, pupils can interact with their context, which includes both the current, local location (such as a classroom) and the historical and cultural traits that the settings convey.

According to Vygotsky's theory, the development of children's reading abilities depended heavily on the use of language, the organisation of space and equipment, and the pedagogical methods used by the teachers. Vygotsky (1978) described signification as a distinctive mental process by which people give meaning to random stimuli. His idea that human development and learning proceeded via interactions with the environment and other people in it led to his understanding that human learning was determined by the social and historical context. The contact between the teacher and pupils, let alone between the pupils and the classroom resources, is essential to the development of reading.

The social constructivist school of thought contends that a person's environment has an impact on their ability to learn (Bakhtin, 1986) and that reading is taught to children in the same manner that language is, via interaction and communication with those around them. According to this theoretical framework, children acquire ways of knowing, comprehending, and communicating in their families, their extended families, their communities, and society without even realising it. The main idea is that learning happens through interaction between a more skilled and knowledgeable person (such as a master craftsperson) and a less skilled person (such as an apprentice or beginner) Dominguez & Svihla (2023). In order to help the learner absorb certain reading-related concepts through the process of externalising mental processes, interaction can be thought of as the conduit through which knowledge is formed.

Through scaffolding, learners with hearing impairment achieve independence of learning. Working in collaboration with a skilled instructor or more knowledgeable peers, learners with hearing impairment can develop the much-needed skills required to perform a reading task Borgna, Convertino, Marschark, Carolyn and Morrison (2010); Swanwick, R. (2015). Additionally, an active participation of learners through interpersonal and social process will enable hearing impaired learners to interact with text materials including elements of the text such as letters, words, phrases and sentences to arrive at meaning. The constructive and social

constructivist theory will help enhance interaction and communication of children with hearing impairment with the people around them.

As it is closely related to the reading acquisition, growth and development of children with hearing impairment, the constructivist and social constructivist theory (Vygotsky, 1987) can be applied to the development of reading abilities in children with hearing impairment. The majority of reading skills, such as alphabetical awareness, letter knowledge, and phonemic awareness, have been shown to not develop in hearing pupils at the same rate as they do in hearing pupils (King & Quigley, 1985; Muzata, 2021). Therefore, to address the on-going issue of poor reading among pupils with hearing impairment, Vygotsky's concept of scaffolding (Brunner, 1983) can be used. Independence in the learning process is achieved for pupils with hearing impairment through scaffolding. Learners with hearing impairment can master the crucial skills required to complete a reading task by cooperating with an expert instructor or more experienced classmates. Additionally, learners with hearing impairment will be able to interact with text materials, including text elements like letters, words, phrases, and sentences, to arrive at meaning through interpersonal and social processes. The social and constructive constructivist theory can improve how well learners with hearing impairment connect and communicate with others around them. Children who have challenges with hearing learn language through interaction and communication with others, which ultimately lead to better reading abilities. In order for a child to learn, Vygotsky (1987) emphasises the value of language and social interactions. More seasoned community members also play a significant role in the development of the child's higher order thinking skills.

1.8. Definition of Terms

Sign Language: Ability to interpret and produce of signs that are meaningful to a linguistic context

Assistive devices: External equipment designed or adapted to assist a disabled person to perform a particular task.

Exceptional Child: A child with a disability or a gifted and talented child

FM systems: Wireless assistive hearing devices that enhance the use of hearing aids and cochlear implants

Learning Poverty: The proportion of children who cannot read and understand a simple story and fail to acquire foundational literacy skills by the age 10.

Literacy: An individual's ability to read and write.

Primary Literacy Programme: The national plan for improving literacy at Primary levels of the school system in Zambia

Primary Reading Programme: A reading programme developed in Zambia to improve reading and writing levels of pupils at the lower and middle basic schools

Hearing: The lowest level where the subjects respond in at least 50% of the tone presentation series.

Hearing impairment: A general term for the malfunction of the auditory mechanism

Implementation: The act of putting into practice an innovation which comes out of the desire to change a phenomenon

Non-hearing impaired: Learners with functional auditory system

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.

Reading: The process of constructing meaning from written texts.

Individualized Education Programme: Extra learning activities designed to scaffold children with special educational needs often conducted outside classroom hours.

1.9. Limitations of the Study

Implementation of the PLP in schools is a wide topic that involves all learners across the curriculum in the country. This study could not address all learners, but focussed specifically on the implementation of the PLP to enhance the reading skills among grade 3 children with hearing impairment in schools of Lusaka, Mansa and Samfya districts. This, therefore, means that the findings may not be generalized to other disability groups, not even to the non-hearing impaired learners.

The other limitation was noted during the process of data collection. Since the study dealt with learners with hearing impairment, the researcher had communication challenges due to

limitation in sign language. This prompted the researcher to recruit teachers who were familiar with sign language to help in communication between the researcher and children with hearing impairment.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter reviews literature related to literacy acquisition, growth and development in children, with a particular focus on how reading programmes for learners with hearing impairment can be developed and implemented. The literature reviewed is related to the way learners with hearing impairment are taught how to read. Such literature has been selected in order to add credibility to the study as proposed by Gall, Gall & Borg (2009) that:

> *"...unless your study explicitly builds on the work of other researchers in your area of inquiry, it is unlikely to contribute to research knowledge" (p.96).*

In a similar context, Gall et al. (2009) emphasized that if research was to make a substantial contribution, it must be based on adequate knowledge of the field and the study's introduction must reflect this knowledge.

Therefore, the chapter aims at reviewing literature related to reading development of children in line with research findings by different researchers and writers. The chapter discusses different approaches to implementing reading programmes to learners with hearing impairment.

2.2. Definition of reading

Reading is the process of creating meaning from written texts. Anderson, Hiebert, Scott, and Wilkinson, (1985) assert that reading is a complicated skill that calls for the synchronisation of several connected informational sources which involves looking at a collection of written symbols and deriving meaning from them. The process of communicating to humans involves utilising human eyes to read written symbols like letters and punctuation marks that are sent to the brain for the translation of symbols into words, phrases, and paragraphs. The RAND Reading Study Group (2002) expanded the definition of reading by noting that reading is a process of extracting and constructing meaning through interaction and involvement with the

written language. This means that interactions between the reader, the text, the activity, and the wider sociocultural milieu all contribute to the reading experience.

Purcell-Gates, Duke, and Stouffer (2016) argued that the definitions of reading must go further by attending to the process as it occurs in the context of sociocultural constructed literacy practices, including the values, beliefs and power relations that characterise those practices, such as those related to language, gender, ethnicity, religion, economics, and geopolitics.

According to this broadened understanding of reading, literacy must take precedence over reading as the subject of study because reading cannot be understood in isolation. Reading should consider how the meaning of the written text fits within the cultural norms and practises that have been historically and culturally accepted. It should be supplemented by a language that serves as a medium for the instruction of reading.

2.3. Definition of Literacy

Literacy is the process of employing reading, writing, and oral language in the context of socially placed practises to construct, integrate, and criticise meaning through interaction and involvement with multimodal texts (Rintaningrum, 2009; Pearson & Tierney, 1984). We can communicate successfully and understand the world when we are able to read, observe, write, design, speak, and listen in a certain way. It is the capacity to convey meaning through written, printed, or electronic signs or symbols.

According to Pilgrim and Martinez (2013), the ability to use technology for information collection and communication has become more and more reflected in the concept of literacy. As a result, pupils need to master the 21st century technologies like information literacy, digital literacy, and web literacy in order to be considered literate in today's society. This is in line with UNESCOs view of literacy. UNESCO (2023) asserts that the definition of literacy should go beyond the conventional concept of reading and writing, but should be viewed as a process within the context of an increasingly digital, text-mediated, information-rich and fast-changing world which requires communication through identification, understanding, interpretation, and creation of meaning. Literacy involves a larger set of skills, which include digital skills, media literacy, education for sustainable development and global citizenship as well as job-specific skills.

According to Christie (2003), literacy is the capacity to make sense of visual information (visual literacy), use various mediums to convey information (media literacy), make sense of

musical information (musical literacy), and work effectively with a variety of subject matters and technology (for example mathematical literacy and computer literacy).

There have been four significant changes in how literacy is viewed. First, literacy encompasses procedures for both receptive skills (such as hearing and reading) and productive skills (such as speaking and writing), which are more similar than dissimilar, especially in terms of their essentially constructive, or transactive nature (Smagorinsky, 2001). Reading and writing both entail the skill of listening, which involves hearing the sounds of a language being said before speaking or writing it down. This means that in order to read and write, a person must first be able to hear and talk well. While using productive skills like speaking, one correctly pronounces the words and then writes the uttered words on paper, using receptive skills, one obtains knowledge by listening and reading.

The development of reading skills begins with the ability to hear and communicate. Additionally, reading and writing are part of literacy. Reading and writing round out the definition of literacy in the sense that reading written material increases one's understanding.

Learning to read and write is the primary skill in acquiring literacy. According to Whitehurst and Lonigan (2000), reading proficiency is an important milestone for children growing up in a literate culture. This indicates that reading skills are a crucial component of the basis for children's academic and post-school success. Individuals who read well and read frequently actually learn more across a wide range of topics. According to Whitehurst and Lonigan (2000), this can only occur in a setting that encourages learning. Additionally, the learner must be given access to this environment through communication channels and learning materials that make sense to them. The availability of reading materials and the promotion of leisure reading are environments that support reading programmes.

Mastery of spoken language, reading, and writing are all components of literacy. Thus, there is a connection between spoken and written language development. These changes occur both at the household and educational levels (Taylor, 1988, ZNAD, 2001). Children learn language for the first time in their homes through interactions with family members and other children. After then, the neighbourhood and the school continue to use it to improve language. The basis for learning to read and write is laid after this takes place.

This study followed the definition that was advanced by the National Literacy Framework-MOESVTEE (2013) which defined literacy as:

"...the ability to read and write so as to understand and communicate effectively" (p.5).

This definition supports the notion that increase in literacy improves communication there by leading to higher self-esteem and a willingness to participate in community activities.

The ability to read and write as well as verbal and non-verbal communication allows individuals to think, communicate, and act for a number of purposes both within and outside of the classroom. The ability to read and write is essential for academic success as well as for participating fully in social, economic, cultural, and political life. Most significantly, it benefits both the individual and society. This implies that lacking essential literacy skills causes the individual to fall behind in all aspects of their life. They will not be able to succeed academically as a child, won't be able to find employment as a young adult, and won't be able to fund their own children's education as parents (National Literacy Framework, 2017). Higher levels of literacy increase a person's likelihood of completing school and earning a better-paying job. A fairer society and socioeconomic mobility are made more challenging by this intergenerational loop. Higher self-esteem and a willingness to take part in community activities are results of increased literacy (MOE, 2013). Since a solid foundation in early literacy acquisition is linked to positive school accomplishment and that these results are associated with later adult productivity, all educators are expected to support the development of literacy among learners.

2.4. Reading development in children

Reading fosters the growth of children's critical thinking abilities, knowledge, language skills and life experiences. In order to increase the learning capacity of children, emphasis should be made on encouraging learners and giving them the right direction and opportunity to read (Curriculum Development Institute, 2010).

According to Mc. Gee and Richgels (2000), the goal of developing reading is to encourage each child's development while providing it with deliberate teaching to help it become a reflective and motivated reader. Dogan, Ogut, & Kim, (2015) postulates that early reading skill is a strong predictor of reading performance in later grades. On the other hand, children whose reading growth lags in early grades tend to have lower performance in subsequent grades AIR-NAEP (2023). Early reading encounters for children typically occur in the home during the early stages of development. This happens when a child is exposed to literate materials such as interpreting pictures and writing through scribbling (Lungu & Matafwali, 2020). Early reading

activities integrate social connection, empathy development, and cognitive and world-learning growth. Mandyata (2016) argues that storytelling, singing, rhymes, crayons, pens, playing, chatting, and exploring the world around children and their families together is the first step in the development of reading skills.

The fundamental abilities of language, phonological processing, and print awareness all have an impact on learning to read (Chikopela, & Ndhlovu 2016). Children who lack these elements may not be able to participate in many reading curricular activities and are more likely to have long term reading difficulties (Whitehurst & Lonigan, 1998). The children who are most likely to develop into competent readers are those who are well-fed and thriving in secure homes and neighborhoods, who are fostered by strong families and receive the services they require from residing in caring communities (National Research Council, 1998). The development of reading skills in learners with hearing impairment is significantly influenced by sign language, reading, writing, home, and instructional practices. This suggests that in order to ensure that children develop the most important reading abilities, the home and the school should work together.

2.4.1. Reading development in children with hearing impairment

Numerous studies appear to suggest that learners with hearing impairment face several barriers in education (Muzata & Mahlo, 2019; Simalalo, 2019). Hearing-impaired pupils perform poorly on reading tests when compared to non-hearing impaired pupils and other pupils with disabilities. Marschark (2007) observed that just 15% of deaf adolescents performed at an appropriate age level, with reading levels in those with hearing impairment reaching a maximum level similar to fourth grade. Qi and Mitchell (2011) observed that children with hearing impairment leaving school demonstrated retarded development in reading skills proportionate to 9 year old children who are non-hearing impaired. This observation is consistent with findings by Kyle and Cain (2015) that compared the performance of hearing impaired pupils with that of non-hearing impaired in reading comprehension. The study revealed that hearing impaired learners demonstrated poor reading comprehension skills.

The results of the aforementioned studies demonstrate that it will be difficult for pupils with hearing impairment to learn to read because of their extremely low reading skills. Hearing-impaired pupils are likely to encounter more difficulties if they attempt to pursue tertiary courses with a maximum reading capacity comparable to primary school pupils in the fourth grade by the time they are in their last year of secondary schooling.

The reading abilities of Grade 7 pupils with hearing, vision, and mental impairment were evaluated by Zambia's Ministry of Education. Compared to other impaired groups, hearing-impaired pupils did badly on the assessment, scoring 33.5%, whereas the mentally and visually impaired pupils scored 55% and 41.8%, respectively (MOE, 2008). These research findings have increased attention in trying to find solutions to the issue of children with hearing impairment having difficulties in reading. Reading is the window into knowledge since it provides a foundation for learners to survive within the framework of the school education system, so educators should always give reading instruction to pupils with hearing impairment. Şahin et al. (2016) found that children who cannot read and write are unable to remain in school because they give up on their own and finally drop out. Hearing-impaired pupils who struggle with reading do not fully benefit from chances that come with earning an education.

According to Musselman's (2000) theory, learning to read requires knowledge of both general and specialised languages, as well as the manner the text is encoded. For pupils to learn to read, it is essential to comprehend how print is encoded and to appreciate that it moves from left to right. For pupils to learn to read and write, it is necessary for them to have a working grasp of print and the alphabet (MESVTEE, 2013). The ability to read in a language should be taught to learners first and foremost.

Researchers have found that children who have hearing loss have a harder time learning to read because they lack phonological awareness, print knowledge, and knowledge of the language used in print (Goldin-Meadow and Mayberry, 2001, Chibuye, 2013). Phonological awareness works better for non-hearing impaired learners. For learners with hearing impairment, placing focus on acquisition of alphabetical and linguistic knowledge at lexical and syntactic levels is an essential component in the development of reading (Alegria and Dominiquez, 2009). Learning to read requires skills like decoding, where phonological knowledge is crucial, and comprehension, where linguistic knowledge is more crucial. These two categories of talents could be thought of as particular (reading decoding) and non-specific (linguistic skills) components of reading (Alegria & Dominguez, 2009).

2.4.2. Sign Language and reading development of learners with hearing impairment.

Language is crucial to the acquisition of reading skills. MESVTEE (2013) notes that:

> *"... While many factors affect education quality, the language of classroom instruction fundamentally impacts on a child's ability to read and learn". (p.10).*

Since the language of instruction is crucial to the development of reading, it is imperative that teaching and learning is conducted in a familiar language. The use of a language that is familiar to student makes it easier for pupils to pick up knowledge and abilities. The Zambian Education Curriculum Framework (ZECF) (MESVTEE, 2013), advocated the use of the familiar language thus:

> *"... all the teaching and learning in all the learning areas at the Lower Primary level will be in familiar Zambian Languages, ...this is because there is evidence that children learn more easily and successfully through languages that they know and understand well" (p. 20).*

This demonstrates how teaching and learning, as well as the growth of reading skills among pupils, are improved through the use of a familiar language. Language is frequently taught to pupils who have hearing loss through the use of signs. Wakumelo and Miti, (2010), asserts that pupils with hearing impairment should be exposed to sign language to ensure their full participation in the learning process. In support of this statement, Mandyata, (2011) proposes that children with hearing impairment should learn sign language as a language since this is the only available language for people with hearing impairment. Sign language facilitates effective learning of children with hearing impairment in ways that helps them grasp the concepts easily. This is because sign language is the only familiar language of the hearing impaired community. Acton (2012) asserts that because sign language is the only form of communication available to those who are deaf, it serves as their only mother tongue. Therefore, one of the variables supporting the development of reading skills in pupils with hearing impairment is the use of sign language as a medium of instruction. In actuality, sign language serves as a medium through which children with hearing impairment are taught academic materials across the curriculum. In line with above statement, Kumatongo, (2019) postulates that for learners with hearing impairment, the use of non-verbal communication using word signs and body language facilitates their learning, while Mandyata & Kamukwamba, (2018) observes that if teachers use unfamiliar mode of communication, the learning achievement of learners with special educational needs will be affected. This shows that pupils with hearing impairment benefit more from instruction in sign language in the early years.

According to Salomons, (2016)), sign language is a visual form of communication that allows users to use gestures made by hands, body, and facial expressions to convey abstract concepts.

It emphasises a visual manner of discourse that offers a readily understood linguistic signal. Since learning sign language is the major means of communication for those who have hearing loss, learning sign language can aid their attempt to read.

Learners with hearing impairment who were exposed to signing at home find it simple to acquire reading and writing from hearing-impaired teachers. According to the Zambia National Association of the Deaf (ZNAD), if a deaf child grows up around hearing people, the child and hearing people inevitably develop some form of signing as a means of communication. The declaration emphasises how crucial early exposure to signing is for a child's success in school. Additionally, teachers' proficiency in sign language and special education training are very helpful in helping pupils with hearing impairment learn sign language.

Sign language is determined by the culture of a given society and is applied differently by different communities. (ZNAD 2001) 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" (p.19).*

According to Chibuye (2013), there are numerous sign languages, many of which are not understandable to one another, which is consistent with the aforementioned claim. This claim demonstrates how sign language is not universal. Since sign language is not universal, each nation should develop its own system that is appropriate for its surroundings.

When used to promote reading among learners with hearing impairment, sign language has an educational impact. According to Conrad (1979), sign language contains a lexicon that enables conversation about educational subjects like ethics and poetry. As a result, teachers must be proficient in sign language in order to instruct learners who have hearing impairment. Teachers who are proficient in sign language can develop close relationships with pupils who have hearing impairment.

Language can be learned through the visual rather than the auditory. Children who have hearing loss can learn sign language instead of spoken language. The use of sign language and other visual aids, such as text with pictures, can help individuals learn or develop their reading

abilities. The deaf child should therefore possess sufficient sign language abilities to make it easy for him or her to learn to read (Durkin, 2014).

A child with hearing loss should be seen as a whole, as a capable learner who, in order to grow, needs a visual environment, and that the issue does not lie with the child but with the environment. This means that adults should interact with children who have hearing impairment in their visual environment and help them comprehend how hearing is taken for granted in our society. If this is done, they will find learning to read and write to be a fun pastime.

Compared to non-hearing impaired children, language development is delayed in children with hearing impairment. Their inability to comprehend auditory input or a lack of exposure to visually encoded language are the two main causes of these delays (Spencer & Meadow-Orlans, 1996). This means that lack of language, which stems from inadequate visual and auditory processing, rather than hearing loss, poses the main obstacle to children with hearing impairment learning to read. Language acquisition is a complex process that involves representation and the use of cognitive processes. Early in life, young children with or without hearing loss respond to their environment similarly. This marks the beginning of language acquisition. Jusczyk (1997) contends that infants with hearing loss are sensitive to visual input and touch, whereas hearing infants are sensitive to sounds of a language in the first few months of life by recognising sentences with grammatical flaws. As a result, young children with hearing loss require fundamental visual experiences that help them learn to speak. However, due to a lack of access to sensory inputs that establish the connections necessary for language development, many children with hearing loss are at risk throughout the early stages of brain development (Easterbrooks, 2002).

2.4.3. Sign Language proficiency of teachers

Sign language proficiency among teachers is the foundation for good reading skills development and a factor in the inclusion and academic performance of pupils with hearing impairment (Sibanda, 2015). Therefore, it is essential that teachers of pupils with hearing impairment possess advanced sign language abilities. There are basic prerequisites, according to literature, which teachers need to possess in order to be able to utilise sign language as a primary medium of education. Such teachers ought to possess credentials in addition to being proficient in sign language (Hoemann, 1983). Teachers of pupils with hearing impairment who are proficient in sign language have significant positive effects on inclusion and learning.

It is likely that a primary school teacher who is proficient in sign language can help pupils learn more efficiently and create strong bonds with them through interactions with both other pupils and the instructor. Poor sign language proficiency among teachers creates a barrier to the successful learning of pupils with hearing impairment. Mulonda (2013) observed that inadequacies in teacher training of teachers of pupils with hearing impairment result in lack of skills needed to prepare learners for future education and the world of work. Non proficiency of teachers in sign language was also noted by Muzata, (2017) and MOE (2014) who observed that teachers in Zambia lacked sign language skills. It is therefore imperative that teachers must be highly proficient in sign language in order to instruct pupils with hearing impairment.

According to Sibanda (2015), teachers' improper use of the appropriate instructional medium is the biggest cause of the hearing-impaired pupils' subpar academic achievement. This assertion was supported by Chifinda & Mandyata, (2017), who observed that challenges in the medium of instruction and modes of communication among teachers results in poor performance of pupils with hearing impairment in reading. In a similar context, a research by Kiyaya and Moores (2009), reveals that teachers of hearing-impaired pupils in Sub-Saharan Africa were unable to sign and did not consider sign language to be a full language. According to Savage, Savage, Evans, and Potter (1986), average high school-aged pupils with hearing impairment read at a third-grade level, with performance improvement rates being at best poor. The researchers also proposed the notion that learners with hearing impairment experience academic difficulties primarily as a result of inadequate teacher-student communication. In agreement with this claim, Glaser & Van Pletzen (2012) noted that the use of haphazard and simplistic signing, exaggerated speech, or arbitrary manually coded systems that fall short of functional sign language by teachers is one of the causes the poor reading of learners with hearing impairment.

In Greece, Nikolaraizi (2000) discovered that teachers of pupils with hearing impairment frequently faced difficulties in working with pupils with hearing impairment due to ambiguity and/or a lack of sign language proficiency. In addition, specialist teachers serving as sign language interpreters in Zimbabwe's rural elementary schools were reported by Musengi and Chireshe (2012) to be unable to sign many intellectual concepts, indicating a need to assess sign language skill levels among teachers of the learners with hearing impairment. Learners with hearing impairment do much worse in school in learning to read than their hearing counterparts due to a lack of fluency in sign language.

2.4.4. Print knowledge and phonological awareness, phonics, fluency, comprehension, vocabulary, writing and punctuation

Following well accepted methodologies, literacy instruction includes teaching the foundational abilities needed for both reading and writing. Being able to read well demands having a firm grip on a number of fundamental concepts in practically any alphabetical language where print may be converted into sounds. These include phonological awareness and print knowledge, as well as phonics, fluency, vocabulary, and understanding (MESVTTE, 2013). This emphasises the idea that literacy involves a variety of skills that, when combined by the learner, result in a person who is functionally literate. The literacy skills are explained here under:

1. Print knowledge and phonological awareness

Reading development depends heavily on phonological awareness and print knowledge. According to Dickinson and Neumann (2006), learning literacy encompasses a wide range of elements, including children's language development, comprehension of print rules, print knowledge, and phonological awareness. DesJardin and Ambrose, (2010) states that print knowledge and phonological awareness are critical to the development of early reading abilities of children with hearing impairment. With the support of cochlear implants and digital hearing aids, hearing impaired children can access speech spectrum.

A key predictor of formal reading instruction is print knowledge, a multidimensional entity. It includes children's comprehension of the types of print (such as letter or word knowledge), the characteristics of print (such as the direction in which print appears on a page, from left to right), and the purposes of print (Strickland & Schickedanz, 2004). It is the knowledge that words can be created from the sounds that print letters make, and that stories can be told by reading them from left to right. Given the significance of print knowledge for the development of reading in young children with hearing, young learners with hearing impairment likewise likely place a high value on this skill.

Print knowledge and phonological awareness trigger the development of reading in children with hearing impairment. Cupples, Ching, Crowe, Day, and Seeto (2014). Phonological awareness is the capacity to recognise and manipulate spoken language's sound elements. Early infancy phonological awareness skills gradually shift from larger to smaller units and remain consistent until school age for hearing children (Lonigan, 2006; Ziegler & Goswami, 2005). As a result, phonological awareness is essential for hearing children because they possess the ability to

analyze the spoken words through sounds (Dickinson & Neuman, 2006). The phonic approach to reading typically bases its fundamental process on the sounds of individual letters or groups of letters. Hearing impaired children who may have auditory access have the ability to develop phonological awareness skills.

2. Phonics

Phonics is a method used to teach reading by learning the sounds that groups of letters make when spoken. It involves teaching children to read by identifying the individual sounds in a word and blending them together MESVTTE (2013).

Children with hearing loss, however, do not have the opportunity to listen to sounds and as such lack phonological awareness (Chibuye, 2013). Children with hearing impairment often lack significant development in any of these pre-reading skills, in contrast to the normal hearing child who comes to the reading assignment having a significant amount of them. Hearing children find it simple to learn to read and write by using this higher order mental skill (Marschare et al, 2002). The situation is different for a child with hearing loss who must struggle to learn the letters because they cannot hear or understand their sounds. The challenge for this child is to develop fundamental cognitive and verbal abilities, as well as decoding abilities. The use of reading strategies that presuppose the existence of an auditory language that the child with hearing loss does not possess and reading materials that presuppose a level of real-word knowledge and fundamental linguistic skills that the child with hearing loss has not attained make this task even more difficult.

Accordingly, reading and writing need two connected skills: first, one must be conversant with a language, and second, one must comprehend how that language corresponds to the printed word (Chamberlain & Mayberry, 2000). On both counts, hearing-impaired pupils are at a disadvantage. The hearing-impaired child lacks access to phonological code, and many of them are not fluent in any language. This makes learning to read and write considerably more challenging for pupils who have hearing impairment.

A few studies have shown that hearing impaired readers can access phonological information via a combination of speech reading, finger spelling, articulation, and exposure to writing although none of these alone appears to be sufficient (Leybaert, 1993); The ability to use phonology appears to be related to the degree of hearing loss, speech intelligibility, and reading level.

3. Fluency

Reading fluency is the capacity to generate meaning from text with accuracy, automaticity, and expressively (Pikulski & Chard, 2005; Gunning, 2010). Because it offers the crucial link between word reading (i.e., word identification) and understanding, fluency is a crucial reading skill. With typical hearing readers, Fuchs, Fuchs, Hosp, & Jenkins (2001) discovered strong connections between reading fluency and comprehension. The effortless processing of text by fluent readers frees up working memory resources for higher level reading functions like word and phrase recognition, accessing past information, analysing syntax, and checking for comprehension. Kelly (2003), on the other hand, observes that people who struggle with fluency read texts slowly and devote a lot of their cognitive resources to word recognition and decoding, which reduces the amount of processing power available for meaning.

Children with hearing loss are deprived of the opportunity to experience a language and sound-rich world. As evidenced by the study cited above, developing phonemic awareness is essential to learning to read fluently. In comparison to their hearing counterparts, children with hearing impairment are generally at a disadvantage since they cannot automatically learn the relationship between letters and sounds without explicit training and access to sound. Children with hearing impairment also have a smaller vocabulary and fewer general life experiences than children without hearing impairment. Additionally, a lot of children with hearing loss do not learn spoken language as well as their counterparts who have normal hearing (Robertson and Flexer, 1993). It is obvious that a variety of variables hinder hearing-impaired children from learning to read successfully. However, the development of cochlear implants (Bankaitis, 2007) has significantly impacted the capacity of a child with hearing loss to read fluently.

4. Comprehension

Reading, as opposed to simply decoding of material, is determined by comprehension. We read because we want to be able to understand the ideas and words that are being communicated. Reading comprehension is one of the most complex human activity because it requires a combination of other skills like phonological awareness, understanding the orthography of the language, semantic represenations and to use the rules of syntax to connect the words (Perfetti & Stafura, 2014). This calls for the overall mental process to derive meaning from the text, and to integrate meaning across sentences. In order to develop the 21st skills of learners, there is need to develop the basic comprehension. This means that lack of foundational reading skills

renders the attainment of comprehension difficult. If comprehension is to be attained, learners should develop linguistic understanding so as to use semantic information at word level to infer sentence and discourse meaning.

Studies on reading comprehension have shown that pupils with hearing impairment perform poorly on this task. Ng'andwe & Phiri (2017) reported that learners with hearing impairment had faulty reading comprehension and writing skills. The report indicated that poor reading comprehension skills among learners with hearing impairment affected their performance in examinations. Similar sentiments were reported by Manchishi (2015) who found that learners with hearing impairment had challenges comprehending test items due to the inclusion of certain terminologies that confuse them. Chifinda & Mandyata, (2017) also confirmed the poor performance of pupils with hearing impairment attributing it to language of instruction, poor comprehension skills and inappropriate formative and summative assessments used by teachers and the examinations council of Zambia.

5. Vocabulary

Vocabulary is essential for communicating, reading, thinking, and learning.

Vocabulary has been defined as:

> *"the storehouse of word meanings that we draw on to comprehend what is said to us, express our thoughts, or interpret what we read" (Moats, 2005, p. 7).*

Montgomery, (2007) and McGee & Richgels, (2000) states that the ability to use language in a variety of circumstances and for a variety of reasons depends on the depth and breadth of one's vocabulary, which is closely connected with their total language development. These researchers have shown that children's early vocabulary development in school affects their later reading comprehension abilities. Most vocabulary knowledge is acquired by children through regular talks with adults, siblings, and classmates that revolve around routines, games, nursery rhymes, songs, and reading activities (Snow, Griffin and Burns 2005). Children learn words indirectly through conversations with knowledgeable language users who pay close attention to the young child's attempts at communication and who engage children in a discussion about an interest-piqued object or activity. The skilled language user models new vocabulary, elaborates on the child's statements, prompts to continue the discussion, and addresses conversational breakdowns all at once. As a result, the amount and quality of language input that young children

have been exposed to at home throughout their early years of life is a key element in explaining disparities in vocabulary size among them (Hart & Risley, 1995).

For children with hearing impairment, developing vocabulary is a daunting task. In his study, Flexer (2007) established that vocabulary development in children with hearing impairment was rather slow. In cases where children with hearing impairment are exposed to abstract words like jealousy, after, before, are, the, a and an, they find difficulties comprehending them. On the other hand, they learn concrete and action words easily e.g. stone, jump, cat and red. Another study conducted by Nielsen, Luetke, & Stryker, (2011) found out that children with hearing impairment faced challenges in acquiring and comprehending vocabulary. This statement was consistent with Connor, Hieber, Alexander Arts, and Zwolan, (2000) who reported that vocabulary growth of 7 year hearing impaired children was delayed by 3 years compared with hearing children. Vocabulary development was almost half that of hearing children. A study conducted by Cupples, Ching, Crowe, Day, and Seeto, (2013) noted that vocabulary levels of 5-year-old children with hearing impairment was limited. These studies all point to the fact that children with hearing impairment exhibit poor vocabulary which has a negative effect on their reading development.

According to Cole & Flexer's (2007) argument, pupils with hearing impairment exhibit vocabulary knowledge that is quantitatively less than their counterparts who have normal hearing. Learning new words takes longer for pupils with hearing impairment, and they also have smaller lexicons, slower learning rates, and a smaller pool of situations from which they can learn new words. Part of the challenges that lead to poor vocabulary among children with hearing impairment is the very nature of sign language that limits its users from exploring more vocabulary (Muzata, 2019). Limited sign language vocabulary limits teacher's ability to teach vocabulary effectively. As a result, learning new language for reading is difficult for children who have hearing loss.This is so because acquiring language is a complex process.

6. Writing

The teaching of literacy must include writing. In the beginning, teachers should encourage pupils to write freely, including drawings, shapes, and approximate spellings. There are various writing phases, including emerging, pictorial, pre-communicative, semi-phonetic, phonetic, transitional, and traditional. Teachers should be taught to understand the above stages and to help pupils advance gradually from one to the next.

All pupils find writing to be a challenging assignment since it demands precise word spelling, proper syntax, semantic and pragmatic knowledge, and proper punctuation. For pupils with hearing impairment who experience a delay in the development of their language abilities, writing expression, which necessitates the combined use of many talents, is even a more difficult and complex undertaking (Schirmer, 2000).

It has been discovered that learners with hearing impairment do poorly in writing tasks. According to Antia et al. (2005), pupils with hearing impairment performed worse on writing tests than their peers who had normal hearing. Two potential causes for this include the fact that reading and writing instruction is insufficient and that hearing-impaired children are unable to gain language experiences as rich as those of their classmates with normal hearing ability (Karasu, 2004). Learning to write among learners with hearing impairment is a unique experience in that many approach the reading tasks without a fully acquired oral language. Hall, Eigsti, Bortfeld, & Lillo-Martin, (2018) and Humphries, Kushalnagar, Mathur, Napoli, Padden, Rathmann, & Smith, (2016) suggest that this is common among children with hearing impairment and results in a good number of them learning how to write without any background language to support the academic knowledge.

7. Punctuation

One of the most crucial components of teaching children to read and write is punctuation. According to Najat (2020), punctuation in English is a series of symbols that direct the reader's gaze to the phrase, sentence, or paragraph that is the major unit of the text. Additionally, it demonstrates the type of relationship between them so that one can quickly and clearly understand what it means. Punctuation is crucial because it aids in the clarification of any ambiguous language when the author is not there (Quirk et al., 1985). Punctuation should be used to make information clear because there is no interface interaction between the writer and the reader. The need for punctuation will emerge as pupils start to employ simple words and convert spoken word to written language. A broad sequence of punctuation is used, such as margins, capital and small letters, full stops, question marks, commas, and exclamation marks. For learners with hearing impairment, poor writing skills have been identified in writing composition through spelling, grammar, punctuation and written composition Graham & Harris (2011).

2.4.5. The role of oral language in reading development

Children's oral language development influences their ability to read. According to Clay (1975), oral language helps to reduce the complexity of the process of reading, which is similar to the process of thinking. He made the case that children apply oral language skills they've developed during play with friends and family members to the reading environment. The importance of oral language as a foundation for teaching reading and writing to learners is emphasised by this statement. However, in a reading environment, learners with hearing impairment do not contribute any oral language. Apart from lacking oral language skills, hearing impaired children do not possess language skills such grammar, vocabulary and syntax thereby leading to poor word reading. Hearing impaired children who lack age appropriate oral language will finding difficulties in the acquisition of reading skills and accessing auditory information (Musselman, 2000). Therefore, reading skills among children with hearing impairment have been found to lag several years behind hearing children (Van Staden, 2013. The acquisition of reading by pupils with hearing impairment is negatively impacted by this circumstance.

Even though they may have equivalent intellectual capability, children with hearing impairment do not approach reading from the same base as non-hearing impaired children. Children with hearing impairment struggle to master linguistic and grammar structures, as well as using oral communication expressively and receptively. Tomblin, Oleson, Ambrose, Walker & Moeller, (2018) compared the oral language outcomes of hearing impaired children with hearing children. The results revealed that by the age of 8, children with severe hearing impairment scored lower than the hearing children. This shows that children with hearing impairment lack the auditory language and its accompanying experience, cognitive abilities, and linguistic skills. Thus, for them, learning to read also involves gaining experience, growing cognitively, and learning a new language. Therefore, it should not come as a surprise that the majority of children with hearing impairment struggle to learn to read and write.

2.4.6. The role of parental involvement in reading development

There is a substantial body of evidence that supports the value of parental participation in children's reading development (Hutton et al, (2017). Children who have access to good books and whose parents read to them frequently improve their reading and writing abilities. Furthermore, children who are encouraged by their parents to record their titbits of experiences, thoughts, and reflections in diaries that can be transformed into stories show rapid reading

development. To further elaborate on this, Strickland & Schickedanz (2004) propose that learners learn language and reading concurrently in settings that allow them to read, write, listen, and speak for a variety of real-world objectives.

Because not all children immediately understand the connection between print and words, children need their parents' help to understand the relationship between the written word and oral language (Boerma, Mol, and Jolles, (2018). When reading stories to their children, parents should be aware that they are stimulating their children's adult intelligence and laying the grounds for formal reading training (Niklas and Schneider, (2013). Therefore, it is crucial to avoid understating the significant role that parents play in fostering a love of reading in their children. Aram et al. (2006) found that support that mothers provided in guided reading and writing were the building blocks upon which receptive language, letter knowledge and phonological awareness are built. This is to say, parents who understand their responsibility to encourage their children to read and write outside do so by designing their activities such that their children can actively participate in reading and writing.

Parents who make reading a regular part of their lives make an effort to encourage their children to read. In line with the previous findings, Simalalo (2017) observes that parental support and involvement have been identified as critical to positive learning outcomes. Parental involvement involves provision of educational support strategies to children in form reading materials like books, magazines, newspaper and any other reading material. This is in line with suggestions made by Simalalo (2017) who recommended that parents are expected to offer significant support to their children at home to support their education. Therefore, parents should make sure their homes are well-stocked with books, magazines, and other printed materials so they may read to their children or encourage them to read independently.

Parents who see reading as a form of entertainment are more likely to have children who share that interest and develop into proficient readers, claim Baker & Scher (2002). According to their research, parents read aloud to their children at least five or more times a week in households with easy access to reading materials. On the other hand, most parents only read to their children once or twice per week in houses where books are not as readily available. Anderson (2000) also makes the point that parental expectations of their children's talents determines how much support they will render to children, and how conducive their homes are to reading.

In contrast, Baker and Scher (2002) contend that parents who believe their children are not engaged in reading or who do not yet interact with books in a printed-word manner do not

hold the same expectations for their children. According to research, parents can significantly help their children develop their reading skills by creating an environment that is stimulating for language, reading, and writing as well as by encouraging the school's reading programme at home throughout the foundation phase and secondary school years of education (Hornby, 2000).

The foundation of education has always been deep rooted in the children's ability to read and write. For those who have hearing loss, reading might be more vital than for hearing people. According to Moore (2001), a deaf person's access to the outside world, beyond the general knowledge that may be learned through word of mouth, frequently hinges on whether they have mastered reading and writing fluently. Similar to this, reading and writing may play a significant role in a deaf person's capacity to communicate with hearing people.

Due to reading's auditory foundation, children with hearing impairment have a tremendous deal of trouble learning to read and write. Through effective auditory and vocal communication with their parents, non-hearing impaired children can readily pick up literacy skills. This gives children a foundation of real-world knowledge to use for reading readiness (King and Quigley, 1985). It also supports the growth of the cognitive and language skills necessary for reading success. This is consistent with the assertion made by Marschare et al (2002) that the first step in reading development is to respect each student's home language, prior knowledge, and cultural experience and to determine what he or she already knows and can do upon entering school.

2.4.7. Home literacy environment

Both hearing impaired learners and those without hearing impairment benefit directly from a variety of home literacy activities. Reading development and high achievement of reading skills impacts positively on the growth and development of children (Baroody and Diamond, 2012). In a similar context, Parrilla, Kirby and McQuarrie (2004) observes that social, cultural and genetic factors affect children's reading development. Therefore, both hearing-impaired learners and those without hearing impairment benefit directly from their cultural experiences through a variety of home literacy activities. It is crucial that families provide a conducive and supportive home literacy environment for children to learn phonological awareness and alphabetical knowledge.

Homes with a rich home literacy environment such as books, toys and other activities of a reading nature that stimulate children's reading tend to provide opportunities for children to

acquire literacy skills with less difficulties (Niklas and Schneider, 2013). As soon as a child is exposed to and becomes aware of books and other items from a literate position in the home, the first stage of learning to read begins Through television, the outdoors, street signs, food labels and reading aloud to parents and others, children are exposed to print on a daily basis. Children gain reading awareness through exposure to reading events. In their study, Reynolds and Werfel, (2020) observed that families of learners with hearing impairment that invest in reading materials like books significantly improves children's reading ability. Reading proficiency may benefit from elements including parental homework supervision, the availability of reading resources at home, and parental restrictions on television use.

Other aspects to take into account in the reading development of learners with hearing impairment consist of taking the child to the library once a week, having parent-child conversations on educational TV shows, and letting the children utilise writing supplies around the house Boerma et al., (2018). Others include parents reading to their children on a regular basis, parents singing and reciting nursery rhymes, parents involving their children in writing activities at home, and parents and children playing language and rhyme-based games. Included are also the parent pointing to words and letters on the page as the child and parent are reading a book together, as well as the parent asking the child questions and encouraging them to do so.

Children who have more interest in books and read more both at home and in schools become successful readers. The quantity of reading that children do both in and out of school determines how successful they are at learning to read. According to Caro, Lenkeit, & Kyriakides, (2016) pupils who who are exposed to reading both at home and in school are better able to understand the reading text. Interest in reading activities at home has a major positive impact on children's enthusiasm in reading, attitudes towards reading, and attentiveness in class, in addition to their reading achievement, language comprehension, and expressive language skills. Early exposure to reading materials at home helps children develop their reading skills. This is accomplished through the help of peers and literate adults who encourage children to read by reading aloud to them.

When learning to read, learners with hearing impairment who also have hearing impaired parents frequently perform better. This is a result of the rich circumstances in which they were raised, which emphasised visual qualities in children rather than primary aural inputs. According to Bailes, Erting, Erting, & Thumann-Prezioso (2009), hearing-impaired parents can create visual literacy settings with a fluid communication system. Due to their ability to translate between

sign language and English while reading, hearing-impaired parents have an edge when teaching reading to their hearing-impaired children. Deaf parents would naturally adapt their linguistic and cultural practices to the requirements of their early children because there is no language barrier between them and their deaf children.

Parent-child relationship in a reading context provides the basis for children's reading development. Hutton et al, (2017) argues that reading together between a parent and a child at home is a good strategy to encourage language and literacy as it promotes all milestones of children's reading development. This means that teachers should encourage parents to read aloud to their hearing-impaired children at home because doing so enhances the child's interaction with reading materials, which in turn helps children who have hearing impairment read better. Giving hearing-impaired pupils reading assistance at home boosts their self-confidence in reading tasks and helps them develop a robust vocabulary. By doing this, hearing-impaired pupils acquire language and pre-literacy abilities on par with those of their hearing-impaired peers (Akamatsu & Andrews, 1983). It has been observed that deaf mothers who read to their children usually employ certain reading methods that make the book visually accessible. For instance, parents can place themselves so that they and the child with hearing loss are looking each other in the eye.

The learning of reading is difficult for learners with hearing impairment who were born to hearing parents. Most children with hearing loss are born to hearing parents, according to research. Swanwick and Watson (2005) established that majority of parents do not know sign language when their child is born, found, and they might not have access to the hearing-impaired community or the reading techniques employed by hearing-impaired parents. Communication barriers between parents and their children who have hearing impairment are caused by parents' lack of knowledge of sign language. As a result, children with hearing loss live in homes that do not promote their reading development. Children's ability to access a literate world, including reading books, periodicals, charts, and newspapers, is hampered by a poor literacy environment. Therefore, it is crucial that parents of pupils with hearing impairment set up their homes to provide a conducive environment for pupils to access reading materials.

2.4.8. The importance of assistive devices in teaching reading to learners with hearing impairment

The development of assistive technologies in the present era has helped to open up educational options for pupils with hearing impairment. According to UNESCO, (2005) assistive technology

aids in the growth and improvement of hearing impaired people's functional abilities. People with hearing are liberated from relying on others for survival due to assistance devices. These tools can help people with hearing impairment be independent during the teaching and learning process because additional possibilities are provided for them.

Hearing aid technology and communication supportive technologies are two examples of the assistive gadgets that help deaf pupils learn. Hearing assistive technology like cochlear implants, infrared systems, and FM Bankaitis (2007); Lederberg et al (2013); Fitzpatrick et al. (2011) systems aid those who have hearing loss in listening to and understanding sounds. In order to assist pupils with hearing impairment in learning to read, communication-supportive devices such as computers, smartphones, tablets, amplifiers, and projectors all create spoken, visual, and auditory content.

According to Moores (2001), access to electronic mail via the internet and the development of telecommunication equipment for children with hearing impairment give these children constant practise in reading and writing. This is advantageous because a person needs to be literate in order to use these communication gadgets. To put it another way, technology encourages pupils with hearing impairment to learn to read. Hearing aid technology is one of the most helpful tools that help pupils with hearing impairment learn. According to Bankaitis (2007), cochlear implants, infrared systems, and FM systems aid those who have hearing loss in listening to and identifying sounds.

Technology devices should be made available to deaf pupils so they can access the wealth of internet knowledge that is available. Learning to read is facilitated for pupils and children with hearing impairment who have access to electronic devices like computers and the internet. These electronic products and services open up access to reading content, which helps children learn to read.

2.4.9. Use of technology in teaching reading

It is necessary to employ visual materials that are connected to people with hearing impairment's everyday environments while teaching reading and writing to hearing impaired pupils. Learners with disabilities should be exposed to technological learning tools such as video, film and multi media such as movies and television support their learning and clarify concepts that may be challenging to them (Muzata, 2017). Real texts and materials are more suitable since they provide readers who are hearing impaired with a complete and accurate understanding of the

text's main points. Pupils with hearing impairment are drawn into reading activities by the use of materials with visual displays and pictures.

Banda, (2021) observes that technology is an important aspect because it allows students to combine various media in bridging and creating a seamless form of education which learners with hearing impairment can acquire without any barrier. He states that technology tools like google documents and blogging, including watching sign language videos cartoons all inspires learners with hearing impairment to attain the much required reading skills to support them into further education.

One example of a technology improvement that benefits children's reading development is electronic books. Electronic text books, otherwise known as e-textbooks refer to published materials such as books and journals which are readily available on digital platforms and can be accessed through computers, mobile phones, and tablets Embong, Noor, Hashim, Ali and Shaari (2012. E-text books provide an opportunity to learners to access reading materials to supplement the hard copy text books in schools more so in instances where hard copy text books may not be available. Al-Mashaqbeh, (2015) states that through an interactive way, learners have access to e-textbooks which are an important resource to learning. E-textbooks provides an opportunity enable pupils with hearing impairment and troubled readers to develop interest in reading enjoy books on their own. Therefore, having more opportunities to explore e-stories could really help pupils develop crucial reading abilities.

Advantages of e-texbooks is that it is cheaper to access them than printed books. Additionally, e-textbooks are easier to carry and can be accessed anywhere through back-up as well as internet. (Patel & Morreale, 2014).

Despite this technological advancement that have come through the provision of e-textbooks, a study by Dobler, (2015), show that students and teachers still prefer printed text books to e-textbooks. Some of the reasons advanced by teachers as being barriers to the use of electronic books are that there has been lack of training of teachers to use the e-platform and lack of access to electricity by some schools, Mehdipour & Zerehkafi (2013).

Hearing impaired learners should be supported by ensuring that e-textbooks are provided. Texts with well-chosen grammar and vocabulary would be the most successful for hearing-impaired readers since they acquire language at the same time as they learn to read. When reading texts with context, hearing impaired readers do better than when reading texts with

isolated words (Marschare et al, 2002). Concrete nouns and well-known action verbs are easier for learners with hearing impairment to comprehend and employ than more abstract or broad phrases that they are less familiar with. As can be inferred from the information provided above, learners with hearing impairment can strengthen their reading skills with the help of a well-planned reading lesson accompanied by the use of tangible visual technology. Less difficult terms should be used in texts created for pupils with hearing impairment, and they should be contextualised within the lives of those individuals. This suggests that teachers of learners with hearing impairment should spend time to prepare reading lessons for their children. When choosing which technology tool to utilise and what appropriate reading materials pupils with hearing impairment should be exposed to, teachers should exercise cautious consideration.

2.4.10. The importance of reading books in reading development of children

The availability of Teaching and Learning Materials (TLM) improves the efficiency of schools because they are fundamental items that can result in pupils performing well academically (Ngao, Okongo, and Rop, 2015). The availability of textbooks and supplementary Teaching and Learning Materials (TLMs) is the factor that consistently improves pupils reading proficiency . Lack of text books in classrooms restricts pupils' capacity to develop their reading skills and participate in worthwhile reading activities. This indicates that it is essential for children to read books in order to strengthen their reading skills.

The fundamental instruments that improve efficient teaching and learning are textbooks and reference resources.

According to Likolo et al. (2013), the lack of instructional resources and physical infrastructure prevents the educational system from more fully meeting contemporary needs. In agreement with the aforementioned assertion, MOGE (2017) makes the point that the chronic issue of a lack of text books is a significant barrier to enhanced learning. Studies conducted by Kombe and Mwanza (2019) and Mkandawire, (2010) reveal that lack of Teaching and Learning Materials (TLMs) has had a negative impact on the implementation of reading programmes in schools. Lack of quality text books in Zambian schools have been worsened by the liberalization of the book policy. Musilekwa and Mulenga (2019) argues that the liberalization of the book policy which resulted in the privatization of textbook publishing led to the production and distribution of poor quality text books in schools. This trend has resulted into poor quality of teaching and learning.

According to Adeogun (2001), academic achievement and instructional resources have a very strong, favourable, and significant relationship. He noticed that schools with more resources fared better than those with less resources. Mwiria (1985) offers additional evidence that the calibre and quantity of teaching and learning resources have an impact on pupils' performance. The author pointed out that institutions with appropriate resources, such as textbooks, had a higher likelihood of succeeding in exams than those with inadequate resources. Therefore, it is essential to increase the availability and supply of instructional resources, such as textbooks and other school supplies, in order to raise the calibre of instruction in classrooms.

In supporting the importance of TLMs, Uttal and DeLoache (2006) supported the use visual learning materials in reading development by noting that teachers should use concrete objects in a symbolic fashion since representations of the contents of boxes helps children gain insight into the idea of using letters as representations. They supported the use of other materials that promote literacy such as crayons, scissors, pencils, and line paper on one hand, and symbolic ones such as alphabetized lists of words on bulletin boards, calendar, spelling and other support materials help learners master the reading skills with ease. With these, the learners can engage with their context, both the immediate, local setting (e.g., classroom) and the historical and cultural features transmitted by the settings.

The pupils' ability to read is hampered by the ongoing textbook deficit. As a consequence, pupils score poorly academically in reading assignments and on national exams.

2.5. Approaches to teaching reading

The following strategies were suggested by Carmen Simich-Dudgeon (1989) for teachers to employ in order to improve learner's reading abilities. These approaches were also supported by other scholars as seen below:

2.5.1. Whole language approach

The whole language learning approach considers language as a whole. It emphasises how acquiring reading should be approached holistically by combining abilities such as speaking, listening, reading, and writing Mwansa (2017), with the belief that learning to read is as natural as learning to speak. , This method is based on the connections between oral language and the transition to reading and writing in everyday contexts.

The whole language approach emphasizes on teaching children to read words as whole pieces of language (Moats, 2007). According to advocates of the whole language strategy, children develop meaning through their interactions with the text and other readers. This is backed by Vygotsky and Piaget's research (Vygotsky, 1987; Piaget, 1957). The whole language approach places a strong focus on teaching language (including reading) in context and the necessity of viewing the child as a whole person who actively participates in social and cognitive aspects of life.

Due to the emphasis placed on interaction with the text and other readers, learners with hearing impairment might gain from this method of teaching reading and writing. Therefore, if the school fosters an environment where both hearing-impaired and non-hearing-impaired pupils are allowed to interact during reading, learners with hearing impairment can improve in reading and writing. The interpersonal challenges that pupils with hearing impairment may encounter can be addressed through mainstreaming. In fact, proponents of mainstreaming and inclusion frequently assert that having hearing peers around helps learners with hearing impairment both linguistically and socially.

The Whole Language Approach can help pupils with hearing impairment strengthen their reading skills. This is due to the focus placed on social interaction as the foundation for the growth of reading and writing. Pupils with hearing impairment and those who are non-hearing impaired should be allowed to engage freely throughout reading and writing assignments in schools. The interpersonal issues that pupils with hearing impairment may encounter can be resolved through mainstreaming. Since children are active and creative learners, they need to be given social interaction frameworks in order to foster their learning.

Environments that encourage the use of sign language remain crucial to pupils who have hearing impairment. Findings indicate that pupils with hearing impairment read using a code that is not reliant on sound, and that pupils with hearing impaired parents read more proficiently than pupils with hearing parents (Conrad, 1979). One explanation for this is that children with hearing loss whose parents also have hearing loss are more likely to have their hearing loss detected early, receive the necessary educational support, and be proficient signers. As a result, while dealing with the teaching of reading to pupils with hearing impairment, the whole language approach can be applied. Learners should be given the opportunity to apply their creativity and potential during the learning process. Learners should be provided a supportive environment at school where they can play, learn, and acquire new information on their own. As they continue their learning activities, this will become autonomous thinkers.

Pupils with hearing impairment can learn to read using the whole language method. The Whole Language Movement, another name for this method, is based on a transactional (interactional) model of education rather than a transmission (from teacher to pupils). With this method, the teacher's job is to help the pupils create new meaning. This methodology is acceptable since it allows pupils the chance to choose what they should learn. With the teacher acting as a facilitator while developing teaching and learning materials, there is greater interaction and communication among learners themselves. In any instance, learners can be involved in creating new information as well as teaching and learning materials.

Although children are engaged and inventive learners, they require social interaction frameworks in order to learn (Bruner, 1977). Hearing-impaired learners who interact with sign language later in childhood end up being less adept and may never catch up in adulthood than those who do so earlier.

Findings indicate that pupils with hearing impairment read using a code that is not reliant on sound, and that pupils with hearing parents read more proficiently than pupils with hearing parents (Wakumelo and Miti, (2010); Mandyata & Kamukwamba (2018; Conrad, 1979). One explanation for this is that children with hearing loss whose parents also have hearing loss are more likely to have their hearing loss detected early, receive the necessary educational support, and be proficient at sign language. Therefore, the whole language approach should be used when dealing with the teaching of reading to learners with hearing impairment. Learners should be given an opportunity to use their creativity and potential during the learning process. Schools should foster an environment where pupils can play, learn, and acquire new information on their own. This will enable learners to be independent thinkers as they continue to engage in learning activities.

2.5.2. Language experience approach

The language experience method places a strong emphasis on the linkages between common forms of communication and the shift from oral language (hearing and speaking) to written language. It was created to improve oral language abilities and to develop an awareness of the processes and requirements for written language, such as reading and writing (Hall, 1978). This method enables learners to discuss their personal experiences with significant events they took part in. The teacher's job is to encourage the pupils to think back on their experiences by assisting them in practising the ideas that eventually become written texts. The texts are then

shown to the entire class for discussion. The title is then noted by the teacher and spoken aloud to the class. The aim is for the pupils to read the text that the teacher has displayed. The learner then moves from oral language to reading and writing in this manner. This enables the student to read complete stories as opposed to individual words, phrases, or sentences. The language experience approach enables a child to create their own mental interpretations of occurrences through materials such as conversation posters and pictures based on the local environment of the home, the school, the town and the farm, which are used to elicit key sentences for lessons (Sampa, 2005).

Learners who use the language experience technique become more proficient in oral communication. With this method, pupils read and write texts that are based on their experiences and observations from field trips and other experiences, and they also write based on their own experiences and observations from other experiences. Learners find this method of teaching reading to be particularly engaging since they always look forward to reading passages written by other pupils. This encourages learners to look forward to numerous additional reading experiences.

The language experience approach sits well with reading development of pupils with hearing impairment in that it emphasizes on reading real life experiences of children's day to day interactions. The stories created by pupils have meaning and are real, based on the field trips they undertook, the people they interacted with and the real situations they experienced. In a classroom situation, the use of conversation posters and pictures (Sampa, 2005) with real life experiences can foster reading skills development of children with hearing impairment.

2.5.3. The eclectic approach

The eclectic approach is a flexible teaching strategy that, depending on the goals of the class and the unique characteristics of the pupils, mixes the fundamentals of multiple language-teaching techniques. This method allows the teacher the opportunity to choose resources and instruction strategies based on the scenario and the requirements of the pupils (Carmen Simich-Dudgeon, 1989). It places a strong emphasis on learning the entire linguistic structure in a systematic manner, from vocabulary to sentences with a focus on understanding. The sentence can be broken down into words, then into syllables, then into letters, and lastly into appropriate sounds once word meaning relationships have been mastered. Based on the requirements and skills of the pupils, the instructor can borrow from and modify a variety of different teaching

philosophies using an eclectic approach. This adaptable and elastic method keeps learners' needs in mind (Murphy, 1973).

The benefit of the eclectic method is that by incorporating a number of tactics offered by various teaching philosophies into the teaching process, it liberates teachers from the traditional style of teaching. A teacher may request various strategies throughout a single reading lesson in order to meet the requirements of all pupils. This strategy can be utilised to make sure that pupils with hearing impairment gain something from all reading activities because they are a specific case of learners.

2.5.4. The didactic approach

To subsequently become competent readers and writers, children require parents who will read to them repeatedly. The teacher structures the learning process using prepared lessons and lectures to provide learners clear instructions. This is known as a didactic teaching technique. This method involves giving the student direct instruction from the teacher. This flexible teaching strategy uses a step-bystep manner to structure the instructional procedures.

Children with hearing loss can learn to read using a didactic method. Lewis (1995) asserts that children with hearing impairment need a variety of instructional strategies with a predisposition towards reasonably structured procedures to support this claim. This necessitates adaptability in teaching strategies and thorough observation of children's learning. In a didactic approach, teaching and learning take place in a much more welcoming and adaptable setting where the teacher values each child's abilities and structures instruction and learning using a step-by-step procedure to make sure that every student fully understands the concept being taught in a particular lesson.

2.5.5. Skills-based approach

In the skills based approach, the focus is acquiring language abilities which include phonemic awareness, spelling, sentence construction, reading fluency, vocabulary growth, and fundamental comprehension. This strategy views a learner moving forward in a linear growth of growing sophistication (Paris, 2005; Stahl, 2011). It is based on the theory of how children learn to read, which emphasises that infants first become aware of the smallest component of language i.e. letter knowledge and alphabetical awareness, before going on to higher order skills (sounds, words, and sentences) (Diegmueller, 1996). This indicates that developing language skills and

decoding are the first steps in learning to read. This method entails teaching specialised, discrete, and frequently abstract skills. Teachers cross off each skill as it is taught and mastered; at that point, the student is at least proficient in reading from the standpoint of fundamental skills. Programs and tools for teaching reading are created using comprehensive, highly sequential step-by-step guides for teachers (Gutknecht, 1989). In this method, teaching reading entails progressing from simple to complicated, beginning with an understanding of the alphabet and going on to simple syllables and finally words. In doing so, it is hoped that the ability to decode would advance to a certain point. Once they reach this level, children are exposed to short passages, stories, and poems (Esher, 1997)

The emphasis of the skill-based approach is on spending more time teaching pupils at all learning levels how to listen, think, speak, read, and write. This is due to the fact that as children become more proficient readers, their listening, speaking, reading, and writing skills also advance (Harwayne, 2001). Once this is accomplished, pupils are able to independently comprehend challenging books and articulate complicated ideas. The benefit of this method is that it helps pupils develop their reading independence since it challenges them to think critically and gives them the skills to solve reading puzzles on their own while successfully participating in a variety of academic responsibilities.

To advance in their academic studies, both hearing-impaired and non-hearingimpaired pupils are expected to develop their reading abilities. Making sure that pupils are taught to read and write is the first step. While non-hearing impaired pupils benefit from exposure to their community's language in order to learn to speak and read, hearing impaired pupils learn to read through the use of sign language. Children and adults must be taught how to read and write because it is not a natural skill. Therefore, pictorial learning aids should constantly be made available to teach reading and writing to pupils who have hearing impairment.

Success in school and full involvement in civic responsibilities, rights, and duties for children depends largely on their ability to read and write from an early age. People will learn more about different facets of life, enjoy better lives, and ultimately make significant contributions to the growth of the country through reading. However, because hearing-impaired pupils find it difficult to develop reading and writing abilities properly, they are unable to fully participate in civic responsibilities and lead better lives. Therefore, it is crucial that teachers of pupils with hearing impairment work to improve their reading abilities.

2.6. Strategies for teaching reading

Reading performance among children in Zambia has been characterized by very low reading achievement due to poor strategies (Nkoya, Hakalyamba, Chomba, Zimba, Likando, Mzyece, Kapambwe and Musakanya, 2017). To assist pupils in improving their reading abilities, teachers might use a variety of teaching techniques. Teachers are urged to implement these techniques in order to meet the various reading needs of pupils. Learners are required to acquire other literacy abilities including speaking, listening, and writing in addition to their reading comprehension. The Curriculum Development Institute (2010) lists different instruction strategies. : These strategies were also supported by other researchers as seen below

2.6.1. Story-telling

Story telling is one of the oldest ways of passing information from one generation to the other (McDrury & Alterio, 2003). The advantage of storytelling is that it is simple and practical as stories are readily available and can be obtained through older members of the community who are always available to share their life experiences.

Story telling is one of the pedagogical approaches which teachers can use to improve reading of children in foundational grades. Researches have supported the use of storytelling in teaching because it possess various advantages such as improving pupil's vocabulary, (Slattery & Willis, 2001), developing memorization skills and motivating students to engage in reading and writing activities (Widiastika, 2011). Story telling stimulates the minds of children and helps in language proficiency as children are engaged in logical and critical thinking (Metcalfe et al., 2013). It makes children to be more interested in the learning process as they look forward to engaging into regular listening activities.

It is therefore important for teachers to use storytelling to improve the literacy development of children. Activities that can be used include role-play or retelling stories, storytelling using various images such as audio clips and tangible things. Story telling is crucial in literacy development because children have an instinctive love for stories. Children are inspired by stories to use their imaginations and be creative. Children develop their listening, speaking, reading, and writing skills by hearing and telling stories because they cover fascinating topics about life and their culture.

2.6.2. Reading Aloud

Reading aloud is a pedagogical approach of teaching reading where a teacher, parent of a more experienced peer who is a fluent reader models reading by reading a text aloud with the correct tone, pitch, pauses and intonation. Trelease & Giorgis, (2019) postulates that reading aloud have immeasurable benefits to the reading development of pupils such as the development of oral language, vocabulary, fluency and comprehension. Despite these numerous advantages of reading aloud, Ledger & Merga, (2018) found that many primary school pupils in early grades did not experience reading aloud activities at home. The study revealed that parents place the responsibility of conducting reading aloud activities on teachers, while teachers also feel that such an activities are better done by parents. The end result is that pupils are not experiencing reading aloud both at school and at home.

In order to support reading aloud activities in the classroom, teachers should introduce pupils to a variety of texts which they can read aloud before engaging with the text in an open discussion. Reading aloud can be made more fascinating if pupils created their own texts, read them aloud to others and role played them. The reading aloud technique enables learners to gain self-esteem, self-belief and become more confident and effective public speakers

2.6.3. Guided Reading

Guided reading is a method of teaching reading where teachers customize reading lessons to suit an individual learner, or a group of learners based on their ability and level (O'Rourke, (2017). Through the individualized teaching, a teacher will provide appropriate reading books to learners that suits that learner's reading level and allow learners to read in any way they can with all mistakes made. The teacher then guides the learner slowly to ensure better reading skills are attained. Guided reading is based on the principle of teaching reading based on the level of pupils as opposed to the grade level. In guided reading, the teacher organises reading times for one or more small groups of learners who are reading at the same level. The teacher provides the learner with the required reading materials, including lessons learned in class, and then helps the learner through the reading process. The teacher carefully chooses books based on the reading ability of the learners and provides opportunities for them to read under the teacher's direction.

The benefits of guided reading are that it helps pupils to improve their oral language skills which makes it easy to learn to recognize new words, improves fluency and builds comprehension

skills. (Langenburg, 2000). Though guided reading, pupils acquire reading skills to enable them engage into further reading of texts that are more challenging by way of the word attacking skills that they attain. In guided reading, pupils acquire reading skills that enable them to read different texts fluently with understanding (Iaquinta, 2006).

2.6.4. Shared Reading

Shared reading is an instructional approach where a group of learners engage into a reading activity by discussing the text together. Parkes, (2000) postulates that shared reading involves a collaborative reading activity where a group of pupils share reading of a given text with the teacher. This approach to teaching reading provides an opportunity for teachers to model reading to pupils. Pupils learn reading by first, observing the teacher read aloud a text, and the way the teacher read, and then imitate the teachers tone and intonation. In shared reading, the teacher and pupils discusses the story together in order to get the meaning, then the teacher draws the attention of learners to the interesting parts of the story. This develops the interest of learners to be willing to read more texts for pleasure.

The advantage of shared reading is that pupils acquire and improve the reading abilities that will help them become confident readers by reading and rereading with the teacher. By doing this, learners acquire the reading abilities and techniques that will enable them to read independently at home and at school. Shared reading encourages struggling readers and gives them a chance to appreciate books that they might not otherwise be able to read on their own.

2.6.5. Home Reading

The first step to reading development of children is the home. The home language spoken by parents provide an opportunity for children to acquire and develop reading skills. Griva and Chouvarda (2012) states that parental involvement in reading activities impacts positively on children's acquisition of reading skills. In support of this statement, Kaunda (2019) confirms that the acquisition of early literacy in children is attained way before formal education through interaction with the family, peers and other community members in an environment rich in literacy practices.

Children who grow up in homes with a rich literacy environment such as newspapers, books, television and toys acquire literacy skills with less difficulties (Niklas and Schneider, 2013). Several studies have confirmed that parents consider the home as well as support children

receive from homes as a very important precursor of literacy development (Kapambwe, 2023; Calvo & Bialystok, 2014 and Bradley & Corwyn, 2002). Homes with plenty house hold asserts provide a better stage for children's reading development. Additionally, the education level of parents determines the level of support children can receive from their children. It is therefore important for parents to create a conducive literacy rich environment in order to stimulate children's vocabulary and literacy skills.

2.6.6. Independent Reading

Independent reading refers to the individuals' free choice of the reading material at their own convenient time. In independent reading, a reader decides which material to read and sets schedules for the reading activity without being influenced by any external forces. The reader reads not for comprehension, but because of the desire to derive pleasure from the reading process, for recreation purposes (Manzo &Manzo 1995), for leisure (Greaney, 1980) and spare time entertainment (Searls, Mead & Ward, 1985). Krashen (2004) suggests that pupils with high reading achievement have high inherent enthusiasm to read, and apportions a greater amount of time to read outside the school time. The time and freedom created by pupils allow them to practice and perfect all the reading abilities they picked up during the shared and guided reading procedures. By encouraging pupils to read for fun, this technique helps them grow interest in reading. As a result of this practice, pupils are inspired to select and read books of their own accord.

2.7. Administrators support to reading development in schools

2.7.1. The role of administrators in teaching reading in special schools

Administrators play an oversight role in special education programmes in schools. Therefore, administrators need to have the necessary knowledge and training in special education. Jones & Brownell (2013), suggests that administrators of special education teachers need training in special education to ensure effective monitoring and evaluation of education programs. This is because School administrators have the responsibility of observing classroom practices of teachers, determining the efficacy and quality of their teaching and providing constructive feedback to teachers to ensure they sharpen the teaching skills (Loeb, Grissom & Master, 2014). Administrators who are adequately trained in Special Education demonstrates passion and commitment to special educational needs. This is by way of ensuring that special schools receive the materials they need in order to continue with their academic relevance.

However, it has been noted that most administrators were least prepared to manage special education programmes, (Petzko, 2008), and most of them have no special education training (Christensen, Robertson, Williamson, & Hunter, 2013). Most of them lack special education competences, knowledge and field experience to manage special schools, mostly because this is one of the most neglected areas in the field of special education (Pazey & Cole).

Lawson and Cruz (2017) found that school administrators who had no training in Special Education, those who lacked experience in teaching pupils with disabilities demonstrated poor monitoring skills of instructional strategies that supervisors expect from teachers e.g. how to articulate a lesson objective for special educational needs children. Administrator's lack of knowledge in Special Education may adversely impact on the quality of teaching and learning.

2.7.2. The role of administrators in internal and external monitoring in schools

Internal and external monitoring are important components in enhancing teaching and learning as they provide evaluation of education programmes in schools. Silwamba and Daka (2021) observed that schools that are strong in internal monitoring record good learner performance. Ministry of Education has established measures to monitor education quality education through performance standards indicators (MOE 2010). This was meant to support internal monitoring of schools which is done by senior teachers, deputy head teachers and head teachers to ensure compliance ton set standards as well as external monitoring done by standards officers. Kruger (2003) noted that schools with effective internal monitoring systems fosters teacher's lesson preparation and ensures effective lesson delivery. This is because teachers are always alert that school administrators may visit their classes any time. Effective and consistent monitoring of teachers improves the quality of teaching resulting in learners improved academic performance Daka (2019).

The responsibility of conducting school monitoring is also done by external monitors who in this case are Standards Officers whose responsibility is to ensure quality assurance (Organization for Economic Co-operation and Development, OECD (2009). Lungu and Daka (2022) noted that internal and external monitoring of schools provides accountability to school administrators in the management and utilization of schools resources. They observed that lack of monitoring by external monitors led to a considerable loss of school resources as head teachers feel that no one will hold them accountable on how the manage school resources.

On the other hand, schools with weak monitoring systems deprive learners from accessing good quality education. Lack of monitoring in schools results in both teacher's absenteeism and poor lesson planning (Namfukwe, 2016). Teacher absenteeism also leads to pupils missing classes as they lose interest in school and see no relevance of attending school where teachers are not around. x observes that the multiple roles of head teachers could be the reason for poor internal monitoring because it deprived them of the time to engage into monitoring of teaching and learning in schools. In most cases, head teachers spend a lot of time outside the school to attend meetings and workshops (Ehren, Perrman and Spours,2014) which reduces on time to conduct internal monitoring.

2.7.3. The role of administrators in facilitating for Continuous Professional Development (CPD) in teaching reading

Zambia's Ministry of Education acknowledges that educating teachers is a continuous process that should be sustained throughout a teacher's career (MOE, 1996). There is a need for consistent capacity building of teachers via CPD because initial teacher training might not be adequate to meet needs. CPD is a continuous process of education, training, learning, and support activities carried out by competent educational experts in either external or workplace contexts (MOE, 2010). Its main goal is to encourage people to learn and grow their professional knowledge, abilities, and values.

Administrators have a duty to ensure that teachers advance their knowledge, broaden their professional abilities, and keep abreast with significant advances that have an impact on their field, according to MOE (1996). A vital education system encourages change in areas including subject matter, instructional approaches, pastoral care for pupils, assessment procedures, school organisation and management, and interactions with parents and the community in response to the demands and expectations of society. According to Maciejowska, Trnáctová, & Pawel (2015) and Delors & UNESCO (1996), CPD is crucial in influencing teachers' pedagogical abilities and approaches to the development of children's reading skills. Administrators should encourage schools to conduct CPD because it is a more effective method of fostering ongoing teacher learning through peer teaching. Due to its dynamic nature, the education industry is always introducing new trends and advances. It is expected of teachers to be informed of all school-related issues. It is a well-known reality that sending all teachers to colleges and institutions to receive new training and learn cutting-edge techniques is essentially impossible

(MOE, 2010). Consequently, the only solution is CPD, which has proven to be the most effective and cost-effective method of teacher preparation at the local level.

According to the OECD (1998), CPD encourages teachers to continue learning after completing their original training by upgrading their knowledge, attitudes, and strategies in light of the advancement of new teaching methods. It enables educators to implement modifications made to curricula or other facets of the teaching profession as well as create and use fresh approaches to these issues. As a result, it encourages the sharing of knowledge and expertise among educators while assisting less capable teachers in improving their performance.

2.8. Summary of Literature Review

This chapter evaluated related literature on how children learn to read, with particular focus on the reading development of children with hearing impairment. Since many educational stakeholders view reading as the primary goal of education, it is a priority for every educational agenda. The chapter has acknowledged that reading proficiency is an important milestone for children growing up in a literate culture. This indicates that reading skills are a crucial component and provides the basis for children's academic and post-school success. Individuals who read well and read frequently actually learn more across a wide range of topics.

However, it has been established that most learners with hearing impairment have not been able to develop foundational literacy skills to enable them function in school education. The chapter has established that reading skills of hearing impaired children lag several years behind those of hearing children. In order to resolve the problem of poor reading among children in schools, MOE is implementing the PLP. The focus of the PLP is to ensure all children read more and improve literacy abilities early during the foundational grades and then utilise reading as a tool for further learning (MOE, 2013). The chapter also looked at reading development in children with hearing impairment, with a particular focus on teacher proficiency in sign language, the important of parental involvement, the use of technology and the need to provide assistive devices. Literature reviewed suggests that teacher proficiency in sign language and the use of technology supports reading development of learners with hearing impairment.

CHAPTER THREE

METHODOLOGY

3.1. Introduction

This chapter discusses the methodology used in this study. The constituent elements include the research design, target population, sample size, sampling procedure, and data collection, data collection instruments and data collection procedure. Other elements include data analysis, validity of the data and ethical consideration.

3.2. Research design

A research design is a road map that is followed during a research journey to find answers to research questions as validly, objectively, accurately and economically as possible. According to Punch, (2005: 142), research design is the overall plan for a piece of research. It is concerned with the strategy, the conceptual framework, the question of who or what will be studied, and the tools to be used for collecting and analysing empirical materials.

This study used the embedded or mixed design which combines methods of both the qualitative and quantitative designs. In this study, the qualitative and quantitative designs methods played a complimentary role as they were central to the overall research question and topic. The embedded design is a mixed method design where one data set provides a complimentary role in a study primarily based on the other data type (Creswell, Clark, Gutmann & Hanson 2003). According to Creswell and Plano Clark (2007), mixed method strategy is a design which connects, integrates and combines the quantitative and qualitative data with the aim of gaining good understanding of the research problem. This design is used when researchers need to include qualitative or quantitative data to answer a research question within a largely quantitative or qualitative study. The embedded design mixes the different data sets at the design level, with one type of data being embedded within a methodology framed by the other data type (Creswell 2009). In this study, the embedded design was selected to allow the researcher have a more detailed level of inquiry through obtaining different data types to inform the study.

The qualitative design method was the primary method for this research. Qualitative design follows an open, flexible and unstructured approach to enquiry. It aims to explore diversity and emphasises description and narration of feelings, perceptions and experiences (Kumar, 2014). Since qualitative research involves an interpretive and naturalistic approach to research, its techniques were used as a multi-method in focus (Hayden, Levy and Thomson, 2015), making use of several kinds of materials such as personal experiences, in-depth interviews with teachers of learners with hearing impairment and learners with hearing impairment; classroom observation of the actual teaching and learning process; and focus group discussions with teachers of learners with hearing-impairment. A qualitative approach was appropriate for this study as it captured the opinions of teachers, administrators and parents on the effectiveness of the implementation of Primary Literacy Programme on reading skills development of learners with hearing impairment.

Quantitative research methodologies were applied to this study to help the researcher to compare the reading performance of learners with hearing impairment to that of non-hearing impaired learners in order to measure the effectiveness of the PLP. This was essential because quantitative research methods deal with quantifying and analysing variables in order to get results. Quantitative researchers believe in utilization and analysis of numerical data using specific statistical techniques to answer questions like who, how much, what, where, when, how many, and how. In line with the above statement, Aliaga, and Gunderson (2002) describe quantitative research method as one which explains an issue or phenomenon through gathering data in numerical form and analysing it with the aid of mathematical methods to arrive at particular statistics such as mean, mode and median. In quantitative research, data collected, often through surveys administered to a sample or subset of the entire population, allows the researcher to generalize or make inferences. Conclusions are derived from data collected and measures of statistical analysis (Creswell, 2002; Thorne and Giesen, 2002).

Quantitative methods were embedded in this study to examine the effectiveness of implementation of the PLP on children with hearing impairment. To this effect, a comparison was drawn between reading abilities of children with hearing impairment and that of non-hearing impaired children. This was achieved through establishing correlations between the ability to hear and the reading performance in variables such as age, letter knowledge, letter dictation, and letter to word matching. Other variables included reading/picture word matching, reading and drawing, vocabulary, comprehension and digital span.

In quantitative methodology, a correlation is used to determine whether, and to what degree, a relationship exists between two or more variables within a population (or a sample). The degree of relationships is expressed by correlation coefficients. Coefficients range from +1.00 to -1.00. Higher correlations (coefficients closer to +1.00 or -1.00) indicate stronger relationships. Positive correlations indicate that as the values associated with one variable go up, so do the values associated with the other. e.g., higher grades are associated with higher. Negative correlations indicate that as the values associated with one variable go up, the values associated with the other go down e.g., higher grades are associated with lower. In support of this, Leedy & Ormrod (2010) observed that correlation method of research deals with the creating relationship between two or more variables in the same population.

3.3. Target population and sample

The target population of this study comprised all grade three (3) hearing-impaired pupils in special education schools and mainstream schools with special education units in Lusaka, Mansa and Samfya Districts. The target population also included all teachers in-charge of grade three (3) learners with hearing impairment, all parents of hearing-impaired leaners and all administrators of schools with hearing impaired children in the targeted districts.

3.4. Sample Size

The sample of this study comprised a total of sixty (60) grade three (3) learners distributed as thirty (30) hearing impaired learners and thirty (30) non-hearing impaired learners from all the target schools in Mansa, Samfya and Lusaka districts.

Learners with hearing impairment were drawn from the following schools; three (3) from Mutende Primary School in Mansa district, two (2) from Samfya Primary School and six (6) from Kasanka Primary school in Samfya district. Others were five (5) from Desai Primary School, six (6) from St. Lawrence Primary School, two (2) from Bauleni Special School and Six (6) learners from Faith Baptist School in Lusaka district.

Non hearing-impaired learners were drawn from the following schools: four (4) from Mutende, four (4) from Kombaniya, three (3) from Chakopo and four (4) from Kaole Primary Schools in Mansa district while three (3) came from Samfya Primary in Samfya district. Additionally, six (6) came from Desai Primary and six (6) came from Mambilima Primary schools in Lusaka district.

The sample also included twenty-six (26) teachers of learners with hearing impairment, sixteen (16) administrators supervising teachers of learners with hearing impairment from the target schools and thirteen (13) parents of learners with hearing-impairment, all of them drawn from the target schools.

3.5. Sampling Techniques

The researcher used two (2) sampling techniques to select participants and target schools for the study. These were purposive sampling and simple random sampling.

Both purposeful sampling and simple random sampling were used to select learners. Firstly, the researcher applied purposive sampling to select only learners with hearing impairment. Purposive sampling was used on learners because the researcher needed to pick learners possessing a particular trait, in this case, hearing impairment. This was achieved by working hand in hand with teachers in the selection of learners with hearing impairment. Purposive sampling technique is used by qualitative researchers to recruit participants who can provide insight and in-depth understanding and information about the phenomenon under investigation (Braun and Clarke, 2013). It is highly subjective and determined by the qualitative researcher in generating the qualifying criteria (in this case, hearing impairment) each participant must meet to be considered for the research study. Purposive sampling enables researchers to handpick the cases on the basis of their judgement of their typicality. Therefore, purposive sampling was appropriate to select learners with hearing impairment.

Having achieved this, the researcher then applied simple random sampling to accord all the learners with hearing impairment chance to be included in the study. This is in line with the assertion made by (Thomas, 2023 and Kumar, 2014) that simple random sampling gives all members of the population an equal and independent chance of being selected. Selection of learners with hearing impairment through simple random sampling was achieved using the lottery method. To start with, pupils were assigned unique numbers equivalent to the total number of learners in a school. The numbers were written on small slips of paper. Thereafter, they were stored in a sealed box containing a small opening. After thorough shaking of the box, the researcher pushed his hand in a box through the small opening and picked one paper at a time without the view of the box. The number contained on a slip of paper represents the person who took part in the study. Therefore, simple random sampling was used in order to accord each hearing impaired pupil an equal chance of being included in the sample. Simple random

sampling was also used to select non-hearing impaired learners who were picked to take part in the study.

Thomas, (2023), postulates that simple random sampling has several advantages which include, firstly, giving fair and equal chance for all participants to be picked which makes the sample unbiased as the selection is not influenced by the thinking of the researcher, secondly, the method has proved to be cost effective, convenient and fast and lastly, the randomized nature of the method ensures results are obtained from a smaller sample which is a presentative of the larger population.

Simple random sampling was also used to select schools for non-hearing impaired children. This was also done through a lottery method. The lottery was used by putting names of schools in a box which was later shaken and then four (4) schools were drawn using random selection. Selection of teachers, administrators and parents was done using purposive sampling. Teachers were selected based on teaching grade three (3) children with hearing impairment. This means only teachers teaching Grade three (3) learners with hearing impairment were eligible to be selected. This is in line with assertions by Campbell et al (2020) who proposed that purposive sampling is used to select informants with high competence in each field controlled by the informant. Administrators were purposively picked because they were responsible for supervising teachers of learners with hearing impairment. The specific trait possessed by administrators, which qualified them to be selected, was being supervisor for teachers teaching learners with hearing impairment.

Additionally, purposive sampling was also applied to pick parents/guardians of learners with hearing impairment. On the selection of parents, only parents with grade three (3) learners with hearing impairment were given chance to take part in the study.

In terms of selection of schools, purposive sampling was applied to select Primary schools that offered learning to children with hearing impairment. This method helped the researcher to focus on schools that either had units of hearing impaired children of full-fledged schools of children with hearing impairment.

3.6. Data Collection

Data collection was done over a period of six (6) months in all targeted schools. The researcher sought prior permission from participants to record the responses in a notebook and on the radio.

The researcher interviewed grade 3 teachers responsible for implementing the PLP to learners with hearing-impairment, head teachers who were managing Special Schools and parents of learners with hearing impairment. The researcher also conducted focus group discussions for teachers of learners with hearing-impairment. The researcher also observed classroom teaching to help understand the type of methods/strategies and materials used in the development of reading by the learners. An assessment test was also conducted to compare the reading levels of learners with hearing impairment to that of non-hearing impaired learners.

3.7. Data Collection Instruments

A number of instruments were used to collect data. These included semi-structured interview guides for teachers, school administrators and parents; and structured interview guides for pupils. The study also used structured class observation checklist to collect data on strategies used by teachers to implement the PLP to learners with hearing impairment. Additionally, the study used focus group discussion guides to collect in-depth data from teachers. The Basic Skills Assessment Tool (BASAT) was used to compare the reading performance of both hearing impaired and non-hearing impaired learners.

3.7.1. Semi-Structured interview guides for Teachers.

The first instrument to be administered was the semi-structured interview guide for teachers. This interview guide was used to collect data from teachers on their proficiency in sign language as well as strategies they used to teach reading to learners with hearing impairment. The teacher's interview guide also sought to establish the availability of suitable teaching and learning materials as well as the availability of assistive devices needed to teach reading to learners with hearing impairment. Questions sought to assess whether or not teachers of learners with hearing impairment were proficient in sign language, if visual aids used during reading lessons were available and whether the strategies and approaches that teachers used to teach reading to learners with hearing impairment were suitable and if the Curriculum Development Centre (CDC) developed teacher's guides/books with recommended and appropriate reading teaching. The teacher's interview guide also sought to find out if teachers acquired necessary knowledge and skills to teach reading to learners with hearing-impairment during their teacher training period, the effectiveness of CPD orientation meeting to sharpen skills of teachers of learners with hearing-impairment, the availability of assistive devices such as hearing aids, cochlear implants, and infrared systems, and supportive devices such as computers, amplifiers,

projectors, tablets and cellphones in order to support the implementation of the PLP to improve reading skills of children with hearing impairment.

3.7.2. Semi-structured Interview Guides for Administrators

The second instrument to be administered was the administrator's semi-structured interview guide. This was administered to administrators to establish if they supported teachers of learners with hearing impairment through providing assistive devices and other ICT equipment needed to implement the PLP to learners. Administrators were asked if they had adequate training in Special Education. They were also asked if they were knowledgeable in PLP and had orientation meetings to bring awareness to teachers on teaching reading to learners with hearing impairment using the PLP. Respondents were also asked if they supported teachers of learners with hearing-impairment by way of providing ICT materials as well as digital hearing aids and cochlear implants. The semi-structured administrator's interview guide had a mix of both open ended and closed ended questions. In open ended questions, the researcher probed further in questioning so as to obtain more detailed and clarity responses. The flexibility of the semi-structured teachers' questionnaire enabled the researcher to engage the interviewees into more conversations.

3.7.3. Semi Structured Interview Guide for Parents

This was administered to parents of children with hearing impairment to establish parental involvement is supporting the reading development of learners with hearing impairment. The parents' semi structured interview guide had both open ended and closed ended questions. Open ended questions were designed to give the interviewee space to express themselves, go deeper in discussions and clarify their responses. On the other hand, closed ended questions restricted the interviewee to giving short precise responses to questions. The interview guide sought to find out if parents of children with hearing impairment were reading with their children at home, and if they had developed a supportive home literacy environment. The other question was to find out if parents had knowledge of the use of sign language. In terms of assistive devices to children with hearing impairment, parents were asked if they requested for digital hearing aids or cochlear implants to improve the auditory system of hearing impaired learners.

3.7.4. Structured interview guide for pupils

The next instrument to be administered was the structured interview guide for pupils. This instrument comprised of rigidly prepared closed ended questions that required specific answers.

The children's interview guide was administered to learners with hearing impairment in order to establish whether their parents supported them to improve the reading skills. The interview investigated the home literacy environment to establish the availability of books, magazines and video games. The questionnaire went further to find out the social economic status of parents; whether they were in formal or informal employment, the amount of monthly income they received, and whether they provided adequate foodstuffs. The question investigated the availability of home possessions such as television, stove and fridge. The questionnaire also asked whether learners were coming from homes connected to electricity, and had running water.

3.7.5. Class observation checklists

This instrument was used to assess the teaching strategies used by teachers to teach reading to learners with hearing impairment. The instrument also assessed the sign language proficiency of teachers during the actual delivery of reading lessons. The researcher administered this instrument by observing the actual classroom teaching and learning. The researcher sat in classrooms of learners with hearing-impairment and observed lessons being delivered by teachers of learners with hearing-impairment. The researcher observed the methodology employed to teach reading to learners with hearing impairment. These included phonics, fluency, comprehension, vocabulary and writing. Other areas included classroom environment, the availability of talking walls, general classroom organization and the availability of furniture. The other variables observed were the lesson procedure from lesson planning through introduction, development and finally the conclusion. The availability of teaching aids, their suitability, sufficiency and utilization were observed. The classroom observation was done in ten (10) schools of learners with hearing impairment. The total number of lessons observed was ten (10).

3.7.6. Focus Group Discussion (FGD)

This instrument was used to capture teacher's views on the implementation of the PLP to children with hearing impairment. Focus group discussions are used by qualitative researchers to explain a problem and have a deeper understanding beyond what a questionnaire can do (Prasad & Garcia, 2017). The advantage of FGD is that they provide a conducive environment where group interaction is the driving force to engage into detailed discussions, with participants discussing and influencing each other on a given subject (Stewart & Shamdasani, 2014).

Three (3) focus group discussions were conducted in five schools; one focus discussion from each school. Each of the FGD comprised of 8 teachers, a researcher and one assistant researcher. The focus group discussion comprised of teachers who were teaching pupils with hearing impairment from the each of the five schools where the FGD were conducted. Teachers were asked open ended questions to help them respond to the implementation of the PLP on learners with hearing impairment. Some of the questions asked during the FGD includes: whether schools had PLP books suitable for teaching reading to hearing-impaired learners, whether teachers attended CPD meetings on PLP, the amount of support teachers received from their administrators, the frequency of monitoring by administrators, the availability of ICT equipment and teachers' proficiency in sign language. Other issues discussed include the nature of reading difficulties of learners with hearing impairment and time allocation for literacy on the time table.

3.7.7. The Basic Skills Assessment Tool (BASAT)

In this study, the BASAT was used as the main instrument of quantitative data collection in order to compare the reading performance between learners with hearing impairment and non-hearing impaired learners. The two groups were compared to establish the suitability of the PLP to enhance the reading skills of learners with hearing impairment. The Ministry of Education in conjunction with the University of Zambia developed the BASAT (MoE, 2003). The instrument is meant to assess pupils' proficiency in literacy. In this study, the English version was used on children with hearing impairment because the only medium of instruction available for hearing impaired children is signed English. For non-hearing impaired learners, the Bemba and Nyanja versions were used for learners in Luapula and Lusaka provinces respectively. The choice of the vernacular version was appropriate for non-hearing impaired learners because the current language policy requires the use of a familiar language as a medium of instruction (MOE, 2013). The BASAT was slightly modified to suit the needs of learners with hearing-impairment because these learners lacked the auditory sense, hence any assessment that required the use of sounds such as phonics and phonemic awareness was removed from the instrument and replaced by those that emphasized vision. The BASAT consisted of the following variables: letter knowledge, letter dictation, letter to word matching, reading/picture word matching, reading and drawing, vocabulary, comprehension and digital span.

1. Letter Knowledge

This aspect required learners to demonstrate their knowledge of the letters of the alphabet. To this effect, learners were given the first ten (10) letters of the alphabet. From these ten (10) letters, five (5) were removed thereby leaving five (5) and five (5) blank space. Learners were asked to identify the missing five (5) letters from a number of letters displayed in alphabetical sequence by filling in the five (5) blank spaces.

2. Letter dictation

Here, the teacher dictated five letters of the alphabet. For learners with hearing impairment, the dictation was done through sign language, while for non-hearing impaired learners the dictation was done through reading aloud. Learners were expected to write down the letters dictated by the teacher.

3. Letter-word matching

Learners were required to match letters to words containing words that contained that particular letter provided. The researcher provided a table consisting of two (2) columns; A and B, with column A containing letters of the alphabet and Column B containing words. Each of the words in column B had a specific letter contained in column A which learners needed to identify and circle.

4. Reading-picture word matching

Learners were availed a table consisting of column A and Column B. Column A had a list of words while column B had pictures. Learners were expected to read the words silently then identify a picture representing a particular word.

5. Reading and Drawing

This reading assessment required pupils to read the given words silently, and then draw a picture to represent a word they read. The following words were presented:

Sun, egg, bus, father and girls.

6. Vocabulary

The study assessed the vocabulary knowledge of learners. Pupils were given a list of words and were asked to read all of them. Hearing-impaired learners were requested to read signing (Sign language) while non- hearing-impaired learners were asked to read aloud through vocalising.

7. Comprehension

In this assessment, learners were given pictures showing activities taking place. For each picture, learners were given five (5) sentences describing the activity. Learners were asked to identify the best option from the five (5) sentences to best explain the type of activity taking place in the picture.

8. Digital Span

The last assessment given to both learners with hearing-impairment and nonhearing impaired learners was children's working memory through reading and manipulation of numbers using number identification and sequencing. Learners were given a list of numbers. They were then asked to rearrange the numbers in sequential order from the smallest to the largest. Learners were expected to remember the digital sequence correctly.

3.8. Data collection procedure

Data was collected through semi-structured interview guides for teachers, administrators and parents and structured interview guides for pupils. Data was also collected through structured class observation checklist and focus group discussion meetings with teachers of learners with hearing impairment.

Semi-structured interviews are a combination of structured and unstructured questions. These are flexible questionnaires in which some questions are predetermined while others emerge during the data collection process. In a semi-structured interview guide, questions are designed in a flexible manner and can easily be adapted to support the researcher achieve the objectives of the study. Dunne, Pryor, & Yates. (2005) and Stuckey, (2013). The researcher asks questions to the interviewee in a much more flexible way and adapts to the situation, and goes deeper in order to obtain more discoveries.

Structured interview guides, as the name implies, are questionnaires where questions are predetermined in a systematic and orderly manner meant to help the researcher collect data

needed to address the topic. Structured interviews use closed-ended questions to get responses from interviewees, and often, the responses rigidly short. Stuckey, (2013) postulates that structured interview guides follow a rigid nature and are entirely managed by the interviewer who has absolute authority to control it. Due to the closed ended nature of structured interviews, responses are mostly short and precise. Although structured interviews are used in qualitative research, they are considered unfavorable because of their rigid nature. (DiCicco-Bloom & Crabtree, 2006). In most cases, structured questionnaires are used in quantitative research.

The semi-structured interview guides were administered to administrators and parents while structured interview guides were administered to teachers and pupils. The interviews involved a one-to-one discussion with teachers, administrators, parents and pupils. This was done in order to get participants perception of the effectiveness of the implementation of the PLP to enhance reading skills among grade three (3) learners with hearing impairment.

Before interviewing teachers and conducting focus discussion meetings, informed consent was sought by engaging parents and teachers, explaining to them that data to be collected was for academic purposes only; and that they were free to either take part in the study or not. Thereafter, data was collected using a systematic procedure, greeting and then getting bio data; engaging participants through questions based on the questionnaires.

3.9. Data Analysis

3.9.1. Analysis of Qualitative data

Qualitative data was analyzed using the content analysis method. Shava, Hleza, Tlou, Shonhiwa, Mathonsi, (2021) describes content analysis as that which involves subjectivity in interpreting the content using a systematic classification of data through coding and identifying commonality of themes and patterns. This involves identifying content from the data and drawing meanings, themes and relationships that emerge in a given text in order to gain insights of the subject matter, and to ensure interpretations are drawn from them.

Using content analysis, qualitative data was analyzed by first examining notes/texts and audios that were generated from the field during data collection. This was achieved by structuring, sorting and coding data to elicit meaning. Data was identified and classified into similar meanings, themes and patterns in order to respond to the research objectives as well as identify actionable insights to resolve the problem of poor reading achievement among learners with

hearing impairment. Thematic analysis involves data identification and analysis through identifying patterns or themes within a data set and organizing it into categories of broader meaningful themes (Nowell, Norris, White & Moules 2017).

Data analysis was guided by the objectives of the study through the description of responses of participants and coding the responses in line with the objectives. This led to the development of thematic areas which were used to present data. Qualitative data from open-ended questions and focus group discussions were also analysed qualitatively using description through thematic areas.

3.9.2. Analysis of Quantitative data

Quantitative data was analysed using the Statistical Package for Social Sciences (SPSS) statistical software. Quantitative data analysis involved the use of computational and statistical methods that focused on statistical and mathematical, or numerical analysis of data sets (Bryman &Cramer, 2009). In this study, quantitative data analysis was achieved through the cross tabulation table which was used to compare reading performance between learners with hearing impairment and non-hearing impaired learners. The cross tabulation resulted in getting a summarised value of numerical variables, which highlighted the reading achievement of learners. Additionally, a bivariate correlation was used to establish the relationship between the ability to hear and the reading performance of learners. The reading performance of both learners with hearing impairment and non-hearing impaired learners were highlighted. Descriptive analysis was worthwhile because it helped the researcher to construct tables of quintiles and measures of central tendency. This was done through the calculation of frequencies of variables and differences between variables in order to find the percentage, mean and standard deviation. Data was critically analysed and objectively interpreted through comparing it to other findings within the framework of the research. This made it possible to compare the reading performance of both hearing and non-hearing impaired learners.

3.10. Validity of the Study

The results of this research represent the findings about the Evaluation of the Implementation of the PLP to Enhance the Reading Skills of Grade Three (3) Learners with Hearing Impairment.

Data collection was done by independent research assistants supported by a college lecturer who did not belong to the target schools. A college lecturer is a holder of a degree of master in education, currently supervising students on various research topics in the field of Special

Education. All the research assistants were adequately trained in Special Education. Two (2) of them; one (1) male and one (1) female had diplomas in Special Education while the other two (2) were degree holders in the field of Special Education.

The study sample was also appropriate because it involved the actual teachers, administrators and parents of learners with hearing impairment. The sample also included learners with hearing impairment. The study used triangulation to promote credibility and validity as multiple perspectives were used to collect data. Triangulation refers to the use of multiple sources of data and different research methods in a study in order to ensure credibility and validity of the results. Altrichter, Feldman, Posch & Somekh, (2008) contends that triangulation provides a clearer and much more detailed explanation of the phenomenon in order to have a balanced representation of the situation. In support of this statement, O'Donoghue and Punch (2003) asserts that triangulation is a research method that provides a verification of data from multiple sources to provide consistencies of the research data. In this study, different data sources that facilitated triangulation includes unstructured interviews with teachers, parents and administrators, structured interviews with pupils, structured class observation and test examination which used the BASAT to compare literacy performance between learners with hearing impairment and non-hearing impaired learners. Data was also crossed-checked within two data sets namely qualitative and quantitative.

Data was collected from rural and urban districts. The study used both qualitative and quantitative methods to collect and analyse data. Several research instruments were used to collect qualitative data.

Quantitative data was achieved by administering the BASAT test to compare the reading performance of learners with hearing impairment and non-hearing impairment learners through bivariate correlations and Cross tabulation. Though the instruments provided an independent view of the data, the analysis presented similar characteristics. The BASAT instrument was developed and validated by the Ministry of Education in conjunction with the University of Zambia as an assessment for measuring pupils' proficiency in literacy. The instrument probes how children decode print by producing sounds to the printed words. This is achievable in any language that follows the alphabetical principle (National Reading Panel, 2000). The BASAT contains aspects that are consistent with reading development which includes phonemic awareness, phonics, fluency, vocabulary and comprehension as suggested by the PLP. Additionally, the BASAT instrument has construct-validity because of its homogeneity

of measuring reading abilities of learners. Few modifications were made to the instrument so as to suit learners with hearing impairment. The modified BASAT was piloted on learners with hearing impairment and proved that the instrument correctly represented the pupil's abilities to read

3.11. Ethical Considerations

The researcher sought ethical approval from the Humanities and Scocial Sciences Research Ethics Committee (HSSREC) of the University of Zambia to undertake the study. Permission was also obtained from the Provincial Education Officers (PEO) in Luapula and Lusaka provinces to undertake the study. Further engagements were made with the District Education Board Secretaries (DEBS) to have access to the schools offering education to learners with hearing impairment. Permission was also obtained from Head teachers for the researcher to recruit teachers, learners and parents who took part in the study. The researcher informed participants that participation in the research was voluntary and that it did not attract any payment. To this effect, all respondents signed informed consent forms. Confidentiality was assured by upholding anonymity

CHAPTER FOUR

FINDINGS OF THE STUDY

4.1 Introduction

This chapter presents the findings of the study on the Evaluation of the Implementation of the Primary Literacy Programme (PLP) to enhance the reading skills among grade 3 children with hearing impairment. The findings were derived from twenty-six and sixteen interviews for teachers and administrators respectively, and thirteen interviews conducted for each of the thirteen parents that took part in the study. Thirty interviews with children with hearing impairment and thirty with non-hearing impaired children also provided data presented herein. Other findings presented were arrived at by comparing the performance of learners with hearing impairment and non-hearing impaired learners in reading skills. The results are presented based on the sequence of the following four objectives of the study: to assess the levels of proficiency in sign language among teachers implementing the PLP to learners with hearing impairment in Grade 3; to establish the availability of teaching and learning materials to support the implementation of the PLP to children with hearing impairment in grades 3; to assess the home literacy environment and parental support to the implementation of the PLP to learners with hearing impairment; and to compare the reading performance of learners with hearing impairment to that of non-hearing impaired learners in order to assess the effectiveness of the implementation of the PLP to learners with hearing impairment.

Under each objective, various themes were developed which guided data presentation. The findings are presented into two distinct categories. Firstly, findings from qualitative data from interview guides of teachers, administrators, parents and pupils and focus group discussions are presented. Secondly findings from quantitative data are presented using the cross tabulation to compare reading performance between learners with hearing impairment and non-hearing impaired learners, and through bivariate correlations to establish the relationship between the literacy variables presented in the table. The major themes which guided data presentation include teacher proficiency in sign language, administrators training in sign language, and strategies used by teachers to implement the PLP to learners with hearing impairment. Other

themes include the availability of teaching and learning materials both visual and non-visual, that support the literacy development of hearing impaired pupils, comparison of reading performance between hearing impaired and non-hearing impaired learners and the home literacy environment.

4.2. Demographic Characteristics

Table 1: Demography

Category	Male	Female	Total
Teachers	4	22	26
Administrators	6	10	16
Parents	4	9	13
Hearing Impaired Pupils	15	15	30
Non Hearing Impaired pupils	15	15	30

Table 1 presents the demographic characteristic of subjects who took part in the study. The study comprised twenty-six (26) teachers four (4) males and twenty-two (22) females, sixteen (16) administrators divided into six (6) males and ten (10) females and thirteen (13) parents four (4) males and Nine (9) females. The study also comprised of sixty (60) pupils; thirty (30) hearing impaired and thirty (30) Non hearing impaired. Out of the thirty hearing impaired learners, fifteen (15) were boys while the other fifteen, were girls. Equally, the non-hearing impaired pupils comprised of fifteen (15) boys and fifteen (15) girls.

4.3. Teachers Proficiency in Sign Language

4.3.1. Teachers Qualification in Special Education

Teachers from the target schools were asked to state their levels of qualifications in Special Education. The results of the findings are shown in table 2 below:

Table 2: Teacher's qualification in Special Education

Qualification	Male	Female	No.
Certificate	0	2	2
Diploma	1	11	12
Certificate & Diploma	0	2	2
Degree	1	7	8
Diploma & Degree	1	15	1
Diploma, Degree & Masters	1	0	1
Total	**4**	**22**	**26**

Table 2. from the previous page shows that two (2) teachers had certificates, twelve (12) had diplomas, two (2) had both certificates and a diplomas, and eight (8) had degrees. Additionally, one (1) teacher held a master's degree in addition to a diploma, and another (1) held a diploma, degree, and masters. The table demonstrates that all the teachers that participated in the study met the requirements for teaching pupils with hearing impairment under special education.

4.3.2 Teachers training in Sign Language

Twenty-six (26) teachers of learners with hearing impairment were asked about whether they had the necessary training and proficiency in sign language to successfully teach reading to pupils with hearing impairment in grade three (3). The results presented in table 3 shows whether or not teachers had sufficient instruction in sign language.

Table 3: Teachers training in Sign Language

Teachers training in Sign Language	Male	Female	Total
Training was adequate	1	7	8
Training was not adequate		2	2
Total	**4**	**22**	**26**

The table reveals that of the twenty-six (26) teachers who participated in the research, twenty-two (22) were females, while four (4) were males.

According to the results above, eight (8) teachers, one (1) male and seven (7) females—said they had sufficient sign language training, while eighteen (18) teachers; three (3) males and fifteen (15) females—said they did not.

Further, the results above show that, eighteen (18) teachers indicated that they lacked the sign language training, expertise and understanding required to instruct hearing-impaired pupils in literacy. They indicated that on actual sign language practise, their education was more theoretical. The following were reactions from teachers.

4.3.2.1. Teacher's reactions on their training in sign language

One teacher indicated that he was not trained in teaching reading to children with hearing impairment. The teacher had this to say:

> *I'm not well trained on how to handle reading lessons for deaf children. I do not know how to sign most of the words. Some words are difficult so I consult fellow teachers, and sometimes, I consult pupils.*

The second teacher said he did not know sign language very well. He stated that words that are used in computer studies and Business studies were difficult to sign.

> *I do not know sign language very well especially when it comes to signing some words and terms in Computer Studies and Business Studies. I fail to get the best sign to represent a word. My teacher training course taught us more sign language theory than the practical part.*

The third teacher indicated that some words were very difficult to sign so she only used illustrations.

> *Some of these words are difficult to sign. When I fail to sign, I use illustrations to help my children to get some meaning. Sometimes, I use any sign just to try to communicate.*

The fourth stated that she was always consulting other teachers on how some words are signed. she indicated that she typically asked other teachers who were competent to teach and sign for him since she lacked the necessary knowledge and abilities to teach reading to children who are hearing-impaired.

> *I don't have knowledge; I don't have skills in sign language to teach deaf children. I struggle to teacher, but somehow, I'm managing because I consult teachers who know sign language to help me.*

Contrary to remarks made by eighteen (18) teachers who claimed they lacked sufficient sign language proficiency, eight (8) indicated that they did.
One teacher said:

> *We know, they know, yes, we know sign language very well. We deaf teachers know well-well sign language; the problem is with hearing teachers who have difficulties; so they come to consult you.*

4.3.3 Opportunities in CPD trainings for teachers of learners with hearing impairment

Twenty-six (26) teachers were asked if they had chance to attend Continuous Professional Development (CPD) trainings on the implementation of the PLP to learners with hearing impairment to help them enhance their teaching techniques. Teachers' opinions on their chances to participate in CPD are presented in the chart on the next page.

Table 4: Participation in CPD trainings on teaching reading to hearing impaired learners

Participation in CPD trainings on teaching reading to learners with hearing impairment	Male	Female	Total
Attended CPD Meetings	2	10	12
Did not attend CPD meetings	2	12	14
Total	**4**	**22**	**26**

The table above shows that out of the twenty-six (26) teachers of learners with hearing impairment who were asked about their opportunities to attend CPD meetings, twelve (12) teachers, two (2) males, and ten (10) females responded that they had attended CPD meetings. However, the majority, which was made up of fourteen (14) teachers, two (2) males, and twelve (12) females, said they had not attended any CPD orientation meetings on how to teach literacy to children with hearing impairment.

4.3.3.1. Comments from teachers on attending CPD.

A teacher who acknowledged having attended CPD provided the following feedback:

> *The two of us attended a two days CPD workshop on how to implement the PLP. The rest have not yet attended any.*

One of the teachers who said he did not attend any CPD on how to teach literacy to learners with hearing impairment had this to say:

> *There has been no CPD orientation that has focussed on teaching reading to hearing impaired children using the PLP. We have attended other meetings on CPD but not on how to teach reading to deaf children.*

Another teacher had this to say:

> *I have not heard of any CPD meeting that talks about PLP for deaf children. I havent attended any. The one we had was for normal children and not the deaf. We were looking at how to teach sounds. What they didn't know was that sounds were not applicable to children with hearing impairment. These are deaf; sounds can not be applied to deaf children.*

4.3.4. Administrators' responses on adequacy of training in Special Education

Sixteen (16) senior teachers were interviewed in order to determine whether they had the necessary special education training. Six male and ten females out of the sixteen (16) senior teachers participated in the study. The results are shown in table 5 below. The results are displayed in the chart below:

Table 5: Administrators' training in Special Education

Administrators' training in Special Education	Male	Female	Total
Training was Adequate	2	4	6
Training was not adequate	4	6	10
Total	**6**	**10**	**16**

According to the aforementioned table, six (6) administrators—two (2) males and four (4) females said they had sufficient training in special education, while ten (10), divided into four (4) males and six (6) females, said they did not.

4.3.4.1 Reaction of administrators on their training in Special Education

One administrator who observed that most school administrators did not have adequate training in Special Education had this to say:

> *Training in special education lacked the practical aspect of it, worse off, we have had no CPD orientation meetings to learn about Special Educational Needs"*

4.3.5. Strategies used by teachers to implement the PLP in the development of reading skills of learners with hearing impairment in grade 3.

4.3.5.1. Implementation of Inclusive learning

In order to learn more about the implementation of inclusive learning and whether pupils with hearing impairment were learning alongside non-hearing impaired pupils, twenty six (26) teachers were interviewed. The responses from teachers were as shown in the table on the next page.

Table 6: Implementation of inclusive learning

Category	Male	Female	Total
Hearing impaired learners learning together with non-hearing impaired children	2	5	7
Hearing impaired learners **not** learning together with non-hearing impaired children	2	17	1
Total	**4**	**22**	**26**

According to the responses, two (2) males and five (5) females, from a total of seven (7),said that hearing impaired pupils and hearing pupils were learning together, while the majority—nineteen (19) teachers, made up of two (2) males and seventeen (17) females—said that hearing impaired pupils and non-hearing impaired pupils were not learning together.

4.3.5.2. Responses of teachers on inclusive learning

The majority of teachers stated that learners with hearing impairment and non-hearing impaired learners were not learning together. The first teacher said:

> *Hearing impaired learners cannot learn together with hearing children because they (hearing impaired learners) cannot fit in classes where the so called normal, use the normal way of communication in English and Zambian language while hearing impaired learners use sign language.*

The above statement shows that communication is a barrier to effective implementation of inclusive learning. In support of this statement, the second teacher observed that:

> *Because hearing impaired learners use signs while hearing learners do not, it is not easy for hearing impaired learners to grasp the information in the midst of hearing children who are mostly advantaged because of their ability to hearing.*

Another teacher said hearing-impaired learners could not learn together with hearing learners because:

> *Hearing-impaired children's' rate of learning/reading is at a slow pace because we follow each child's pace, level and capacity which is different from that of hearing learners.*

Another teacher observed that:

> *There is no integration of hearing-impaired learners into classes for hearing children because our school only has hearing impaired learners though all the teachers are hearing. It is a special school.*

4.3.6. Teachers' knowledge on the application of the PLP strategies to the development of literacy skills of learners with hearing impairment

Teachers were asked to state their adequacy of knowledge, skills and methodologies on how to teach reading to hearing impaired learners using the five (5) strategies advanced by the PLP: phonics, fluency, comprehension, vocabulary and writing. Their responses are shown in the the table below.

Table 7: Teachers responses on their knowledge of the PLP methodology of teaching literacy

PLP Methodology of teaching literacy	Methodology Adequate	Methodology not adequate
Phonics	4	22
Fluency	3	23
Comprehension	10	16
Vocabulary	11	15
Writing	16	10

Table 7 shows responses of teachers on their levels of knowledge and skills of the PLP methodology of teaching literacy components using phonics, fluency, comprehension, vocabulary and writing.

1. Phonics

Phonics is the first methodology of literacy instruction under the PLP. The table shows that only four (4) of the twenty-six (26) teachers who were interviewed claimed to have the necessary knowledge and abilities to teach literacy to pupils with hearing impairment, while the majority—twenty-two (22), said they lacked those qualifications. Teachers' responses indicated that in phonics as a methodology for teaching literacy to children with hearing impairment, teachers did not have adequate knowledge and skills. This is because phonics required the ability to hear and manipulate sounds, both abilities which children with hearing impairment lacked. One teacher noted thus:

The PLP methodology of teaching reading through the use of sounds (phonics) was not attainable by children with hearing impairment due to the nature of disability, i.e., deafness. The methodology seems to work for learners who are hearing and are able to get sounds of letters of the alphabet.

A teacher who conducted classroom observation of the actual teaching of reading of a Grade 3 hearing impaired class had this to say:

> *I did not see any traces of phonics being implemented, or even being tried in hearing impaired classes. In short, this methodology is never taught because it is alien to children with hearing impairment.*

2. Fluency

Fluency is second methodology for teaching literacy under the PLP. A total of twenty-six (26) teachers were interviewed about their expertise in teaching fluency to Grade three (3) learners with hearing impairment. Only three (3) teachers said they taught fluency and had the necessary knowledge and abilities to do so. However, the majority comprising—twenty three (23) teachers said it was challenging to teach fluency because they lacked the necessary information and expertise to employ this tactic.

One teachers observed thus:

> *Teaching fluency gave problems to learners as it was hard to teach. Hearing-impaired learners were slow at reading as they seemed to repeat a word several times before proceeding to another word."*

Another teacher argued thus:

> *Fluency was difficult to teach because reading among deaf people required the signing of words (sign language), in most cases fingerspelling, which slows down reading fluency. Deaf people repeat the same word over and over during the reading process.*

3. Comprehension

Comprehension is the next literacy approach used in PLP. The effectiveness of this approach was evaluated through interviews with twenty-six (26) teachers. In accordance with Table 7, ten (10) teachers claimed that it was simple to teach comprehension to learners with hearing

impairment, while sixteen (16) teachers claimed it was challenging. Among those who claimed that comprehension had been attained, one teacher noted as follows:

Comprehension was done with different reading activities given to learners. Thereafter, learners were asked to answer the questions based on what was read. Pupils completely failed to answer comprehension questions.

One teacher said:

> *Although pupils were able to recall the previous work, the rate of recalling came with many difficulties. In order to get the required responses based on the comprehension passage, I give pupils leading questions, which guide them to get the answers. If I do not do this, learners fail to recall what was read.*

4. Vocabulary

The PLP also requires the use of vocabulary instruction, specifically teaching the breadth and complexity of vocabulary, as a method for teaching literacy to learners. Only eleven (11) teachers said they had the knowledge and abilities necessary to teach vocabulary to pupils who were hearing impaired, while fifteen (15), said they lacked those abilities.

One teacher had this to say:

> *The vocabulary of hearing-impaired learners is generally limited and poor because they do not seem to know a language to help them develop a word bank. Moreover, most of us are not trained in literacy and languages.*

One teachers observed thus:

> *Teachers do not have adequate knowledge to teach vocabulary to children with hearing impairment due to lack of orientation on how to go about it.*

The other teacher had this to say:

> *Children with hearing impairment are academically weak when it comes to learning vocabulary. The rate of grasping concepts is very slow, and sometimes, a teacher will take the whole week teaching the same items.*

Another teacher said that:

> *In an effort to improve the vocabulary levels of learners, we give them a lot of remedial work in reading through Individualised Education Programmes (IEP). We sit with learners and read with them using a slow pace of step-by-step.*

Otherwise, more is needed to be done.

5. Writing

Writing is the fifth and final strategy for imparting literacy to pupils in lower grades. Teacher's responses are shown in the table above.

Out of the twenty-six (26) teachers interviewed, sixteen (16) claimed to have the knowledge and abilities necessary to teach writing to pupils who are hearing impaired, while ten (10claimed not to. One teacher indicated the following:

> *Teaching writing to hearing-impaired learners is easy. Learners always show very good and improved writing skills. This makes it easy for writing activities to be handled successfully.*

Another teacher said:

> *We have all the necessary skills and competencies to teach writing to hearing- impaired learners based on the training we acquired at college.*

4.3.7. Administrators views on their familiarity with the PLP methodology of teaching literacy

Sixteen (16) administrators were asked if they were familiar with the PLP. The gender distribution was six (6) males and ten (10) females. The table below shows senior teachers responses on their knowledge of the PLP.

Table 8: Administrators views on their familiarity with the PLP methodology of teaching literacy

Administrators Knowledge of the PLP	Responses
Familiar with the PLP	14
No Familiar with the PLP	2

The table above shows that the majority of administrators, fourteen (14) confirmed that they were familiar with the PLP. Only two (2) administrators interviewed indicated that they were not. The majority of administrators said they attended orientation meetings when the programme was first being introduced. They claimed that during the CPD orientation sessions, they even oriented their teachers about the PLP.

On the other hand, those who claimed they were unfamiliar with the PLP explained that they had heard about the initiative being used in schools for typical hearing pupils but had little knowledge of its goals or methods for instructing reading to hearing impaired learners.

4.4 Availability of teaching and learning materials to support the implementation of the PLP to learners with hearing impairment.

This research sought to establish the availability of teaching and learning materials and administrators support to the implementation of the PLP to children with hearing impairment in grades 3.

4.4.1. Availability of visual aids at school to support reading development of hearing impaired learners

Twenty-six (26) teachers were interviewed in order to establish the availability of visual aids that support reading development of learners with hearing impairment. The table below shows teachers responses on the availability of visual learning aids.

Table 9: Availability of visual aids

Availability of visual aids	Response
Visual aids available	7
Visual aids not available	19

Table 9 presents teacher's responses on the availability of visual teaching and learning aids to support reading development of learners with hearing impairment.

Out of twenty-six (26) teachers interviewed, seven (7) teachers said visual teaching and learning materials were available in the school. The majority of teachers, nineteen (19), said visual materials were not available in the school.

4.4.2 Availability of suitable Grade 3 reading books to support reading development of hearing impaired children.

The research sought to establish the availability of suitable reading books to support reading development of children with hearing impairment. In order to establish this, twenty six (26) teachers were asked to state whether reading books suitable for reading of Grade 3 learners with hearing impairment were available or not. The figure below indicates the responses from teachers on the same.

Table 10: Availability of suitable reading books

Availability of suitable reading books	Responses
Reading Books available	3
Reading Books not available	22
Not sure	1

The above table show responses from teachers on the availability of suitable reading books for grade 3 children with hearing impairment. Out of twenty six (26) teachers interviewed, three (3) teachers said they had suitable reading books for hearing impaired learners, twenty two (22) teachers said suitable reading books were not available while one (1) teacher said he was not aware of the availability of suitable reading books in the school.

4.4.2.1. Teachers comments on the availability of suitable reading books

The following were observations made by teachers concerning the availability of suitable reading books.

The comment from one teacher was:

> *We have never received books suitable for deaf children. I use books for hearing children; ordinary books used for ordinary classes like Breakthrough, New Progressive English-Primary and Read-On activity book.*

Another teacher observed that Ministry of Education had not yet provided teaching and learning materials meant for teaching reading to learners with hearing impairment. The comment was that:

We use the same books meant for the mainstream classes. As teachers, we just interpret and convert the content into sign language. The same books, which the so-called normal learners use, are the same books we use. This has posed a lot challenges in teaching literacy to hearing-impaired children.

One teacher observed that all the teachers teaching learners with hearing impairment used the same curriculum and textbooks for non-hearing impaired children.

We do not have books specifically meant for deaf children. These books we have, the content is difficult because it does not suit deaf pupils, book for deaf people should have simple language, and should contain pictures for children to see.

One teacher observed that it was hard to teach reading to hearing-impaired learners because the teacher spends more time on modifying the content to make it suitable for children with hearing impairment. He noted thus:

We use the same books that are used everywhere in schools. Teachers handling learners with hearing impairment have the trouble to modify the content to suit the learners and help them understand concepts/ ideas being put across. This in itself is time consuming because very few subjects are taught in a day.

The general observation from teachers was that schools did not have suitable reading books to support the teaching of reading to hearing-impaired children.

4.4.3 Availability of suitable Grade 3 teachers' guides to teach reading to hearing impaired children.

The study aimed at establishing the provision of teachers' guides with suitable content for teaching literacy to children with hearing impairment. In order to achieve this, twenty six (26) teachers were asked to state whether they had teachers' guides suitable to teach literacy to hearing-impaired children. The table below shows responses of teachers.

Table 11: Availability of suitable teachers guides

Availability of suitable teachers guides	Responses
Teachers Guides Available	4
Teachers Guides Not Available	22

The table shows teachers responses on the availability of suitable teachers' guides/ books to support the teaching of reading to children with hearing impairment. From the twenty-six (26) teachers who were interviewed, only four (4) teachers said they had suitable teachers' guides to support the teaching of reading to learners with hearing impairment. The majority of teachers, twenty two (22) said they did not have suitable teachers' guides for teachers of learners with hearing impairment.

Teachers have noted that the Ministry of Education had not provided teachers with adequate guides or recommended methods for teaching reading to children who have hearing impairment. They stated that the PLP teachers' manuals they got contained information that was inappropriate for children who have hearing loss. Teachers also noted that there were no recommended approaches for teaching literacy to children with hearing impairment in the PLP instructors' guides. This has created challenges for teaching literacy. Teachers reported that the only accessible teacher's manuals were out-dated manuals created for the Zambia Primary Course (ZPC) and New Break Through to Literacy (NBTL). They noticed that the instructors' manuals for ZPC and NBTL were aligned with the student textbooks.

Teachers observed that the PLP's teacher's guides were not appropriate for use with pupils who had hearing impairment. Children with hearing impairment have a tough time developing the reading skills necessary for their grade level due to the lack of appropriate PLP teachers' guides.

4.4.4 Availability of suitable assistive devices to support the implementation of the PLP to learners with hearing impairment

In order to support the implementation of the PLP for grade three (3) children with hearing impairment, this study aimed to determine the availability of appropriate assistive devices and equipment. Teachers of learners with hearing impairment were questioned if the school offered assistive devices to help hearing-impaired pupils' auditory systems, such as digital hearing aids and cochlear implants. The study also concentrated on finding out the availability of Information and Communications Technology (ICT) devices at school.

4.4.4.1 Availability of hearing assistive technology devices

Twenty six (26) teachers were interviewed on the availability of digital hearing aids and cochlear implants at school. The study was aimed at establishing the provision of these materials to improve the hearing abilities of grade 3 children with hearing impairment. The results of the findings are shown in the table on the next page:

Table 12: Availability of digital hearing aids at school

Availability of hearing aids at school	Responses
Hearing aids available	10
Hearing aids not available	16

Table 12 shows that out of twenty-six (26) teachers interviewed, ten (10) said digital hearing aids and cochlear implants were available while sixteen (16) said these hearing aids were not available.

The table confirms the non-availability of hearing aids to support the education of learners with special educational needs.

Schools did not facilitate for the access of hearing aids and cochlear for children with hearing impairment. The non-availability of digital hearing aids and cochlear implants to support the education of learners with hearing impairment limits the ability of learners to participate fully in reading activities. Assistive devices are meant to better the lives of children with hearing impairment. The absence of assistive devices retards children's participation in educational opportunities.

4.4.4.2 Availability of ICT materials at school

The goal of this study was to determine what ICT resources, such as computers, projectors, and video games, were available to assist hearing-impaired pupils' reading development in the classroom. To do this, sixteen (16) school administrators were interviewed about their opinions of the accessibility of ICT resources. The chart below presents the study's findings:

Table 13: Availability of ICT Materials

Availability of ICT Materials	Available	Not Available
Computers	4	12
Projectors	3	13
Video Games	3	13

Table 13 presents administrators' comments on the accessibility of ICT resources to support children with hearing impairment' literacy development. These are laptops, projectors, and video games among the ICT resources. Four (4) of the sixteen (16) administrators who were interviewed claimed that the school had computers, while twelve (12) claimed that there were none available to assist the literacy development of children with hearing impairment. When

asked if the school had projectors, three (3) administrators responded positively, while the majority—thirteen (13)—reported that there weren't any. Three (3) administrators responded positively to the question of whether the school had video games to help hearing-impaired pupils improve their literacy skills, but the majority of administrators—thirteen (13)—said they did not have video games in school.

4.4.5 Administrators support in the provision of equipment

The researcher was interested in learning how teachers felt about the level of assistance administrators provided to them in managing the PLP's execution for grade three (3) pupils with hearing impairment. To do this, the researcher convened focus group discussion meetings, each comprising of eight participants (teachers), one researcher and one assistant researcher. During the discussions, one of the questions asked was about level of assistance provided by the school administration in managing the PLP's implementation in schools for pupils with hearing impairment.

4.4.5.1. Reactions of teachers on administrators support to the provision of equipment

Some teachers observed that there was minimal support given to teachers, as administrators did not provide them with equipment and other teaching and learning materials like charts, pupils and teacher's books, markers and crayons. A comment from one teacher was thus:

> *There was no consideration for special education in the school. These administrators do not consider special education as being important. They do not buy us equipment, charts, makers and crayons to help children draw and paint.*

Another teacher said that administrators gave no support. The comment was that:

> *There is no support from administrators. We are not provided with teaching and learning aids to help us teach the PLP. Reading materials suitable for learners with hearing impairment should have more pictures to help them assimilate the concept of reading. In most of these special units, teaching is done in an abstract manner with no reference to concrete visual aids.*

Another teacher observed that administrators did not consider learners with hearing impairment as they were treated the same way as normal children. The teacher had this to say:

> *It's like eating from the same pot; now it's like consideration to say these are special, that consideration is not there. We just eat from the same pot even if we are allergic to the food provided, no one cares. Therefore, it is up to us teachers of deaf children to modify materials meant for normal children to suit our deaf children. This is not fair. It's like the same material meant for hearing children are the same used by deaf children.*

Some teachers acknowledged that administrators provided support, though it was extremely limited. One teacher observed thus:

The school does not budget for the special unit as an independent and distinct body, support is very minimal. Budgeting for the entire school is done without taking into account specialised tools and instructional materials appropriate for deaf children.

Another teacher observed that there was less assistance provided to learners in the form of instruction and learning materials. The comment was that:

> *Special education is not taken into account in these schools. Administrators preferred to buy materials for hearing pupils who already had an edge over non-hearing-impaired pupils. Less consideration was given by administrators to the needs of learners with hearing impairment.*

4.4.6 Administrators support to the implementation of the school feeding program

Teachers were asked if the school administrators were supporting the implementation of the school feeding program where the school was expected to provide feeding to children with hearing impairment. Twenty six (26) teachers took part in this interview. The table below presents teachers responses on the school feeding programme.

Table 14: Implementation of school feeding programme

Implementation of school feeding programme	Responses
School Feeding Programme Provided	11
School Feeding Programme Not Provided	15
Total No. of teachers	**26**

Results of the study indicated that eleven (11) teachers said administrators provided feeding programs to learners while the majority, fifteen, (15) said the school did not provide any school feeding programs and that there were no meals given to learners with hearing impairment.

4.4.7 Administrators support to the provision of classroom space

Administrators were asked to state if they had provided enough classroom space to accommodate hearing impaired children in school. In order to establish this, sixteen (16) administrators were interviewed. The table below presents administrators views on availability of classroom space:

Table 15: Availability of classroom space

Availability of classroom space	Responses
Classroom Space Adequate	5
Classroom Space Not Adequate	11

The table above presents administrators responses on the availability of classroom space to accommodate learners with hearing impairment. Results of the findings indicate that generally, classroom space was not adequate to accommodate all the learners with hearing impairment. The table indicates that five (5) administrators said the school had adequate classroom space to accommodate learners with hearing impairment, while the majority, nine (9), said the school did not have adequate space to accommodate all learners with hearing impairment.

4.4.8. Frequency of internal and external monitoring

The study sought to establish the how frequently administrators conducted internal and external monitoring of literacy lessons. Teachers were asked to state how often they were monitored by internal and external monitors during the teaching of literacy to hearing-impaired learners. Internal monitors include senior teachers, Deputy Head teachers and Head teachers, while external monitors comprised of standard officers. The figure below presents the teachers responses.

The goal of the research was to determine how frequently administrators monitored literacy lessons internally and externally. When teaching literacy to pupils who are hard of hearing, teachers were questioned how frequently they were observed by internal and external observers. Senior Teachers, Deputy Head Teachers, and Head Teachers make up the internal monitors, while Standard Officers make up the external monitors. The teacher answers are shown in the figure on the next page.

Table 16: Frequency of internal and external monitoring

Responses on frequency of monitoring	Weekly	Every after 2 weeks	Monthly	Termly	None	Total
Senior teacher	9	6	5	6	0	26
Deputy Head Teacher	3	2	12	3	6	26
Head teacher	3	1	9	6	7	26
Standards Officers	0	0	0	4	22	26

Table 16 presents the results of the responses of twenty six (26) teachers on how frequently their literacy lessons were monitored by internal and external monitors. Senior teachers, deputy head teacher and head teacher did internal monitoring while standards officers conducted external monitoring.

4.4.8. 1. Teachers responses on the frequency of internal monitoring

Responses of teachers on internal monitoring were as follows;

1. Frequency of monitoring of literacy lessons by senior teachers

Out of a total of twenty six (26) teachers interviewed, nine (9) teachers said senior teachers monitored them weekly, six (6) teachers said they were monitored once every after two (2) weeks while Five (5) teachers said they were monitored monthly. The remaining six (6); teachers said they were monitored once in a term. One teacher had this to say:

> *What I have observed is that senior teachers do not make monitoring as their priority. The whole of last term, I was only monitored only once. In most cases, senior teachers spend a lot of time attending meetings outside the school. This consumes most of their time.*

2. Frequency of monitoring of literacy lessons by Deputy Head Teachers

Twenty six (26) teachers were interviewed to establish how frequently deputy head teachers in their respective schools monitored them. Three (3) teachers said they were monitored weekly, two (2) teachers said they were monitored every after two (2) weeks while the twelve (12), said they were monitored once in a month. Additionally, three (3) teachers said they were monitored once in a term while six (6) said they were not monitored at all.

3. Frequency of monitoring of literacy lessons by Head Teachers

Twenty-Six (26) were asked to state how often their head teachers monitored their literacy lessons. Their responses were as indicated below:

Three (3) teachers said they were monitored weekly, one (1) teacher said he was monitored once fortnightly, nine (9) teachers said they were monitored one in a month while six (6) teachers said they were monitored once every month. The rest of the teachers, seven (7) reported that they were not monitored at all. This shows inconsistent monitoring of teachers by head teachers. One teachers noted thus,

> *The head teacher has little time to spend in the school because most times, she is called at the DEBS office for meetings. The Head teacher is always out for workshops and seminars. So, monitoring of teachers is affected.*

4.4.8. 2. Teachers responses on the frequency of external monitoring

Teachers were asked to state the frequency of monitoring of literacy lessons by external monitors i.e. standards officers. Responses from teachers revealed lack of regular monitoring by standards officers. Fifteen (15) teachers said they were monitored once in a term while eleven (11) said they were not monitored at all.

4.5. Home literacy environment and parental support to enhance reading skills of learners with hearing impairment

The purpose of the research was to determine whether there was a home literacy setting and parental support for improving the reading abilities of pupils with hearing impairment. These include having books to study at home and parents' willingness to assist children with homework. The research also examined the equipment that parents provided for children who needed digital hearing aids and cochlear implants.

4.5.1. Availability of reading books at home

The purpose of the research was to determine whether reading books at home was feasible. To accomplish this, thirteen (13) parents of hearing-impaired Grade 3 pupils were questioned to determine whether they owned reading materials at home to support their children's reading activities. The following table lists parents' opinions regarding the access of reading materials at home:

Table 17. Availability of reading books at home

Availability of Reading Books at Home	Frequency
Reading Books Available	5
Reading Books not Available	8

The above table presents the responses from parents on the availability of reading books for hearing impaired children at home. Out of thirteen (13) parents interviewed, five (5) said reading books to support reading activities of hearing impaired learners were available at home. On the other hand, eight (8) parents said they did not have reading books at home.

4.5.1.1. Reactions from Parents on the availability of reading books at home

Among the parents who said, they had reading books at home, one parent had this to say:

> *I have books that he can read and learn how to write. The books have many pictures and drawings, which makes them interesting for my child.'*

Another parent had this to say:

> *We have simple books that help him to read and write. It helped him to improve on spellings, reading and writing.*

On the other hand, majority of parents said they did not have reading materials at home. One parent had this to say:

> *We do not have reading books. I do not know where I can buy reading books for my child because shops do not stock reading books for deaf children.'*

Parents observed that they did not have reading books to support reading activities of learners with hearing impairment at home. One parent said:

> *I do not know how to read and write. There is no one who can read in the home, so, I do not see any reason of buying reading books.*

Another parent bemoaned a lack of sign language skills. He said:

I'm not able to communicate using sign language, so it is difficult for me to engage into effective communication with the child to understand exactly what type of books he needs.

4.5.2. Parents helping their hearing impaired children with homework at home

This study sought to establish the amount of reading support that parents of learners with hearing impairment offered to their children at home. In order to answer this question, Thirteen (13) parents were asked to state if they read together with their hearing-impaired children at home by supporting their school homework. The results of the findings are as shown in the table below.

Table 18: Parents helping their HI children with homework at home

Parents helping their HI children with homework at home	Column1
Parents helping HI children with homework	4
Parents NOT helping HI children with homework	9

Table 18 shows the amount of support children received from parents in doing homework. The table indicates that four (4) parents said they helped their children to do homework while nine (9) indicated that they did not help their children with hearing impairment to do homework. Parents who said they supported their children with hearing impairment to do homework at home said they had committed themselves to ensuring that children with hearing impairment are also accorded an opportunity to attend school education.

4.5.2.1 Comments from parents on helping their hearing impaired children do homework at home

One parent had this to say:

Mainly, I render help and support more especially when the boy is given homework in mathematics.

Another parent stated as bellow:

We do homework together every time she comes with homework from school. I even sign afterwards to show that I checked the book.

The other parent also confirmed that parents and other siblings always helped the child at home.

We help him to do homework whenever he comes with it. The father does that after work, and sometimes the sister helps. In fact, she is improving in homework.

Most parents who said they did not help their children with hearing impairment to do homework at home said they did not do so because they had reading difficulties.

He always brings homework to me so that I can help him what he does not know. However, I am unable to help because I do not know how to read.

The other parent responded that the child had never brought any homework since he started school. She said:

I rarely check my child's books because he does not come with homework. I do not even know sign language so it is difficult for me to communicate with the child.

4.5.3 Parents' effort to source for digital hearing aids and cochlear implants

This study sought to establish parents' effort to request for digital hearing aids or cochlear plants from health facilities to support auditory stimulation of the hearing-impaired children. The question was aimed at finding out efforts made by parents to approach the hospital or any other service provider who work in the area of provision of auditory stimulation equipment. Twelve (12) parents were interviewed to state if they had made any effort to source for digital hearing aids and cochlear implants for their hearing-impaired children. The results of the findings are shown in the table below:

Table 19: Parents efforts to source for hearing aids

Parents efforts to source for hearing aids	Made Efforts to source	Did not make any effort to source
Digital Hearing Aids	2	10
Cochlear Implants	3	9

Out of twelve (12) parents interviewed on the availability digital hearing aids, two (2) parents said they had made some efforts to source for digital hearing aids while ten (10) said they did not make any effort to do so. On efforts made to source for cochlear implants for their hearing-impaired children, three (3) parents said they made efforts

to secure the cochlear implants for their hearing-impaired children. On the other hand, nine (9) parents said they did not source for such equipment.

4.5.3.1 Reactions from Parents

One of the parents who said they had made efforts to source for digital hearing aids and cochlear implants for his hearing-impaired child had this to say:

> *I took my child to the University Teaching Hospital (UTH) where I was asked to buy the digital hearing aids. But I did not manage to buy because it was quiet expensive.*

Another parent said:

> *As parents, we made arrangements through the school to source for digital hearing aids and cochlear implants from donors and other cooperating partners. However, the request was unsuccessful.*

On the other hand, some parents said they did not make any effort to source for digital hearing aids and cochlear implants for their children. Parents who said they did not make any effort to source for digital hearing aids and cochlear implants for their hearing-impaired children observed that they did not know where to access the hearing aids. One parent had this to say:

> *I do not know where to access the hearing aids. Local hospitals do not have that provision. Our local shops do not stock them. Therefore, you can not find the anywhere here.*

4.6. Comparison of reading performance between learners with hearing impairment and non-hearing impaired learners.

By contrasting the reading abilities of pupils with hearing impairment and those of non-hearing impaired pupils, the research aimed to demonstrate the efficacy of the PLP. By using the Basic Skills Assessment Tool (BASAT), thirty (30) pupils with hearing impairment and thirty (30) non-hearing impaired pupils participated in the same assessment to ascertain their levels of knowledge in the following literacy skills: rearranging letters of the alphabet, finding missing letters of the alphabet within a given sequence, letter dictation, letter-word matching, picture-word matching, reading and drawing, reading vocabulary, reading comprehension, and digital span were among the components of the evaluation.

Two tables are used to show the findings' outcomes. These are the bivariate relationships and cross tabulations.

4.6.1 Results of the Cross tabulation to compare reading performance between learners with hearing impairment and non-hearing impaired learners

The tables below presents results of a cross tabulation comparing the reading performance between learners with hearing impairment and non-hearing impaired learners. Thirty (30) learners with hearing impairment and thirty (30) non-hearing impaired learners took part in the study.

1. Letter Knowledge (Identifying missing letters)

In terms of letter understanding, pupils with and without hearing impairment were compared. Pupils were instructed to choose the missing letters from a list of alphabetically arranged letters. Five (5) letters and five (5) blank spaces were provided to them; they had to locate the missing letters to finish the sequence.

Table 20. Letter Knowledge (Identifying missing letters)

Variable	Score out of 5	Hearing status	
		Hearing impaired	Non-hearing impaired
Letter knowledge: Identifying missing letters (DILQV)	0	20	5
	1	1	2
	2	2	1
	3	3	7
	4	1	3
	5	3	12
Total		**30**	**30**
Mean		1.10	3.23
Percentage		22%	64.6%
Standard deviation		1.768	1.888

The table indicates that the majority of learners with hearing impairment exhibited poor knowledge of the letters of the alphabet. Most learners with hearing impairment could not recognise the missing letters from a number of letters written in alphabetical order. They

demonstrated poor skills of alphabetical awareness. The cross tabulation table of the performance between learners with hearing impairment and non-hearing impaired learners revealed that out of the total number of thirty (30) hearing impaired learners assessed, twenty, (20) learners with hearing impairment had a zero score, meaning the majority of learners with hearing impairment could not identify a single letter of the alphabet. The table further indicates that only three (3) learners with hearing impaired got all the five (5) items correct. The table further reveals that out of the total of five (5) items given, the mean score for learners with hearing impairment was 1.10 with standard deviation (SD=1.768) presenting a 22% score.

On the other hand, out of the thirty (30) non-hearing impaired learners assessed, twelve (12) learners got all the given five (5) test items correct. Only five (5) non-hearing impaired learners scored zero. This shows that non-hearing impaired learners performed exceptionally well at letter knowledge. The mean score for non-hearing impaired learners was 3.23 with standard deviation SD=1.888 and a percentage of 64.6%.

2. Letter Knowledge (Letter dictation).

This section presents the performance of both learners with hearing impairment and non-hearing impaired learners in letter dictation. Here, the teacher dictated five (5) letters of the alphabet. For hearing impaired learners, the dictation was done through sign language, while for non-hearing impaired learners, it was done through reading aloud. The dictation was done systematically, one letter at a time to give chance to learners to listen (non-hearing impaired learners) and see (hearing impaired learners) Learners were then asked to write down the letters dictated by the teacher.

Table 21: Letter dictation

Table 10: Letter Knowledge (Letter dictation) variable	Score out of 5	Hearing status	
		Hearing impaired	Non-hearing impaired
Letter knowledge: QBXEG	0	10	5
	1	0	1
	2	2	3
	3	1	3
	4	2	7
	5	15	11
Total		**30**	**30**
Percentage		60%	66%
Mean		3.00	3.30
Standard deviation		2.304	1.860

The cross tabulation table displays the pupils' letter knowledge achievement (letter dictation). The outcomes demonstrate that non-hearing impaired pupils outperformed those with hearing impairment. As can be seen above, non-hearing impaired received 66% while those with hearing disability received 60%. The chart also reveals that of the sixty (60) pupils—thirty (30) pupils with hearing impairment and thirty (30) non-hearing impaired pupils, pupils with hearing impairment recorded the highest number of zero scores (ten (10) learners with hearing impairment got zero), while only five (5) non-hearing impaired learners got zero. On the other hand, the highest number of pupils who got all the five (5) items correct was learners with hearing impairment. Fifteen (15) learners with hearing impairment got all the five (5) items correct while eleven (11) nonimpaired pupils each correctly answered all the five (5). However, even though more hearing impaired pupils correctly answered all five test items, their total performance lagged behind that of hearing-unimpaired pupils.

When comparing the results of hearing-impaired pupils with that of nonhearing impaired pupils, the table shows that hearing-impaired pupils had a mean score of 3.00 SD= 2.304, while non-hearing impaired pupils had a mean score of 3.30 SD=1.860. The average result demonstrates that hearing-impaired pupils underperformed non-hearing impaired pupils. However, the average score for hearing-impaired and non-impaired pupils was nearly the same, suggesting that non hearing-impaired pupils were equally good at letter dictation.

3. Letter Knowledge: (Letter-word matching)

In this part, the letter-word matching abilities of both hearing-impaired and nonhearing impaired pupils were evaluated. A table with two (2) columns—A and B—was provided to the pupils. Column A contained the alphabet's letters, and Column B contained words. Each of the words in column B had a particular letter contained in column A that learners needed to identify and circle. The results are presented in table 22.

Table 22: Letter Knowledge: (Letter-word matching)

Variable	Score out of 5	Hearing status	
		Hearing impaired	Non-hearing impaired
Letter knowledge: Letter-word matching	0	6	0
	1	1	0
	2	2	0
	3	3	0
	4	2	1
	5	16	29
Total		**30**	**30**
Mean		3.40	4.97
Percentage		68%	99.4%
Standard deviation		2.044	.183

The table above shows the performance of learners; thirty (30) hearing impaired and thirty (30) non-hearing impaired, at letter to word matching. Five (5) assessment items were given. The table shows that learners with hearing impairment got a mean score of 3.4, representing sixty-eight (68%). On the other hand, non-hearing impaired learners had a mean score of 4.97 representing 99.4% achievement levels.

The table shows that six (6) learners with hearing impairment got zero, while none of the non-hearing-impaired got zero. Furthermore, twenty-nine (29) non-hearing-impaired pupils got five (5), while only sixteen (16) learners with hearing impairment got five (5). This shows that learners with hearing impairment performed poorly at letter to word matching.

4. Reading-Picture word matching

In this section, respondents were given five-(5) test items consisting of five (5) words and five (5) pictures. Respondents (both learners with hearing impairment and non- hearing-impaired learners) were asked to read the words and then match them with the pictures provided. The findings are shown in the diagram below:

Table 23: Reading-picture word matching

Variable	Score out of 5	Hearing status	
		Hearing impaired	Non-hearing impaired
Reading: Pictureword matching	0	7	0
	1	2	1
	2	3	1
	3	6	2
	4	1	1
	5	11	25
Total		**30**	**30**
Percentage		56.6%	92%
Mean		2.83	4.60
Standard deviation		2.019	1.003

The table demonstrates that when it came to reading-picture word matching, hearing-impaired pupils underperformed non hearing impaired pupils. Pupils who had hearing loss had a mean score of 2.83, or 56.6%, with a standard variation of 2.019. On the other side, non-hearing impaired pupils had a mean score of 4.6, or 92%, and a standard deviation of 1.003. According to the findings, non-hearing impaired pupils performed better than those with hearing impairment. Seven (7) pupils with hearing impairment received zero, as shown in the chart above, while no non hearing impaired student received zero. In addition, twenty five (25) pupils who were not hearing-impaired answered all five questions correctly, compared to just 11 hearing-impaired pupils.

5. Reading and drawing

This section sought to establish the performance of learners in reading and drawing. Sixty (60) learners (thirty (30) hearing impaired and thirty (30) non-hearing impaired) were given

a reading assessment test in which they were presented with five (5) reading words. Learners were required to read the words silently, and then draw a picture to represent a word they read.

Table 24: Reading and drawing

Variable	Score out of 5	Hearing status	
		Hearing impaired	Non-hearing impaired
Reading and drawing	0	7	1
	1	5	1
	2	3	0
	3	1	0
	4	1	7
	5	13	21
Total		**30**	**30**
Mean		2.77	4.47
Percentage		55.4%	89.4%
Standard deviation		2.176	1.167

Children with hearing impairment and those without hearing impairment had their reading comprehension skills tested. The provided words were to be silently read by the pupils. After that, they were instructed to illustrate each phrase they had read by drawing what the word represents. Five (5) reading and sketching tasks were given to thirty (30) pupils with hearing impairment and thirty (30) non hearing impaired pupils. The chart shows how poorly hearing-impaired pupils performed when reading. Hearing impaired pupils had a mean score of 2.77 with a standard variation of 2.176, or 55.4%. However, non-hearing impaired children performed well, with a mean of 4.47, or 89.4% of reading proficiency, and a standard variation of 1.67. According to the findings, nonhearing impaired pupils performed better than those with hearing impairment. As shown in the table, seven (7) hearing-impaired pupils received zero, as opposed to just one (1) non hearing impaired. Additionally, only thirteen (13) hearing-impaired pupils correctly answered all the five (5) questions, compared to twenty one (21) non hearing impaired pupils who got correct five (5) test items.

6. Reading Vocabulary

The table below presents the results of the findings of pupil's performance in reading vocabulary. Sixty (60) learners; (thirty (30) hearing impaired and thirty (30) non-hearing impaired) were given a list of five (5) words to read. Learners with hearing-impairment were requested to read signing (Sign language) while non- hearing-impaired learners were asked to read aloud through vocalising.

Table 25: Reading Vocabulary

Variable	Score out of 5	Hearing status	
		Hearing impaired	Non hearing impaired
Reading Vocabulary: syllable word	0	7	0
	1	5	0
	2	4	1
	3	8	0
	4	5	0
	5	1	29
Total		**30**	**30**
Mean		2.07	4.90
Percentage		41.4%	98%
Standard deviation		1.552	.548

The table shows how both hearing-impaired and non-hearing impaired learners performed when reading words with one syllable. The table shows that seven hearing-impaired learners received a score of zero (0). However, no non-hearing impaired learners received a score of zero (0). In contrast, twenty nine (29) of the thirty (30) non-hearing-impaired pupils correctly answered every question on the test. For learners with hearing impairment, only one (1) out of the thirty pupils evaluated correctly answered all five (5) questions.

In terms of percentages, learners with hearing impairment had a lower percentage of 41.4% while non-hearing impaired learners scored a record 98%. The table also indicates that learners with hearing impairment had a mean performance of 2.07 with 1.552 standard deviation. To the contrary, non-hearing impaired learners had a percentile of 98% with a mean of 4.90 and standards deviation of .548.

7. Reading Comprehension

The study sought to establish the performance of both learners with hearing impairment and non-hearing impaired learners in reading comprehension. The total number of learners assessed was sixty, (60) distributed as thirty (30) learners with hearing impairment and thirty (30) non-hearing impaired learners. Learners were given five (5) assessment tests. In this assessment, learners were given five (5) pictures showing activities taking place. For each picture, learners were given five (5) sentences describing the activity. Learners were then asked to identify the best option from the five (5) sentences to best explain the type of activity taking place in the picture.

Table 26: Reading Comprehension

Variable	Score out of 5	Hearing status	
		Hearing impaired	Non-hearing impaired
Reading Comprehension	0	7	3
	1	5	3
	2	3	0
	3	2	3
	4	10	6
	5	3	15
Total		**30**	**30**
Mean		2.4	3.70
Percentage		48%	74%
Standard deviation		1.055	1.765

The table above shows the performance in reading comprehension between learners with hearing impairment and non-hearing impaired children. As seen, seven (7) learners with hearing impairment got zero. However, for non-hearing impaired learners, only three (3) got zero. Additionally, and fifteen (15) nonhearing-impaired pupils scored five (5), while only three (3) learners with hearing impairment got five (5).

In terms of percentage pass and mean, learners with hearing impairment got 48%, with a mean of 2.4. On the other hand, non-hearing impaired learners scored 74% with a mean of 3.7. Both the mean and percentage scores between learners with hearing impairment and non-hearing

impaired learner's reveals that learners with hearing impairment demonstrated poor skills in reading comprehension. For nonhearing impaired learners, the mean of 3.7 and percentage of 74% clearly shows good comprehension skills. This shows that non-hearing impaired learners performed better than learners with hearing impairment in reading comprehension did.

8. Digital span

Table 27 presents the performance of learners in digital span. Thirty (30) learning with hearing impairment and another thirty (30) non-hearing impaired learners took part in the assessment. The activity involved assessing learner's working memory through reading and computation of numbers using number identification and sequencing. Learners were given a list of five (5) numbers and then asked to rearrange the numbers in sequential order from the smallest to the largest.

Learners were expected to remember the digital sequence correctly.

Table 27: Digital span

Variable	Score	Hearing status	
		Hearing impaired	Non hearing impaired
Digital span	0	17	2
	1	2	0
	2	1	2
	3	0	2
	4	2	4
	5	8	20
Total		**30**	**30**
Mean		1.73	4.20
Percentage		34.6%	84%
Standard deviation		2.258	1.448

The cross tabulation table indicates that learners with hearing impairment had problems in working memory through reading and computation of numbers. Out of thirty (30) learners with hearing impairment assessment, seventeen (17) could not compute and process the number sequencing correctly as they did not get a single item correct. Additionally, only eight learners

got all the five (5) test items correctly. In terms of percentage, learners with hearing impairment score 34.6% with representing a mean of 1.73 and standard deviation of 2.258.

For non-hearing impaired learners, the performance was far much better than learners with hearing impairment were. Non-hearing impaired learners exhibited high levels of performance in reading and computation of numbers using number identification and sequencing.

Out of the thirty (30) non-hearing learners who took part in the study, twenty (20) got all the test items correct. Only two (2) learners scored a zero. In terms of percentages, non-hearing impaired learners scored 84% with a mean of 4.2 and standard deviation of 1.448. A comparative analysis of the mean and percentage between learners with hearing impairment and non-hearing impaired learners shows that non-hearing impaired learners performed well at digital span (number computation and sequencing).

4.6.2. Results of the Bivariate Correlations

Table 28 presents bivariate correlations between impairment and reading variables included in the analyses in order to establish the effect of the ability to hear on reading performance of learners. The variables were, re-arranging letters, identifying missing letters of the alphabet in a given sequence, letter dictation, letter-word matching, picture-word matching, reading and drawing, reading vocabulary, reading comprehension and digital span. The correlations were meant to measure the degree of the relationships between hearing and reading variables.

Table 28: Bivariate Correlations

	Variables	1	2	3	4	5	6	7	8	9	10	11	12
1	Hearing status	1											
2	L.K.-RL	.402**	1										
3	L.K-IML	.510**	.808**	1									
4	L.K. LD	0.073	.490**	.535**	1								
5	L.K-LWM	.481**	.414**	.412**	.418**	1							
6	R: PWM	.491**	.259*	.345**	.411**	.712**	1						
7	R-D	.444**	.371**	.420**	.537**	.653**	.704**	1					
8	RV-OSW	.778**	.370**	.478**	.318*	.662**	.668**	.746**	1				
9	RV-TSW	.809**	.358**	.470**	0.208	.507**	.619**	.652**	.787**	1			
10	Voc-RS	.746**	.455**	.463**	0.181	.506**	.575**	.572**	.745**	.735**	1		
11	RC	.341**	.352**	.347**	.448**	.538**	.610**	.749**	.616**	.548**	.569**	1	
12	DS	.552**	.533**	.604**	.471**	.620**	.569**	.729**	.761**	.619**	.603**	.641**	1

Note: correlation is significant at .05

The above correlations table describe the correlations (linkages) between all variables appearing in the analysis. Included is the hearing ability and the performance of learners in the reading variables presented. The value measuring the strength of the linkage called correlation coefficient is represented by (r). In the above table, a positive (r) means a positive relationship, i.e. if the child is able to hear, (positive), the performance is likely to be desirable; while a negative (r) value indicates a negative relationship, meaning if the child's hearing is impaired (negative), the reading achievement is likely to be compromised).

Key: (1) L.K-RL=Letter Knowledge: Rearranging letters-FGHIJ; (2) LK-IML=Letter Knowledge: Identifying missing letters- DILQV;

(3) L.K-LD=Letter Knowledge- Letter dictation; (4) L.K-LWM=Letter Knowledge: Letter-word matching; (5) R-PWM=Reading: Picture-word matching

(6) R-D=Reading and drawing ; (7) RV- OSW=Reading Vocabulary: One syllable word (8) RV- TSW=Reading Vocabulary: Two syllable words;

(9) Voc-RS: Vocabulary=Reading sentences; (10) RC=Reading Comprehension ; (11) DS=Digital span

As seen from the results above, all the given variables have a significant and positive correlation variance. This means that the ability to hear (hearing status) has an impact on the performance of learners in all variables presented. This is to say, as learners hearing ability gets worse, their performance in all the variables also gets worse. On the other hand, as the hearing ability improves, learners' performance also improves. E.g. letter knowledge variables (rearranging letters) test had a positive correlation variance with the pupils hearing ability having a magnitude of r=.40**, identifying missing letters had a positive correlation variance with the pupils hearing ability having a magnitude of r=.510**. As seen above, the correlation between hearing ability and letter knowledge is high. This shows that reading skills in children with hearing impairment is low. Therefore, hearing impairment limits the ability of children to perform better in reading activities.

The correlation between letter dictation and hearing ability was positive, but weak, giving a magnitude of r=.073. The positive variance implies that non-hearing impaired learners performed better that hearing impaired learners. However, this low result implies that although hearing children performed better than Hearing impaired children, children with hearing impairment demonstrated strength in letter dictation. This shows that learners with hearing impairment are able to perform better on tasks that involve sign language. Letter dictation tasks were delivered by the researcher through signing given words to learners with hearing impairment. Once the signing was done, learners with hearing impairment seemed to have picked the sign easily and recorded the letter of the sign.

The table further shows that the correlation between rearranging letters of the alphabet and the hearing status was positive but moderate with a magnitude of r=.403**, and the correlation between letter word matching and hearing ability was also positive but moderate with a magnitude of r=.481**. As seen above. These correlations indicate that non-hearing impaired learners still performed better than learners with hearing impairment. This means that the ability to hear determines the extent to which children can learn letters of the alphabet. Additionally, the performance of non-hearing impaired learners, though lower than hearing learners, shows that at least, children with hearing impairment were not so bad at letter knowledge.

The table also presents the performance of both hearing impaired learners and hearing learners in vocabulary involving words with one syllable and two syllables. The relationship between reading vocabulary of one syllable word and hearing ability was positive, strong and significant with a magnitude of r=.778**, while that of two syllable was also positive, strong and significant

with a magnitude of r=809**. These results show that learners with hearing impairment have challenges in vocabulary especially when it comes to working with syllables. Non-hearing impaired learners out-performed learners with hearing impairment on vocabulary tasks.

The table also shows the performance of both hearing impaired and non-hearing impaired learners in digital span. The correlation between digital span and the hearing ability was equally positive, strong and significant presenting a magnitude of r=.552**. The results reveal that non hearing impaired learners performed better than hearing impaired learners on tasks that involve numbers. Non-hearing impaired demonstrated better skills at working with numbers and recalling number sequences. For learners with hearing impairment, reading and computing numbers using the working memory was difficult.

4.7. Summary of key findings

4.7.1. Teachers' Proficiency in sign language and strategies used to teach reading to learners with hearing impairment

1. Lack of proficiency of teachers in sign language

The findings of the study revealed that teachers were not proficient in sign language. It was established that teachers lacked the sign language training, expertise, and understanding required to instruct hearing-impaired pupils in literacy. Training in special education that teachers underwent provided more theory than practice in sign language. It was also established that administrators (senior teachers) had inadequate training in Special Education.

2. Inadequate training by senior teachers in Special Education

It was also established that senior teachers did not have adequate training in special education to monitor how teachers were implementing the PLP.

3. Opportunities in CPD for teachers of learners with hearing impairment

When asked if they attended CPD meetings to help them enhance their teaching techniques of implementing the PLP to learners with hearing impairment, teachers reported that they did not attended any CPD orientation meetings on how to teach literacy to children with hearing impairment. Teachers said there was no CPD orientation that has focussed on teaching reading to hearing impaired children using the PLP.

4. Teachers' knowledge, skills and methodologies used when teaching reading to learners with hearing impairment

Teachers were asked to state whether they had adequate knowledge, skills and methodologies on how to teach reading to hearing impaired learners using the five (5) methodologies advanced by the PLP namely phonics, fluency, comprehension, vocabulary and writing.

The findings revealed that the phonics methodology was not suitable to teach literacy to children with hearing impairment because it required the ability to hear and manipulate sounds, both of which children with hearing impairment lacked. In terms of teaching fluency as the PLP's second methodology, the majority of teachers reported that it was challenging to teach fluency because they (teachers) lacked the necessary knowledge and skills on how teach it to children with hearing impairment. Teachers observed that learners with hearing impairment could not read fluently.

The findings of the study also established that learners with hearing impairment performed poorly in comprehension. It was established that the majority of learners with hearing impairment could not understand most of the material they read. Next, teaching vocabulary to learners with hearing impairment was also found to be challenging. The findings revealed that the majority of teachers said they lacked the knowledge and abilities to teach vocabulary to learners with hearing impairment. The findings revealed that the vocabulary of hearing impaired learner's is generally limited and poor because they do not seem to know a language to help them develop a word bank.

On writing as a PLP methodology that helps learners acquire literacy skills, most teachers claimed to have the knowledge and abilities necessary to instruct writing to learners with hearing impairment. The findings revealed that learners always show very good and improved writing skills.

4.7.2. Availability of teaching and learning materials and administrators support to the implementation of the PLP to learners with hearing impairment.

1. Lack of visual aids at school

The findings of this study showed that visual materials were not available in school to support the implementation of the PLP on reading development of children with hearing impairment.

2. Non-availability of suitable reading books

The findings revealed that schools did not have suitable reading books designed to support the reading development of children with hearing impairment. The only available books were those designed for non-hearing impaired learners making it time consuming for teachers to modify the content to suit hearing impaired learners.

3. Availability of digital hearing aids and cochlear implants at school

The findings revealed that schools did not provide adequate digital hearing aids and cochlear implants to support pupils benefit from the PLP.

4. Non availability of ICT materials at school

Results of the study indicate that schools offering education to learners with hearing impairment did not have adequate digital equipment like computers and projectors to support the reading development of children with hearing impairment. Lack of ICT materials in school deprives learners with hearing impairment access to visual equipment that supports their learning.

5. Administrators support to the implementation of the PLP to learners with hearing impairment

The findings also established that administrators did not support teachers of learners with hearing impairment with appropriate teaching and learning materials like charts, pupils and teacher's books, markers and crayons to support the implementation of the PLP. Additionally, majority of teachers said administrators did not provide any school feeding programs, hence there were no meals given to learners with hearing impairment.

6. Frequency of internal and external monitoring

In terms of monitoring of the implementation of the PLP to learners with hearing impairment by internal and external monitors, the study revealed that there was irregular monitoring by both internal and external monitors. Deputy Head teachers, Head teachers, and Standard Officers did not provide regular monitoring of literacy teaching under the PLP.

4.7.3. Home literacy environment and parental support to enhance reading skills of learners with hearing impairment

1. Home literacy environment

The study also determined the parental support to the home literacy environment to enhance the reading abilities of pupils with hearing impairment. The findings show that the majority of parents said they did not provide reading books at home to support reading activities of learners with hearing impairment. Most parents indicated that they did not help their children with hearing impairment to do homework.

2. Parents' effort to source for digital hearing aids and cochlear implants

On parent's efforts to source for cochlear implants and digital hearing aids for their hearing impaired children, only few parents said they made efforts to source for cochlear implants and digital equipment for their hearing-impaired children. The majority indicated that they did not source for such equipment. One parent said health institutions like the University Teaching Hospital (UTH) did not have cochlear implants to support children with hearing impairment.

7.4.4. Comparison of reading performance between learners with hearing impairment and non-hearing impaired learners.

The efficacy of the PLP was assessed through comparing the reading performance between learners with hearing impairment and non-hearing impaired learners using the BASAT. The components of the assessment under the BASAT were: rearranging letters of the alphabet, finding missing letters of the alphabet within a given sequence, letter dictation, letter-word matching, picture-word matching, reading and drawing, reading vocabulary, reading comprehension, and digital span. In all these literacy components, the findings show that non-hearing impaired learners outperformed learners with hearing impaired. Learners with hearing impairment exhibited poor alphabetical knowledge, picture-word matching, reading and drawing, reading vocabulary, reading comprehension, and digital span.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1. Introduction.

This chapter discusses the findings of the study whose purpose was to evaluate the effectiveness of the implementation of the Primary Literacy Program (PLP) to enhance the reading skills among Grade 3 learners with hearing impairment in selected schools of Lusaka, Mansa and Samfya districts. The findings discussed under this chapter comes from teacher, administrator and parent interviews, focus discussion of teachers as were as the BASAT test which compared the reading performance of learners with hearing impairment with that of non-hearing impaired learners. The findings are discussed in the same sequence they have been presented in the preceding chapter based on the four (4) questions of the study. The first question investigated the sign language proficiency of teachers of learners with hearing impairment the implementation of the PLP. The second question was aimed at establishing if teaching and learning materials were available to support the implementation of the PLP to learners with hearing impairment. The third question was meant to investigate parent involvement to support the reading skills development of learners with hearing impairment while the last questions was meant to compared the reading performance between learners with hearing impairment and non-hearing impaired learners.

5.2 Teachers Proficiency in Sign Language to support the implementation of the PLP to Grade 3 learners with hearing impairment.

Sign language proficiency among teachers is the underpinning factor that supports reading development in children with hearing impairment, and provides a platform for their inclusion and academic performance (Sibanda, 2015). Sign language is the only language for people with hearing impairment, and so, it should be used as a medium of communication to pupils with hearing impairment.. Chifinda & Mandyata, (2017), observed that poor sign language proficiency among teacher's results in poor performance of pupils with hearing impairment in reading. Therefore, it is essential that teachers of pupils with hearing impairment possess advanced sign language proficiency to support reading development of children.

5.2.1. Teachers Qualification in Special Education

The study explored the qualifications and training of teachers in special education in order to establish their understanding of special education. The study revealed that all teachers of grade three (3) hearing-impaired learners had adequate training in special education and were well qualified to teach Children with Special Education Needs (CSEN). Teachers had different qualifications with the lowest qualification being a certificate in Special Education, and the highest being a masters. The qualifications were as follows: two (2) teachers had certificates, twelve (12) were diploma holders, while two (2) had both a certificate and diploma. Additionally, eight (8) teachers had degrees, one (1) had both a degree and certificate while one (1) had a degree of master of education in special education.

The study reveals that in terms of professional qualifications, teachers had the much required qualification to handle learners with Special Educational Needs. Majority of teachers had diplomas followed by degrees. This shows that teachers were well prepared to handle the Education of SEN children.

5.2.2.Teachers proficiency in Sign Language

The study sought to establish the proficiency of teachers in sign language to enable them implement the PLP through teaching reading to learners with hearing impairment. From the findings, it was clear that teachers were not prepared to implement the PLP as they were not proficient in sign language. Out of twenty-six (26) teachers that took part in the study, only eight (8) said they received adequate training in sign language. The majority, eighteen (18) said they were not adequately trained in sign language. Teachers did not have adequate training resulting in poor sign language skills. Teachers did not acquire the necessary sign language training, knowledge and skills to teach reading to learners with hearing impairment. The revelation from teachers was that the biggest component of their college and university training focused more on theory at the expense of the acquisition of practical sign language skills.

Sibanda (2015) observed that sign language proficiency among teachers is crucial to the development of reading skills among pupils with hearing impairment. This, therefore means that the backbone to the acquisition of reading skills among pupils with hearing impairment is sign language. Wakumelo and Miti, (2010), and Mandyata (2011), observed that sign language is the only available language for people with hearing impairment, and hence, children with hearing impairment should learn this language. Since teachers of pupils with hearing impairment lacked

proficiency in sign language, the acquisition of reading skills among these pupils will continue to suffer serious setbacks.

The findings of this study is in agreement with MOGE (2017) which states that though many teachers in Zambia have qualification certificates, the effectiveness of pre- and in-service teacher training is limited, particularly in pedagogy. Muzata, (2021) noted that many people, including teachers did not know sign language thereby making it even more complicated for learners with hearing impairment to develop cognitively as compared to their peers. This assertion is in line with the findings of this study, which revealed that teachers were not well trained on how to handle reading lessons for hearing impaired children, as they did not know how to sign most of the words.

The study established that teachers could not sign some words. Teachers found some words very difficult so they consulted fellow teachers, and sometimes, pupils to sign for them. This problem was also observed by Mulonda (2013), who noted that teachers of learners with hearing impairment demonstrated inadequate sign language skills mainly due to poor quality of their teacher training, and that such teachers are not able to prepare children with hearing impairment for future education and the world of work. Poor quality of teacher training compromises quality of teaching and contributes to failure to achieve the objectives of the programme (Onyeachu, 2008).

There is also evidence from literature that proficiency in sign language among teachers of learners with hearing impairment has tremendous implications for reading achievement among children with hearing impairment. A teacher who is proficient in sign language is likely to facilitate more effective learning among the children. Sibanda, (2015) observed that, internationally, the single most important contributing factor to poor academic performance of the hearing impaired learners is the use of the wrong medium of instruction by teachers. Supporting the above statement, Kiyaya and Moores (2009) noted that teachers of the deaf children in Sub-Saharan Africa could not sign and did not view sign language as a complete language.

Lack of proficiency in sign language among teachers of hearing impaired learners results into poor implementation of the PLP. MESVTEE (2013) acknowledges that the language of classroom instruction fundamentally affects a child's ability to read and learn. This therefore means that since teachers of hearing impairment learners have been found to have inadequate sign language proficiency, the implementation of the PLP is mostly likely able to suffers serious

setbacks, as learners with hearing impairment are likely to continue to lag behind in reading achievement.

5.2.3 Lack of opportunities in Continuous Professional Development (CPD) for teachers of learners with hearing-impairment

The findings revealed that teachers did not have any opportunity to attend CPD orientation meetings to familiarise themselves with how to teach reading to learners with hearing impairment using the PLP methodology. Out of the twenty-six (26) teachers of learners with hearing impairment who were interviewed about their opportunities to attend CPD meetings on how teach reading to learners with hearing impairment, twelve (12) teachers, said they had attended CPD meetings which discussed teaching reading to non-hearing impaired children, and not to learners with hearing impairment. The majority, fourteen (14) teachers, said they had not attended any CPD orientation meetings on how to teach reading to children with hearing impairment.

There had been no CPD orientation that focussed on teaching reading to learners with hearing impairment using the PLP. The study revealed that the only CPD meetings attended by teachers discussed the strategies of teaching reading to non-hearing impaired children.

CPD is important to the professional growth of teachers as it is mainly aimed at promoting learning and sharpening teachers knowledge, skills and values. In support of this statement. (MOE, 1996) observes that teachers have a responsibility to themselves and to their profession, to deepen their knowledge, extend their professional skills, and keep themselves up-to-date on major developments affecting their profession. Therefore, a vital education system is not static but dynamic and promotes change in response to the needs and expectations of society, in such areas as subject content, pedagogical approaches, pastoral care for pupils, assessment procedures, school organization and management, and relationships with parents and the community.

Konstatinos, (2015) explains that CPD is a localised in-service training conducted mostly for a short period within the school set up. Therefore, if teachers are to be effective curriculum implementers, they require time, personal interaction and in-service training through CPD (Fullan, 1993). This enables implementers sharpen their knowledge and skills in teaching. Cheung and Wong (2012) suggested that in order to help teachers enhance understanding and build capacity in the implementation of curriculum reform, preparation has to be adequate,

and that teachers should be provided with sufficient professional development training. In line with the above statement, Goessi (2002) states that, in-service training is an effective means of keeping teachers alert to constantly adapting their teaching to the changing social environment. Therefore, the implementation of any given instruction depends on how knowledgeable the implementer is, hence the need for adequate preparation and continuous retraining.

From the discussion above, it is evident that teachers of learners with hearing impairment are not prepared enough to implement the PLP for children with hearing impairment. It has been noted that teachers are not proficient in sign language and have no opportunities to attend CPD to build the capacity. Since learning takes place through a language, it is difficult for learners to learn from a teacher whose proficiency poor sign language is poor. It is therefore important that teachers are accorded opportunities to attend CPD trainings tailored towards the implementation of the PLP to children with hearing impairment. This will enable teachers to acquire knowledge and skills to implement the PLP to children with hearing impairment. Therefore, schools should conduct more CPD activities on a wide range of subject areas including sign language.

5.2.4. Inadequate training in Special Education by administrators

The study sought to establish the adequacy of training in special education by administrators to manage monitoring and supervision of teachers conducting reading programmes to learners with hearing impairment in schools. Administrators of special education schools need training in special education to ensure effective monitoring and evaluation of education programs (Jones & Brownell, 2013). It is the responsibility of school administrators to ensure that classroom observations are conducted to determine the quality of teaching going on in schools. This facilitates for provision of feedback to teachers to help them improve their professional practice. (Loeb, & Master, 2014).

The findings of the study showed that out of sixteen (16) administrators interviewed, six (6) said they had adequate training in special education while the majority, ten (10) said they were not adequately trained in special education. This shows that most administrators did not have adequate training in special education to monitor how teachers were implementing the PLP. The findings of the study are similar to the findings of Petzko, (2008) and Christensen et al., (2013) who noted that most administrators were least prepared to manage special education programmes because they did not have special education training. Similar to the findings of this study, Pazey & Cole, (2008) observed that most administrators lack special education

competences, knowledge and field experience to manage special schools, mostly because this is one of the most neglected areas in the field of special education.

Administrator's lack of knowledge in Special Education may adversely impact on the quality of teaching and learning. Lack of training in special education by school administrators leads to ineffective implementation of the PLP. Lawson and Cruz (2017) established that lack of Special Education training by administrators led to poor monitoring of education programmes being implemented in schools. In the case of the implementation of the PLP, inadequately trained school administrators may not be able to fully implement the PLP. This results in poor reading among children with hearing impairment. Ward et al (2003) notes that new education programmes implemented in developing countries reveal that most of them have often failed to achieve their objectives due to ineffective implementation. This has often resulted into less-desirable results as well as wasteage of considerable time and resources since such well-intended programmes are not translated into classroom reality (Rogan and Grayson, 2003).

It is therefore important that all administrators acquire the necessary training in special education to help them monitor the implementation of the PLP.

5.2.5. Strategies used by teachers to implement the PLP in the development of reading skills among children with hearing impairment

The PLP has suggested five (5) strategies that teachers teaching early grades should use when teaching reading to children (Kapambwe, 2014, MOE, 2013, Chibamba et al, 2018). These strategies include phonics, fluency, comprehension, vocabulary and writing. Teachers were interviewed to ascertain whether they had adequate knowledge and skills to use these strategies when teaching literacy to children with hearing impairment. The finding of the study are as follows:

1. Phonics

The first strategy of teaching literacy as proposed by the PLP is phonics. Twenty-six (26) teachers were interviewed on whether they had adequate knowledge and skills to teach reading to learners with hearing impairment using the phonics approach. Results of the findings reveal that the four teachers (4) said they had adequate knowledge and skills to teach literacy to learners with hearing impairment using phonics, while the majority, twenty-two (22) said they did not. The study established that respondents did not have adequate knowledge and skills of

teaching reading to learners with hearing impairment using the phonics methodology. The study established that the phonics methodology was not suitable for children with hearing impairment as it requires the manipulation of sounds, which hearing impaired children do not posses.

Marschare et al, (2002) argues that learners with hearing impairment are disavantaged by the phonics method because whereas the typical hearing child comes to the reading task with a substantial amount of pre-reading skills, hearing impaired children typically lack the development of pre-reading skills. The findings of this research reveal that teachers did not observe any traces of phonics being applied on children with hearing impairment, and that this approach is never used because it is alien to children with hearing impairment. This is because the hearing-impaired child does not have access to phonological code and many do not know any language well. This makes it even more difficult for hearing-impaired learners to learn to read and write. These findings are consistent with the findings of Chibuye (2013) who observed that children with hearing impairment lack phonological awareness as their hearing loss obstructs them from listening to sounds. This therefore means that the efficacy of the use of the phonics approach on reading development of children with hearing impairment should be under serious scrutiny. This is because children with hearing impairment have limited access to auditory information. A similar study conducted by Sue (2000) proved that any intervention in children with hearing impairment to teach them how to read by manipulating sounds proved unattainable. These findings provide support that that the strategy of using phonics to accelerate the development of reading skills in children with hearing impairment cannot be achieved.

The emphasis on the use of phonics and phonological awareness as a methodology of teaching reading is a stumbling block to the full implementation of the PLP to hearing impaired learners. This is so because the National Literacy Framework has not provided support strategies on how the phonics methodology can be applied in order to develop reading skills of learners with hearing impairment.

2. Fluency

The second strategy of teaching literacy under the PLP is fluency. The results of the study show that only three (3) teachers said they taught fluency to learners with hearing impairment. The majority, twenty-three (23) reported that it was challenging to teach fluency because teachers did not have the necessary skills and methodology to employ this strategy.

The study established that the teaching of fluency was difficult because teachers did not posses adequate knowledge and skills to use this methodology when teaching reading to learners with hearing impairment. It was also argued that fluency was difficult to teach because reading among learners with hearing impairment required the signing of words, and in most cases, finger spelling, which retards reading fluency. The study also revealed that fluency was hard to teach to children with hearing impairment because during the reading process, they seem to repeat the same word over and over before proceeding to the next word. This experience is contrary to the definition of fluency which states that reading fluency is the ability to read a text accurately, automatically and with proper expression while constructing meaning (Pikulski & Chard, 2005; Gunning, 2010). Supporting the above statement, Kelly, (2003), observes that individuals who are fluent readers are able to process text effortlessly and free up working memory resources to focus on higher level reading processes such as word and phrase recognition, accessing prior knowledge, analysing syntax and checking for comprehension. In contrast, individuals with fluency problems tend to read text laboriously and spend large quantities of their cognitive resources focused on lower-level skills such as decoding and word recognition thus limit the processing resources required to focus on meaning.

These cited literature explains the reasons for the difficulties faced by teachers when teaching fluency to children with hearing impairment. It also demonstrates that hearing impaired learners spend large amounts of time when learning to read. The implication of this scenario is that the implementation of the PLP will continue to suffer setbacks in the reading development of hearing impaired children.

3. Comprehension

Comprehension is the third strategy of teaching literacy under the PLP. The findings on this strategy of teaching literacy to children with hearing impaired revealed that teachers had challenges in teaching comprehension to learners with hearing impairment. Out of twenty-six (26) respondents interviewed, ten (10) said it was easy to teach comprehension to grade three (3) children with hearing impaired while sixteen (16) said they found it difficult. The study revealed that although the number of respondents who reported difficulties in teaching comprehension to learners with hearing impairment was high, the number of those who stated that they found teaching comprehension easy was equally good. Teachers who reported that it was easy to teach comprehension stated that pupils were able recall the previous work. The study revealed that although pupils with hearing impairment were able to recall the previous work,

the rate of recalling came with many difficulties. In order to get the required responses based on the comprehension passage, pupils with hearing impairment were assisted by teachers by giving them leading questions, which guided them to get the answers correct. In the absence of this support, learners with hearing impairment could not recall what they learnt in the previous passage. This is a sign that more needed to be done if the implementation of the PLP is to be successful. Learners with hearing impairment performed poorly at reading comprehension as they were not able to attack comprehension tasks on their help.. Without the teachers help, learners with hearing impairment struggled to get the answers correct.

The findings of this study show that comprehension was difficult to teach to learners with hearing impairment. Perfetti & Stafura (2014), confirms that one of the most complex human activity is reading comprehension because it requires a mix of other skills like phonological awareness, language and the rules of syntax. This assertion was noted by Manchishi (2015) whose study revealed that learners with hearing impairment had challenges comprehending test items due to the inclusion of certain terminologies that confuse them. This means that learners with hearing impairment lack foundation skills to support their reading comprehension. They do not have access to sounds, do not know any spoken language and lack the rules of syntax.

The findings of this study are well aligned with studies on reading comprehension of learners with hearing impairment which have time and again been found to be low. Ng'andwe & Phiri (2017) reported difficulties in reading comprehension among learners with hearing impairment. The report revealed that due to poor comprehension skills among learners with hearing impairment, the performance in examinations was affected. For non-hearing impaired children, the development of word identification depends on phonemic awareness (Torgesen, Wagner, Rashotte, 1997), while for learners with hearing impairment, spoken language is not accessible hence phonological information is obviously obstructed thereby impeding word identification. This could be the reason for poor implementation of the PLP on reading development of children with hearing impairment.

4. Vocabulary

The other methodology of teaching literacy to learners as proposed in the PLP is vocabulary. Out of twenty six (26) respondents who took part in the study, eleven (11) said they had adequate knowledge and skills to teach vocabulary to learners with hearing impairment while the majority, fifteen (15), said they did not have adequate knowledge and skills to teach vocabulary. One

respondent observed that the vocabulary of learners with hearing impairment is generally limited and poor because they do not seem to know a language to help them develop a word bank. There was also a complaint from another respondent who observed that teachers were not orientated on how they could approach vocabulary teaching to learners with hearing impairment. The study established that children with hearing impairment were academically weak in vocabulary as their rate of grasping concepts were slow. Respondents stated that sometimes, it takes the whole week teaching the same vocabulary items where the teacher has to repeat the same items daily. The study also established that in order to improve the vocabulary levels, teachers designed a lot of remedial work through the Individualized Education Programme (IEP) where teachers sit with individual learners and read step by step.

The findings show that the development of vocabulary among learners with hearing impairment is a daunting task. Cole and Flexer, (2007) observed that the acquisition of reading vocabulary among learners with hearing impairment is an uphill battle. This is because learners with hearing impairment lack the ability to hear and speak. Children without hearing impairment have challenges learning abstract words, but learns concrete words without much effort. Similar studies which reported poor comprehension of vocabulary among children in foundational grades where conducted by Nielsen, Luetke, & Stryker, (2011), Connor et al (2000) and Cupples et al (2013) confirms that children with hearing impairment faced challenges in acquiring and comprehending vocabulary. These studies all point to the fact that children with hearing impairment exhibit poor vocabulary which impacts negatively on their reading development.

The study established that teachers do not have appropriate skills and knowledge to teach the required vocabulary competencies to children with hearing impairment. Additionally, the nature of hearing impairment itself seems to limit the full participation of learners in learning vocabulary due to limited language skills. This, indeed, may have negative implications on the implementation of the PLP.

5. Writing

The last strategy methodology of teaching literacy to pupils in lower grades is writing. Teachers were asked to state their adequacy of knowledge and skills to teach writing to children with hearing impairment. Out of twenty-six (26) teachers interviewed, sixteen (16) had adequate knowledge and skills to teach writing to hearing-impaired learners while only ten (10) they did not. This shows that teachers of learners with hearing impairment did not have problems

to teach writing. The study established that learners with hearing impairment demonstrated very good writing skills making it easy for writing activities to be handled successfully. It was revealed that during Teacher Training, teachers acquired necessary skills and knowledge to teach writing to learners with hearing impairment.

The findings of this study contrast the findings of various studies conducted on writing skills among learners with hearing impairment. A study by Schirmer, (2000), reported poor writing among learners with hearing impairment mainly because writing demands precise word spelling, call for proper pronunciation and use of semantic knowledge. In a similar context, Antia et al. (2005), compared the writing performance between children with hearing impairment and non-hearing-impaired children. The study revealed that non-hearing-impaired children performed better than hearing impaired children. Research also revealed the uniqueness of the writing experience where learners with hearing impairment come to the reading task without a fully acquired language. Hall et al, (2018). These studies generally confirm poor writing among pupils with hearing impairment. The findings of this study from teacher interviews calls for more investigations to understand why teachers who participated in this study found teaching writing easy.

5.2.5.6 Poor Implementation of Inclusive learning

Inclusive education is one of the strategies that support the effective learning of learners with hearing impairment in that learners with hearing impairment are integrated in the main stream and are allowed to learn together with hearing children. The study noted that there was poor implementation of the inclusive learning strategy as hearing impaired learners were not learning together with hearing children. The study established that respondents believed that hearing impaired learners cannot learn together with hearing children because hearing children use sounds to communicate while hearing impaired learners use signs. They also believed that hearing impaired children's rate of learning was at a slow pace, making teachers slow down the rate of teaching. This has resulted in failure to implement inclusive education thereby disadvantaging children with hearing impairment.

Poor implementation of inclusive learning results in lack of interaction between learners with hearing impairment and hearing learners. Reading acquisition, growth and development takes place in social contexts through interaction. Since learning is an active, interpersonal and social process (Vygostky, 1987), learners with hearing impairment are expected to be integrated in the

main stream classrooms. Social constructivist have argued that peoples' learning is influenced by the society in which they live (Bakhtin, 1986), and that children learn reading in the same way they learn language. Since learners with hearing impairment are not learning together with hearing children, the implementation of the PLP may result into low reading outcomes. It is therefore important for school authorities to ensure that learners with hearing impairment are integrated into mainstream classes in order to promote interaction.

5.3. Availability of teaching and learning materials and administrators support the implementation of the PLP to learners with hearing impairment.

Teaching and Learning Materials are fundamental to teaching and learning because they improve the efficiency of schools and results in improved academic performance of learners (Ngao, Okongo, and Rop, 2015). Lack of textbooks in schools limits the ability of pupils to improve pupils reading skills, and deprives them of the right to participate fully in educational opportunities. Text books and other supplementary readers should be made available to pupils. For learners with hearing impairment, visual teaching and learning materials are appropriate because they respond to their natural silent world. The development of ICT materials such as computers, video and amplifies improves the retention span of pupils as more clarity is obtained from visual materials (Muzata, 2017).

5.3.1. Lack of visual aids at school to support reading development of hearing impaired learners

This study was aimed at establishing the availability of visual teaching and learning materials to support the implementation of the PLP to children with hearing impairment in grades 3. The study revealed that schools lacked visual learning aids to support reading development of learners with hearing impairment. Only seven (7) teachers said visual teaching and learning materials were available while nineteen (19) said visual materials were not available in school to support reading development of children with hearing impairment. This is contrary to assertions by scholars of education of children with hearing impairment who recommended that teaching reading and writing to learners with hearing impairment requires the use of materials that are related to the natural world of the deaf, i.e. visual (Conrad, 1979). Visual materials and authentic texts are more appropriate since they give readers with hearing impairment a full and accurate picture of what the text is all about. Muzata, (2017) observes that real texts and materials are more suitable since they provide readers who are hearing impaired with a complete and accurate understanding of the text's main points.

In supporting the importance of visual learning materials in reading development, Uttal and DeLoache (2006) observed that using the concrete objects in a symbolic fashion as representations of the contents of boxes helps children gain insight into the idea of using letters as representations. They observed that materials such as crayons, scissors, pencils, and line paper on one hand, and symbolic ones such as alphabetized lists of words on bulletin boards, calendar, spelling and other support materials help learners master the reading skills with ease. With these, the learners can engage with their context, both the immediate, local setting (e.g., classroom) and the historical and cultural features transmitted by the settings.

However, it is noteworthy that schools lacked visual learning materials to help in successful reading achievement of children with hearing impairment. Lack of visual learning materials limits pupil's ability to learn to read and write.

5.3.2 Non availability of suitable Grade 3 reading books to support reading development of hearing impaired children.

The research sought to establish the availability of suitable reading books (textbooks) to support reading development of children with hearing impairment. The findings revealed that schools did not have suitable reading books designed to support the reading development of children with hearing impairment. Statistics revealed that twenty two (22) respondents said suitable reading books were not available in schools. Only three (3) respondents said the reading books were available while one (1) was not sure whether the books were available or not. The findings show that schools did not receive books suitable for learners with hearing impairment. The only available books were those designed for non-hearing impaired learners. Therefore, teachers handling learners with hearing impairment have the trouble to modify the content to suit hearing impaired learners and help them understand concept being put across. This in itself is time consuming because very few subjects are taught in a day. Ivowi (2004), noted that to ensure that curriculum is effectively implemented tools and materials must be provided sufficiently.

The availability of textbooks is the most consistent variable in improving learners reading performance. In support of this statement, Okongo, Ngao & Rop, (2015) state that the availability of teaching and learning resources enhances the effectiveness of schools as these are basic materials that can bring about good academic performance in learners. Schools endowed with more reading books performed better than schools that are less endowed.

This discussion has shown that schools did not have suitable grade 3 reading books to support the implementation of the PLP to children with hearing impairment. MOGE (2017) has regretted that while aiming to develop student competencies, the on-going implementation of the new curriculum has also revealed a lack of capacity to develop textbooks and learning materials with local content. In line with the above statement, Kombe and Mwanza (2019) and Mkandawire, (2010) reveal that inadequate Teaching and Learning Materials impacts negatively on the implementation of reading programmes in schools. Commenting on the reasons for lack of text books in schools, Musilekwa and Mulenga (2019) notes that the liberalization of the book policy has worsened the situation in that publishing of school text books is now in the hands of the private schools. These private sector players choose which books to publish based on the market forces. This has led to the erratic supply of books to schools. This has also contributed to the poor-quality text books being distributed in schools.

It is therefore important for policy makers to support schools through the provision of suitable quality reading books with appropriate content to support the implementation of the PLP on learners with hearing impairment.

5.3.3. Non-availability of teachers' guides/books to teach reading to hearing impaired children.

On the provision of teacher's guides with suitable content for teaching literacy to children with hearing impairment, the study revealed that schools did not have them in place. The majority of respondents, twenty two (22) out of twenty six (26), said they did not have suitable teachers' guides for teachers of learners with hearing impairment.

The study established that Ministry of Education did not supply suitable teachers guides with suggested strategies of teaching reading to children with hearing impairment. It was revealed that the PLP teachers' guides did not have suggested strategies of how to approach the teaching of reading to children with hearing impairment. The other revelation was that the only teachers' guides available were old teachers' guides that were designed for the Zambia Primary Course (ZPC) and New Break Through to Literacy (NBTL).

Non-availability of suitable teachers' guides to support reading development of children with hearing impairment has led to ineffective implementation of the PLP.

5.3.4. Availability of digital hearing aids and cochlear implants at school

The study was aimed at establishing the provision of assistive devices such as digital hearing aids and cochlear implants in school to improve the hearing abilities of grade 3 children with hearing impairment. The findings revealed that schools did not provide adequate digital hearing aids and cochlear implants to pupils. Out of twenty-six teachers interviewed, ten (10) said digital hearing aids were available at school while sixteen (16) said they there were no digital hearing aids in the school. Non provision of digital hearing aids and cochlear implants to learners with hearing impairment is a barrier to the full participation of learners in educational opportunities.

Assistive technologies have helped to open more opportunities for pupils with hearing impairment. UNESCO, (2005) supports the use of assistive technologies in improvement of hearing abilities of people with hearing impairment so as to ensure they also contribute positively to national development. This means that schools should strive to provide assistive technological teaching and learning materials to offer opportunities for children with hearing impairment to enable them participate fully and benefit from the available education opportunities.

Bankaitis, (2007) recommends that people with hearing impairment should use hearing assistive technological equipment such as cochlear implants, infrared and F.M systems. He states that communication supportive technologies such as computers, cell phones and tablets all support the reading development among learners with hearing impairment. In the same context, Van Staden (2013) argued that the reading skills of many hearing impaired children lag several years behind those of hearing children due to lack of effective reading support strategies in this population. This is because learners with hearing impairment are not exposed to digital hearing aids and cochlear implants, hence their reading development has continued to be retarded.

The importance of hearing technological devices to people with hearing impairment cannot be overemphasized. Since the findings of the study reveal schools did not have adequate assistive, the implementation of the PLP to enhance reading achievement of Grade 3 learners with hearing impairment is highly compromised. It is therefore important for schools to invest in TLMs for pupils with hearing impairment in the spirit of not leaving anyone behind. It is evident that the advent of these hearing assistive technological equipment is expected to leave a noticeable mark on hearing impaired children's ability to read.

5.3.5 Non availability of ICT materials at school

The study evaluated the availability of ICT materials such as computers, projectors and video games to support the reading development of hearing impaired learners at school. Results of the study indicate that schools offering education to learners with hearing impairment did not have adequate digital equipment to support the reading development of children with hearing impairment.

On the availability of computers, the findings reveal that out of sixteen (16) respondents who took part in the study, four (4) said schools had computers while the majority, twelve (12) said schools did not have computers to support reading development of learners with hearing impairment. On the availability of projectors, only three (3) respondents said projectors were available, while the majority, thirteen (13) reported that there were no projectors in the school to support beaming of lessons. The findings on the exposure of pupils with hearing impairment to visual games revealed that pupils were not exposed to them. Only three (3) respondents said pupils were exposed to visual games while the majority, thirteen (13) said pupils with hearing impairment were not exposed video games.

Lack of ICT materials in school for children with hearing impairment has a negative impact on reading development of children with hearing impairment. This is because these children are deprived access to visual equipment that supports their learning. Muzata (2017) supports the exposure of pupils with hearing impairment to ICT equipment such as video, film and multi media such as movies and television. These tools foster the acquisition of content that may be challenging to them. Children with hearing impairment should be exposed to concrete materials and real texts to support a complete and accurate understanding of the text's main points. Pupils with hearing impairment are drawn into reading activities by the use of materials with visual displays and pictures.

Teaching reading to learners with hearing impairment requires the use of materials that are related to the natural world of people with hearing impairment, i.e. visual materials. Conrad (1979) supports this notion by asserting 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. ICT plays a very active role in reading development of children as they are able to access information easily and learn on their own. Therefore, schools are expected to create programs, which require the use of apparatus such as internet, wireless networks, computers, video games and other technological equipment. Since such ICT equipment are not provided to support the full

implementation of the PLP, reading development of children with hearing impairment will continue to be low.

5.3.6. Failure by administrators to support schools with teaching and learning materials

The study sought to establish whether school administrators supported schools for learners with hearing impairment by way of providing them with teaching and learning materials. The findings show that there was less consideration for special education in the schools. Respondents who took part in the focus group discussions said administrators did not provide them with equipment and other teaching and learning materials like charts, textbooks markers, flip charts and crayons. Respondents bemoaned poor attitude of school administrators towards special education, where most administrators do not attach importance to special education. It was established administrators did not budget for special education. Lack of budgeting for special education units in schools has resulted in lack of specialized equipment in special education units.

Additionally, the study noted that administrators did not provide suitable reading materials to support the implementation of the PLP. Reading materials for hearing impaired children should have more pictures to help them children assimilate the concept of reading. These were lacking in schools. Mc. Gee and Richgels (2000) assert that developing reading is concerned with supporting all children's growth, with thoughtful instruction to become reflective and motivated readers. This therefore means that administrators should fully support teachers of hearing impaired children in order to harness the full potential of children.

Studies reveal that administrators play a critical role in implementing education programmes in special education schools. Loeb, & Master, (2014) observes that administrators who are adequately trained in Special Education demonstrate passion and commitment to special educational needs. This is by way of ensuring that special schools receive the materials they need in order to continue with their academic relevance. This observation demonstrates that school administrators have the responsibility of ensuring special schools are taken care of in the same manner ordinary schools are managed. Jones & Brownell (2013), suggests that administrators of special education teachers need training in special education to ensure effective monitoring and evaluation of education programs.

The implementation of the PLP may not achieve its desired intentions if administrators do not support special education units. The findings of this study revealed lack of support from

administrators in the management of special schools. The findings are similar to the study findings by Petzko, (2008) and Christensen et al, 2013 who noted that most administrators were least prepared to manage special education programmes, and that most of them were not trained in special education. It is therefore important for administrators to demonstrate full support to the provision of appropriate teaching and learning materials to children with hearing impairment in special schools and units.

5.3.7. Frequency of internal and external monitoring

The study aimed at establishing the frequency of internal and external monitoring of reading lessons of grade 3 children with hearing impairment. On internal monitoring, the findings of the study noted inconsistent monitoring of reading lessons by school administrators. The study established irregular internal monitoring especially by the Head teacher. Out of twenty-six (26) teachers interviwed, three (3) teachers were monitored weekly, one (1) teacher was monitored fortnightly, nine (9) teachers were monitored monthly while seven, (7) were not monitored at all. Although internal monitoring was irregular, the study eastablished that head teachers made efforts to monitor their teachers, though in most cases, head teachers were not available in schools due to other competing office demands. .

On external monitoring, it was established that external monitors rarely monitored teachers in schools. Twenty-two (22) out of the twenty-six (26) respondenst said they were not monitored at all. This shows that although traces of monitoring were visible in schools, the study revealed that the monitoring was not regular.

The findings of this study has revealed poor monitoring by schools where both internal and external monitoring was irregular. The importance of internal and external monitoring of schools cannot be overemphasized. Silwamba and Daka (2021) attributes improved academic performance of learners in some schools to good monitoring systems. Ministry of Education attached great importance to monitoring through the development of performance standards indicators (MOE 2010) which ensures quality education is provided to learners. Through this document, both internal monitors (senior teachers, deputy head teachers and head teacher and external monitors (Standards Officers) are provided with guidelines to ensure compliance to set standards. Schools with effective internal monitoring systems fosters teacher's lesson preparation and ensures effective lesson delivery (Kruger, 2003). This is because teachers are always alert that school administrators may visit their classes any time.

Internal and external monitoring is important to schools. Lungu and Daka (2022) noted that internal and external monitoring of schools provides accountability to school administrators in the management and utilization of schools resources. They observed that lack of monitoring by external monitors led to a considerable loss of school resources as head teachers feel that no one will hold them accountable on how the manage school resources.

On the other hand, lack of regular monitoring of educational programmes leads to ineffective implementation of the curriculum. With the PLP being implemented in schools, it is advisable that head teachers, deputy head teachers and senior teachers, including standards officers intensify monitoring of schools. This will ensure that learners with hearing impairment benefit from all education programmes being implemented by schools. Lack of monitoring compromises the quality of education delivered to learners. Schools which lack internal monitoring record poor academic performance of learners, and in foundational classes, learning poverty is perpetuated. In schools with poor monitoring, teachers are rarely found in school, and their quality of lesson preparation is poor. Lack of monitoring in schools results in both teacher's absenteeism and poor lesson planning (Namfukwe, 2016). Teacher absenteeism also leads to pupils missing classes as they lose interest in school, and see no relevance of attending school where teachers are not around. Part of the reason for poor monitoring of schools could be the multiple roles of head teachers where in most cases, attend a lot of meetings outside their work stations (Ehren, et al,2014). |This reduces on their time to conduct internal monitoring.

This, therefore, means that if the implementation of the PLP is not monitored regulary, learners with hearing impairment will continue to perform at a substandard reading level (Marschark, Machmer, & Convertino, 2016).

5.4. Home literacy environment and parental support to enhance reading skills of learners with hearing impairment

5.4.1. The importance of the availability of reading books at home

The findings of this research revealed that most homes did not have reading books to support the development of reading among children with hearing impairment at home. Out of thirteen (13) parents who were interviewed, five (5) said they had provided reading books at home while the majority, eight (8) said they did not have reading books at home.

It was established that most parents did not provide reading books at home because they were not aware of shops which stocked reading books for children with hearing impairment. Parents

did not see the value of sourcing for books because they were not able to read and write. In fact, in most homes where children with hearing impairment were coming from, there were literally no one who could read and write. This made it difficult for parents to attach value to books. The study also established that parents of children with hearing impairment did not know sign language, thereby making it even more difficult to communicate with their hearing impaired child on the type of books needed. This statement is supported by the observation of Swanwick and Watson (2005), that most children with hearing loss are born to hearing parents who do not know sign language. This means that parents lack of knowledge is sign language creates a barrier between the child with hearing impairment and the parents.

The provision of reading books is fundamental to the reading development of children. Niklas and Schneider, (2013) observed that a rich home literacy environment stimulates children's reading abilities and provides an opportunity for children to engage into further reading. This means that parents of learners with hearing should invest more in reading books in order to support the hearing impaired children. A study by Reynolds and Werfel, (2020) observed that families of learners with hearing impairment that invest in reading materials like books significantly improves children's reading ability. Therefore, parental support is critical to the education of children with hearing impairment.

5.4.2 Parents helping their hearing impaired children with homework at home

The finding on the amount of help that hearing impaired children received from their parents shows that most children with hearing impairment did not receive support from their parents to do their homework. The findings revealed that only four (4) parents helped their children to do homework while nine (9) did not. The findings revealed that few parents had committed themselves to ensuring that children with hearing impairment are also supported to answer questions that came through homework exercises especially in mathematics. It was revealed that sometimes, homework was done with the help of the father and other siblings.

However, the study established that most parents did not render any support to learners with hearing impairment to do homework. Some parents stated that they were not able to help the child with homework because they did not have reading skills to support their children. It was also observed that some children never took the books to their parents for checking. This means that parents did not know whether children were given homework at school or not.

Literature on reading development of children reveal that parental support is important to enhance readings skills of children. This statement is supported by Aram et al. (2006) who observed that support that mothers provide in guided reading and writing were the building blocks upon which receptive language, letter knowledge and phonological awareness are built. The shows that parental support motivate children to engage into more reading activities. Accordingly, Baker & Scher (2002) claims that parents who see reading as a form of entertainment are more likely to have children who share that interest and develop into proficient readers. Therefore, is parents should be encouraged to conduct regular reading sessions with their children and make reading part of their daily activities. Parents can create reading session through a variety of ways like helping the children to visit libraries and exposing pupils to magazines and newspapers.

The finding of the study revealed the non-availability of reading materials at home. Respondents complained about the lack of suitable reading books for their children at home. It was established that some respondents did not know how to read making it unlikely that they would make reading books available for children at home. DeBaryshe (1995) suggested that parents should 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. Children whose parents have read to them good books over and over and who have been read to aloud again and again develop their reading and writing skills. Parents can make a significant contribution to the development of their children's reading by providing a stimulating environment around language, reading and writing as well as supporting at home the school's reading agenda, both during the early years as well as the foundation phase of schooling (Hornby, 2000). Parents who do not engage with the printed word in their interactions with books do not provide reading support to their children. This affects children's learning as there is no proper linkages between the home and school environment.

5.5. Comparison of reading performance between learners with hearing impairment and non-hearing impaired learners.

This study sought to establish the effectiveness of the PLP through comparing the performance in reading skills of learners with hearing impairment and that of non-hearing impaired learners. This was achieved through the cross tabulation of the performance in reading skills between learners with hearing impairment and non-hearing impaired learners. The study also used the bivariate correlations to determine the relationship between all the variables included in the study. The findings were as follows:

5.5.1. Poor alphabetical knowledge by children with hearing impairment

The findings of the study revealed that learners with hearing impairment exhibited poor knowledge of the letters of the alphabet. The Basic Skills Assessment Tool (BASAT) shows that learners with hearing impaired performed poorly at both identifying missing letters of the alphabet and at letter dictation.

Results from the bivariate correlations and cross tabulation of the literacy performance between hearing impaired learners and non-hearing impaired learners indicate that learners with hearing impaired performed poorly at letters knowledge. In order to assess pupils knowledge of the letters of the alphabet, pupils were given three tasks. Both hearing impaired and non-hearing impaired learners were asked to identifying missing letters of the alphabet from a sequence provided. In the second task, learners were asked to rearrange the letters of the alphabet in their order of sequence after they were presented in a jumbled manner, and the last task requested learners to write the letters of the alphabet that the teacher dictated to them. For non-hearing impaired learners, letter dictation was done by reading out the letters aloud, while for hearing impaired learners, the exercise was done by signing the letters using sign language, where learners with hearing impairment looked at the sound and then provided the sign.

The results of the bivariate correlations showed that the hearing status of pupils had an impact on the performance of learners on letter knowledge. The findings of this study are in line with the assertion by Kalabula, (2007) that children who cannot hear do not easily acquire literacy skills unless they have special help. The results indicates that rearranging letters of the alphabet test had a significant and positive correlation variance with the pupils hearing ability to hear having a magnitude of r=.402**, identifying missing letters had a positive correlation variance with the pupils hearing ability having a magnitude of r=.510** and the correlation between letter dictation and hearing ability was positive, but weak, giving a magnitude of r=.073.

As seen above, the correlation between hearing ability and letter knowledge was significant and positive (r=.402** for rearranging letters of the alphabet; r=.510** for identifying missing letters and r=.073 for letter dictation). This shows that alphabetical knowledge in children with hearing impairment is low. Therefore, the hearing status has an impact on reading in pupils. The positive variance means that non-hearing impaired learners performed better than hearing impaired learners at letter knowledge. The implication is that as learners hearing ability gets worse, their performance in all the variables gets worse. On the other hand, as the hearing ability improves, learners' performance also improves.

As seen above, in letter dictation, the positive correlation with hearing status was low, with a magnitude of r=.073. The low result shows that learners with hearing impairment exhibited some strength at tasks to do with letter dictation, mainly because of the use of sign language. This is in agreement with Wakumelo and Miti, (2010) who suggested that in order to ensure full participation in education, pupils with hearing impairment should be exposed to sign language when learning ng the foundational reading skills. Mandyata, (2011), supported this notion by stating that children with hearing impairment should learn sign language, as a language since this is the only available language for people with hearing impairment. It could be argued here that sign language facilitates effective learning of children with hearing impairment in ways that helps them grasp the concepts easily. This therefore shows that sign language is the only familiar language of the hearing impaired community. Acton (2012) asserts that because sign language is the only form of communication available to those who are deaf, it serves as their only mother tongue.

The cross tabulation results also show that learners with hearing impairment had poor alphabetical knowledge. In letter dictation, hearing impaired learners had a mean of 3 while non-hearing impaired learners had a mean of 3.3 out of the total score of 5. Learners with hearing impairment had a higher standard deviation of SD=2.304 while that of non-hearing impaired learners was lower, at SD=1.860. The lower standard deviation of non-hearing impaired learners demonstrates that they performed better than learners with hearing impairment. It is clear that learners with hearing impairment performed well in dictation though they did not beat the score of non-hearing impaired children. Although learners with hearing impairment scored lower than non-hearing impaired learners in letter dictation, the difference was quiet marginal.

A comparative analysis between the performances of hearing impaired learners with that of non-hearing impaired learners indicates that non-hearing impaired learners had better alphabetical knowledge than hearing impaired learners. This confirms the results of the study by DesJardin and Ambrose, (2010) who observed that that print knowledge and phonological awareness are critical to the development of early reading abilities of children with hearing impairment. Whitehurst & Lonigan, (1998), argues that where print knowledge and phonological awareness are lacking, children may not be able to access many of the activities in the reading curriculum and that they are more likely to be poor readers in the long term. Print knowledge, which is a multidimensional construct, is a strong predictor to formal reading instruction. It encompasses children's understanding of the forms of print (i.e. letter or word knowledge), features of print (e.g. directionality of print on the page from left to right), and functions of print (Strickland

& Schickedanz, 2004). Since print knowledge and alphabetical awareness are important for reading development in young children with hearing, it likely, is also critical for children in early grades who are deaf or hard of hearing.

Regrettably, this study has established that learners with hearing impairment exhibited deficiencies in the foundation skills of reading such as print and alphabetic knowledge. This poses a risk to the full implementation of the PLP, as learners with hearing impairment may not fully benefit from this program.

5.5.2. Poor reading skills among learners with hearing impairment

This study was aimed at establishing the reading skills of children with hearing impairment being taught under the PLP. The study established that generally, pupils with hearing impairment had reading difficulties compared with non-hearing impaired learners. The study revealed that learners with hearing impairment performed poorly at reading. Below are the results of the bivariate correlations and the cross tabulation of the reading performance between learners with hearing impairment and non-hearing impaired learners.

The bivariate correlations table shows the performance of both hearing impaired and non-hearing impaired learners in reading. The correlation between reading and the hearing status was equally positive, strong and significant presenting a magnitude of r=.748**. As seen above, the results indicate a strong and high positive correlation implying that non hearing impaired learners performed better than hearing impaired learners on tasks that involve reading. This means that learners with hearing impairment demonstrated poor reading skills compared with non-hearing impaired learners.

The cross tabulation table also confirms poor reading skills among learners with hearing impairment. Out of the five reading items given, learners with hearing impairment had a very low mean score of 2.07, while non-hearing impaired learners had a higher mean score of 4.9. The percentage score was 98% for non-hearing impaired learners and 41.4% for hearing impaired learners. From the mean score and percentage score, it can be deduced that non-hearing impaired learners got most of the items correct there by surpassing learners with hearing impairment in performance.

The findings of this study are consistent with findings of several other studies that have been undertaken for over a century, aimed to resolve the problem of poor reading development of

hearing impaired learners e.g. (Pintner & Patterson, 1916, Conrad, 1979; Goff, Pratt & Ong, 2005, Qi & Mitchell, 2011, Chibuye, 2013, Bickham, 2015 and Muzata, 2021). The findings of the study confirms that hearing-impaired pupils performed poorly on reading tests when compared to non-hearing impaired pupils. A study by Marschark (2007) noted that 85% of hearing impaired learners leaving secondary school education performed at the age level similar to grade 4 non-hearing impaired children. Qi and Mitchell (2011) also observed that children with hearing impairment leaving school demonstrated retarded development in reading skills proportionate to 9 year old children who are non-hearing impaired. Even after several curriculum reforms undertaken, still, the results have revealed that most hearing impaired learners still progress only at a relatively low level in learning to read and write in comparison with their hearing counterparts.

The continued poor reading development among learners with hearing impairment renders the implementation of the PLP inappropriate. The goal of the PLP is for learners to be able to read simple sentences by the end of Grade 1 and ensure that they acquire knowledge before moving to Grade 2 and subsequent grades (MOE, 2013). This goal is unlikely to be attained among learners with hearing impairment if their reading levels continue to be low. The acquisition of reading skills among learners with hearing impairment may require more attention than non-hearing impaired learners. Therefore, there is need for better strategies of implementation of the PLP in order to enhance the reading skills among hearing impaired children.

5.5.3. Poor vocabulary among learners with hearing impairment

The study revealed that learners with hearing impairment had poor vocabulary. The findings of the study show that hearing impaired learners performed poorly in vocabulary than their hearing counterparts.

The findings of the bivariate correlations presents the performance of both hearing impaired learners and non-hearing impaired learners in vocabulary involving words with one syllable and two syllables. The finding reveal that the relationship between reading vocabulary of one syllable word and hearing ability was positive, strong and significant with a magnitude of r=.778**. Additionally, the relationship between two syllable words and the hearing status was also positive, strong and significant with a magnitude of r=809**. The strong positive magnitude of these results shows that the hearing ability determines the extent to which a child performs in vocabulary.

Vocabulary is essential for communicating, reading, thinking, and learning. Children's vocabulary knowledge early in school influences their reading comprehension skills later in life. Snow, Griffin and Burns (2005) contends that children acquire most vocabulary knowledge through daily interactions with adults, siblings, and peers that occur through conversations around routines, games, nursery rhymes, songs, and reading activities.

The findings of this study reveal that learners with hearing impairment demonstrated reduced vocabulary knowledge. Non-hearing impaired learners performed better than hearing impaired learners because they (non-hearing impaired learners) have advantages in that they are conversant with a language and have the ability to comprehend how that language corresponds to the printed word (Chamberlain & Mayberry, 2000). For children with hearing impairment, the case is different because they lack access to phonological code, and many of them are not fluent in any language. This shows that lack of phonological skills and language is a barrier towards development of vocabulary. Similar sentiments were echoed by Cole & Flexer, (2007) who observed that learners who are deaf or hard of hearing are delayed in their acquisition of vocabulary knowledge, have smaller lexicons, acquire new words at slower rates, and have a narrower range of contexts that result in word learning. As a result, the acquisition of reading vocabulary among learners with hearing impaired is always a challenge.

Vocabulary development is complex in learners with hearing impairment because they rely mostly in sign language, and sign language itself limits children from increasing their vocabulary. Muzata, (2019) contends that part of the challenges that lead to poor vocabulary among children with hearing impairment is the very nature of sign language that limits its users from exploring more vocabulary. Limited sign language vocabulary limits teacher's ability to teach vocabulary effectively. As a result, learning new words for reading is difficult for children who have hearing loss. This is so because acquiring language is a complex process. The problem of poor vocabulary among learners with hearing impairment seem to lie in their inability to develop knowledge of stored information about the meaning and pronunciation of words especially that the nature of their disability (deafness) does not permit them to learn language easily and pronounce words (Montgomery, 2007).

A limited vocabulary among learners with hearing impairment impedes the student's ability to read fluently with meaning. This means that unless the PLP comes up with better strategies of teaching vocabulary to learners with hearing impairment, the problem of poor vocabulary will persist. The teachers implementing the PLP to learners with hearing impairment should

encourage learners to use sign language in a variety of situations to help them develop sign language vocabulary. This exposure should start in early grades because children's early vocabulary development in school affects their later reading comprehension abilities. Schools should create supportive learning environments to learners where they engage in regular conversations with peers, classmate and adults through games, rhymes, songs, and reading activities Snow, Griffin and Burns (2005). Learners with hearing impairment should be facilitated with interaction with more knowledgeable older people who are hearing impaired to ensure they learn words indirectly through conversations.

5.5.4 Challenges in reading comprehension among learners with hearing impairment

The study established that children with hearing impairment performed poorly in reading comprehension. Although the performance of hearing impaired learners in reading comprehension was impressive, they still fell below the performance of non-hearing impaired learners. Being able to derive meaning from the words and the concepts they convey is the reason we read. The finding of this study are in line with previous studies on reading comprehension which have noted that reading comprehension of children with hearing impairment have time and again been found to be low (Furth, 1966). Studies have revealed that for non-hearing impaired children, the development of word identification depends on phonemic awareness (Torgesen et al., 1997) which is based on the alphabetic principle that letters represent the phonological form of the word. For children with hearing impairment, spoken language is not accessible hence, phonological information is obviously obstructed thereby impeding word identification. This has led to poor reading comprehension.

The problem of poor comprehension among children with hearing impairment need to be resolved through designing programmes that suit the learning of hearing impaired learners. In its current form, the PLP does not seem to provide solutions to this problem.

The last assessment given to both learners with hearing impairment and non-hearing impaired learners was children's working memory through reading and computation of numbers using number identification and sequencing. Results of the study revealed that learners with hearing impairment computation of numbers was lower, recording a mean score of 1.73, giving 34.6% with SD=2.258. For non-hearing impaired learners, number identification had a mean score of 4.2 giving eighty-four (84%) with 1.448 SD. This shows that non-hearing impaired learners performed well at number computation. The lower mean of 1.73 with a higher SD of 2.258

recorded by learners with hearing impairment demonstrates that they were poor than nonhearing impaired learners who had a higher mean and lower SD in digital or working memory, which required number computation.

A comparative analysis of the performance in reading skills between learners with hearing impairment and non-hearing impaired learners using the BASAT revealed that learners with hearing impairment performed poorly in all the skills they were assessed in. When teachers of learners with hearing impairment were introduced to the BASAT instrument, they expressed interest in the instrument. Most teachers requested the researcher to give them a copy of the questionnaire so that they could use it to conduct more reading assessment to learners. Some said they needed such material, as it appeared much more appropriate and relevant to hearingimpaired children. This is a sign that teachers lacked the appropriate teaching materials that can elicit interest among children with hearing impairment. It was established that there was lack of creative among teachers in the preparation of teaching aids to support the implementation of the PLP.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.1. Introduction

This chapter presents the summary of major findings based on the evaluation of the implementation of the PLP to enhance the reading skills of Grade 3 learners with hearing impairment. The chapter has demonstrated how the research questions have been dealt with. The chapter also gives a reflection on the purpose of the study and provides a summary of the major findings and recommendations derived from the study. The chapter also gives the study's contributions to the body of knowledge and suggestions for further research.

6.2. Overview of the background to the study

Teaching reading is considered one of the highest priority areas in modern education. Particular focus has been placed on the development of reading skills of children in early grades (Chisholm and Leyendecker, 2008). To this effect, Zambia has made tremendous efforts to develop and implement programmes that focus on development of literacy in general and reading in particular. According to Serpell (2014), the search for efficient techniques, methods, and resources to solve the issue of subpar reading outcomes in widespread basic schooling has been the driving focus. Poor reading among learners is a widely acknowledged social problem in Zambia and in many countries in sub-Saharan Africa. World Bank (2022) notes that there is a global learning crisis in the world where too many children experience learning poverty, reaching the age of 10 without acquiring foundational skills such as literacy. The study reveals that on a global scale, Zambia has one of the highest global learning poverty estimated at 98.5%. Children of age 10 and below are unable to acquire reading proficiency thereby by creating a learning crisis. In order to address the problem of poor reading among children in Zambia, Ministry of Education is implementing the Primary Literacy Programme.

For learners with hearing impairment, the problem of poor reading is more magnified. There are persistent concerns that even with numerous programs being put in place to improve the reading

levels of children, pupils with hearing impairment are the worst hit as they have continued to perform at a sub-standard reading level, and often, they struggle to develop or improve crucial reading skills. (Scott, 2011, Muzata, 2021). Children with hearing impairment may fail to learn or enhance critical reading skills, even though it is assumed that all children will acquire literacy skills naturally in accordance with their level of development (Banda, 2021). Even with the aid of contemporary technical advancements like cochlear implants, there are on-going worries that people with hearing impairment generally do not reach their potential (Scott, 2011) and that they function at a subpar reading level (Archbold, 2015).

6.4. Purpose of the study

Therefore, the purpose of this study was to evaluate the effectiveness of the implementation of the PLP to enhance the reading skills among Grade 3 learners with hearing impairment. It was hoped that the study would provide an opportunity to have improved strategies of implementing the PLP, which would culminate into improved reading skills among learners with hearing impairment. It was also hoped that the study would be able to provide evidence to the Ministry of Education to help make research-based interventions on how best reading programmes can be implemented in order to improve reading achievement to all learners especially among children with hearing impairment.

6.4. Summary of findings

6.4.1. Lack of proficiency in sign language among teachers

This study established that teachers lacked proficiency in sign language to enable them implement the PLP to learners with hearing impairment. Teachers were poorly trained in sign language as they did not acquire the necessary sign language training, knowledge and skills to teach reading to learners with hearing impairment. According to Sibanda (2015), and Wakumelo and Miti, (2010), sign language proficiency among teachers is crucial to the development of reading skills among pupils with hearing impairment. The study revealed that although teachers had adequate training in Special Education and possessed the required qualifications to teach learners with hearing impairment, their sign language skills were inadequate to meet the needs of children with hearing impairment. This is in agreement with MOGE (2017) which states that athough many teachers in Zambia have qualification certificates, their effectiveness in class was poor due to poor pedagogical skills. Additionally, Mulonda (2013) noted that teachers of learners with hearing impairment demonstrated inadequate sign language skills mainly due to poor quality of their teacher training.

The study established that since teachers lacked proficiency in sign language, they requested fellow teachers, and sometimes, pupils to sign for them. Muzata, (2021) noted that many teachers did not know sign language thereby making it even more complicated for learners with hearing impairment to develop cognitively as compared to their peers. The study noted that proficiency in sign language among teachers of learners with hearing impairment has tremendous implications for reading achievement among children with hearing impairment. A teacher who is proficient in sign language is likely to facilitate more effective learning among the children.

Lack of proficiency in sign language among teachers of learners with hearing impairment meant that teachers were not capable of implementing the PLP effectively. The continued lack of proficiency in sign language among teachers of learners with hearing impairment is likely to result into poor implementation of the PLP to children with hearing impairment.

6.4.2. Inadequate training by senior teachers in Special Education

It was also established that senior teachers did not have adequate training in special education to monitor how teachers were implementing the PLP. Jones & Brownell (2013) recommends that for effective monitoring of educational programmes in special schools, administrators should be trained in special education. Consequently, there was poor monitoring of teachers by senior teachers due lack of understanding of special educational needs by senior teachers. The findings of the study are similar to the findings of Petzko, (2008) and Christensen et al., (2013) who noted that most administrators were least prepared to manage special education programmes because they did not have special education training. Lack of training in special education by senior teachers leads to ineffective implementation of the PLP leading to poor reading among children with hearing impairment.

6.4.3. Lack of opportunities in Continuous Professional Development (CPD) for teachers of hearing-impaired learners

With regards to CPD, it appeared that teachers did not have opportunities to attend CPD orientation meetings to familiarise themselves with the implementation of the PLP on children with hearing impairment. There was a concern that the only CPD meetings attended by teachers discussed the strategies of teaching reading to non-hearing impaired learners. Lack of opportunities in CPD for teachers of learners with hearing impairment results in stunted professional growth of teachers, as they are not able to acquire the required knowledge and skills of implementing the PLP to children with hearing impairment.

CPD facilitates for the professional growth of teachers as it sharps teachers knowledge, skills and values. Cheung and Wong (2012) suggested that teachers should be provided with sufficient professional development training to enable them build capacity in the implementation of curriculum reform. In a similar context, Goessi (2002), argued that in-service training is an effective means of keeping teachers alert to constantly adapting their teaching to the changing social environment. Lack of proficiency in sign language could be attributed to inadequate CPD activities in schools. The study established that teachers of learners with hearing impairment were not prepared enough to implement the PLP to children with hearing impairment because they were not proficient in sign language and had no opportunities to attend CPD to build their capacity. It was thus established that lack of continious learning by teachers could be the reason for the consistent poor reading skills among children with hearing impairment.

6.4.4. Strategies used by teachers to implement the PLP in the development of reading skills among children with hearing impairment

The PLP proposed five strategies of teaching literacy. These are phonics, fluency, comprehension, vocabulary and writing.

1. Phonics

The study established that the PLP's phonics strategy of teaching literacy did not favor pupils with hearing impairment as it is relies on the use of sounds, which hearing impaired children lacked. There was no evidence from teachers that they were applying the phonics method on hearing impaired pupils. This is because the hearing-impaired child does not have access to phonological code and many do not know any language well. Marschare et al, (2002) states that the disadvantage of using the phonics approach on learners with hearing impairment is that unlike the hearing child, learners with hearing impairment approaches the reading task without pre-reading skills. Chibuye, (2013) observed that children with hearing impairment lack pre reading skills like phonological awareness because their hearing loss obstructs them from listening to sounds.

The use of the phonics approach to teaching reading to learners with hearing impairment should be under serious scrutiny (Sue, 2000). The study established that the use of phonics and phonological awareness as a methodology of teaching reading creates a barrier to the full implementation of the PLP to hearing impaired learners. This is so because the hearing impaired child has not been provided for in the developement of reading skills under the PLP.

2. Fluency

Reading fluency is the ability to read a text accurately, automatically and with proper expression while constructing meaning (Pikulski & Chard, 2005; Gunning, 2010). According to this study, fluency is a far-fetched dream among learners with hearing impairment. It was established that fluency was difficult to teach because reading among learners with hearing impairment required the signing of words, and in most cases, finger spelling, which retards reading fluency. Children with hearing impairment have a tendency of repeating the same word over and over during the learning process. This is similar to the study by Kelly (2003) who explains that individuals with fluency problems tend to read text laboriously and spend large quantities of their cognitive resources focused on lower-level skills such as decoding and word recognition thus limit the processing resources required to focus on meaning. The difficulties faced by teachers in teaching fluncy to hearing impaired children is that children spend a lot of time when learning to read. The study thus concluded that the implementation of the PLP would continue to suffer setbacks if better strategies that suit hearing impaired learners are not developed.

3. Comprehension

The findings revealed that teachers had challenges in teaching comprehension to learners with hearing impairment. The study established that learners with hearing impairment could only do comprehension tasks under strict guidance and assistance from teachers. If this is not done, learners with hearing impairment completes a reading task without recalling the text they read. Writing about the difficulties of learning comprehension, Perfetti & Stafura (2014), confirms that one of the most complex human activity is reading comprehension because it requires a mix of other skills like phonological awareness, language and the rules of syntax. Similarly, Manchishi (2015) observed that learners with hearing impairment had challenges comprehending test items due to the inclusion of certain terminologies that confuse them. Comprehension challenges in learners with hearing impairment seem to arise because of lack foundation skills to support their reading comprehension like spoken language and syntax. They do not have access to sounds, do not know any spoken language and lack the rules of syntax (Torgesen et al., 1997). This shows that more needed to be done if the implementation of the PLP is to be successful.

4. Vocabulary

The findings revealed difficulties in teaching vocabulary among teachers. Teachers did not receive any orientation on how to teach vocabulary using the PLP to learners with hearing

impairment. Teachers observed the low retention span of vocabulary items among learners with hearing impairment. Therefore, teachers spend substantial amount of time teaching the same vocabulary over and over. Cole and Flexer, (2007) observed that the acquisition of reading vocabulary among learners with hearing impairment is a daunting task because learners with hearing impairment lack the ability to hear and speak. The implementation of the PLP may have negative implication on learners with hearing impairment because the nature of hearing impairment seem to limit the full participation of learners. Connor et al (2000) and Cupples et al (2013) states that the poor vocabulary exhibited by children with hearing impairment has a negative effect on their reading development. Therefore, it is appropriate that the PLP designs better strategies of teaching vocabulary to children with hearing impairment.

6.4.5. Availability of teaching and learning materials

1. Lack of visual aids at school

The findings of this study showed that visual materials were not available in school to support the implementation of the PLP on reading development of children with hearing impairment. Conrad (1979) suggests that visual materials and authentic texts are more appropriate since they give readers with hearing impairment a full and accurate picture of what the text is all about. In support of this notion, Muzata, (2017) observes that real texts and materials are more suitable since they provide readers who are hearing impaired with a complete and accurate understanding of the text's main points. However, it is noted that schools lacked visual learning materials to help in successful reading achievement of children with hearing impairment. Lack of visual learning materials limits pupil's ability to learn to read and write.

2. Non-availability of suitable reading books

The findings revealed that schools did not have suitable reading books designed to support the reading development of children with hearing impairment. The only available books were those designed for non-hearing impaired learners making it time consuming for teachers to modify the content to suit hearing impaired learners. Okongo, Ngao & Rop, (2015) states that the availability of teaching and learning resources enhances the effectiveness of schools as these are basic materials that can bring about good academic performance in learners. It has been found that inadequate teaching and learning materials impacts negatively on the implementation of reading programmes in schools (Kombe and Mwanza, 2019). This discussion has shown that schools did not have suitable grade 3 reading books to support the implementation of the PLP to

children with hearing impairment. It is therefore important for policy makers to support schools through the provision of suitable quality reading books with appropriate content to support the implementation of the PLP on learners with hearing impairment.

3. Availability of digital hearing aids and cochlear implants at school

The findings revealed that schools did not provide adequate digital hearing aids and cochlear implants to support pupils benefit from the PLP. Non provision of digital hearing aids and cochlear implants to learners with hearing impairment is a barrier to the full participation of learners in educational opportunities. The implementation of the PLP may not be achieved if learners with hearing impairment are not supported with assistive technologies like digital hearing aids and cochlear implants. UNESCO, (2005) and Bankaitis, (2007) supports the use of assistive technologies such as computers, cell phones and tablets in improvement of hearing abilities of people with hearing impairment so as to ensure they also contribute positively to national development.

Lack of assistive technologies in school implies that the implementation of the PLP people to enhance reading achievement of Grade 3 learners with hearing impairment is highly compromised. It is therefore important for schools to invest in TLMs for pupils with hearing impairment in the spirit of not leaving anyone behind.

4. Non availability of ICT materials at school

Results of the study indicate that schools offering education to learners with hearing impairment did not have adequate digital equipment like computers and projectors to support the reading development of children with hearing impairment. Lack of ICT materials in school deprives learners with hearing impairment access to visual equipment that supports their learning. Muzata (2017) supports the exposure of pupils with hearing impairment to ICT equipment such as video, film and multimedia such as movies and television because they foster the acquisition of challenging content. Non availability of ICT materials compromises the full implementation of the PLP to support reading development of children with hearing impairment.

5. Failure by administrators to support schools with teaching and learning materials

Administrators play a critical role in implementing education programmes in special education schools. Loeb, & Master, (2014) observes that administrators who are adequately trained in Special Education demonstrate passion and commitment to special educational needs. The

findings of this study shows that administrators did not provide equipment and other teaching and learning materials like charts, textbooks markers, flip charts and crayons to support the units for hearing impaired children. It was established administrators did not allocate funds to the special education units. Lack of budgeting for special education units in schools has resulted in lack of specialized equipment in special education units resulting in poor implementation of programmes such as the PLP.

The findings of this study revealed lack of support from administrators in the management of special schools. The findings are similar to the study findings by Petzko, (2008) and Christensen et al, (2013) who noted that most administrators were least prepared to manage special education programmes, and that most of them were not trained in special education. It is therefore important for administrators to demonstrate full support to the provision of appropriate teaching and learning materials to children with hearing impairment in special schools and units.

6. Inconsistent internal and external monitoring

The findings of the study noted inconsistent internal and external monitoring of reading lessons by school administrators and standards officers. Lack of monitoring in schools results in both teacher's absenteeism and poor lesson planning and delivery (Namfukwe, 2016).

MOE (2010) provided guidelines for school monitoring by developing performance standards indicators to support both internal monitors (senior teachers, deputy head teachers and head teachers) and external monitors (Standards Officers) in order to ensure compliance to set standards. This was done to improve learning achievement in schools. Schools with effective internal monitoring systems fosters teacher's lesson preparation and effective lesson delivery Kruger (2003). Lungu and Daka (2022) noted that internal and external monitoring of schools provides accountability to school administrators in the management and utilization of schools resources. They observed that lack of monitoring by external monitors led to a considerable loss of school resources as head teachers feel that no one will hold them accountable on how the manage school resources.

With the PLP being implemented in schools, it is advisable that head teachers, deputy head teachers and senior teachers, including standards officers intensify monitoring of schools. This will ensure that learners with hearing impairment benefit from all education programmes being implemented by schools. If the implementation of the PLP is not monitored regularly, learners with hearing impairment will continue to perform at a substandard reading level (Marschark, Machmer, & Convertino, 2016).

6.4.6. Home literacy environment and parental support to enhance reading skills of learners with hearing impairment

The study examined the availability of reading books at home and parental support to the reading development of learners with hearing impairment.

1. The importance of the availability of reading books at home

The provision of reading books is fundamental to the reading development of children. Niklas and Schneider, (2013) observed that a rich home literacy environment stimulates children's reading abilities and provides an opportunity for children to engage into further reading. The finding of the study revealed the non-availability of reading materials such as books, magazines and other printed materials at home. Respondents reported the lack of suitable reading books for their children at home. It was established that some respondents did not even know how to read making it unlikely that they would make reading books available for children. Reynolds and Werfel, (2020) observed that families of learners with hearing impairment that invest in reading materials like books significantly improves children's reading ability. Therefore, parental support is critical to the education of children with hearing impairment.

The implementation of the PLP will not be effective if parents do not support reading programmes of their children at home. Parents who do not engage with the printed word in their interactions with books do not provide reading support to their children. This affects children's learning as there is no proper linkages between the home and school environment.

2. Parents helping their hearing impaired children with homework at home

The findings revealed that few parents had committed themselves to ensuring that children with hearing impairment were supported in homework. It was established that most parents did not render any support to learners with hearing impairment to do homework. Some parents stated that they were not able to help the child with homework because they did not have reading skills to do so. Parental support is important to enhance readings skills of children. Aram et al. (2006) states that mothers play a critical role in providing a foundation for reading through receptive language and phonological awareness. Accordingly, Baker & Scher (2002) claims that parents who see reading as a form of entertainment are more likely to have children who share that interest and develop into proficient readers. Parents should therefore make reading part of their home daily activity in order to motivate learners to read.

6.4.7. Performance in literacy skills between hearing impaired and non-hearing impaired learners

1. Poor alphabetical knowledge by children with hearing impairment

The Basic Skills Assessment Tool (BASAT) shows that learners with hearing impaired performed poorly at alphabetical knowledge i.e. identifying missing letters of the alphabet and at letter dictation. The cross tabulation between learners with hearing impairment and non-hearing impaired learners showed that although learners with hearing impairment scored lower than non-hearing impaired learners in letter dictation, the difference was quiet marginal, with children with hearing impairment having a mean of 3 while non-hearing impaired learners had a mean of 3.3 out of the total score of 5. Additionally, the bivariate correlation indicates the correlation between letter dictation and the hearing status having a magnitude of r=.073. This shows that alphabetical knowledge in children with hearing impairment is low. It was clear that learners with hearing impairment performed well in dictation, even though they did not beat the performance of non-hearing impaired learners. The study established that non-hearing impaired learners performed better than learners with hearing impairment because non-hearing impaired learners had better foundation of pre-reading skills like phonological awareness and alphabetical knowledge. DesJardin and Ambrose, (2010) observed that print knowledge and phonological awareness are critical to the development of early reading abilities of children with hearing impairment. Supporting this notion, Whitehurst & Lonigan, (1998), argues that where print knowledge and alphabetical awareness are lacking, children may not be able to access many of the activities in the reading curriculum, and that they are more likely to be poor readers in the long term. Print knowledge, which is a multidimensional construct, is a strong predictor to formal reading instruction

Therefore, it was concluded that print knowledge and alphabetical awareness are important pre-requisites for reading development in young children, both hearing and non-hearing. Since learners with hearing impairment exhibited deficiencies in the foundation skills of reading such as print and alphabetic knowledge, the full implementation of the PLP to learners with hearing impairment may not fully benefit them.

2. Poor reading skills among learners with hearing impairment

The study revealed that learners with hearing impairment performed poorly at reading. The cross tabulation comparing reading performance between learners with hearing impairment

and non- hearing impaired learners reveal poor reading skills among learners with hearing impairment. Out of the five reading items given, learners with hearing impairment had a very low mean score of 2.07, while non-hearing impaired learners had a higher mean score of 4.9. Similarly, the correlation between reading and the hearing status was equally positive, strong and significant presenting a magnitude of r=.748**, thereby confirming the prowess of reading skills among non-hearing impaired learners. This is in line with the findings of the cross tabulation which showed that non-hearing impaired learners performed better than hearing impaired learners on tasks that involve reading.

The findings of this study are consistent with findings of Bickham, (2015), and Muzata, (2021), which confirms that hearing-impaired pupils performed poorly on reading tests when compared to non-hearing impaired pupils. Qi and Mitchell (2011) also observed that children with hearing impairment leaving school demonstrated retarded development in reading skills proportionate to 9 year old children who are non-hearing impaired.

The continued poor reading development among learners with hearing impairment renders the implementation of the PLP inappropriate. The acquisition of reading skills among learners with hearing impairment may require more attention than non-hearing impaired learners. Therefore, there is need for better strategies of implementation of the PLP in order to enhance of reading skills among hearing impaired children. Poor vocabulary among learners with hearing impairment

3. Challenges in reading comprehension among learners with hearing impairment

The study established that children with hearing impairment performed poorly in reading comprehension. Although the performance of children with hearing impairment in reading comprehension was impressive, they still fell below the performance of non-hearing impaired learners. The finding of this study are in line with the study by Manchishi (2015) who found that learners with hearing impairment had challenges comprehending test items due to the inclusion of certain terminologies that confuse them.

Ng'andwe & Phiri (2017) also reported that learners with hearing impairment had faulty reading comprehension and writing skills.

The study concluded that the reason for poor comprehension among children with hearing impairment could be that lack of access to spoken language and phonological information. The

problem of poor comprehension among children with hearing impairment need to be resolved through designing programmes that suit the learning of hearing impaired learners. In its current form, the PLP does not seem to provide solutions to this problem.

4. Poor Vocabulary among learners with hearing impairment

The study established that learners with hearing impairment had poor vocabulary. The findings revealed that children with hearing impairment performed poorly in vocabulary than their hearing counterparts. Vocabulary is essential for communicating, reading, thinking, and learning. Children's vocabulary knowledge early in school influences their reading comprehension skills later in life. Cole & Flexer, (2007) observed that learners who are deaf or hard of hearing are delayed in their acquisition of vocabulary knowledge, have smaller lexicons, acquire new words at slower rates, and have a narrower range of contexts that result in word learning. As a result, the acquisition of reading vocabulary among learners with hearing impaired is always a challenge.

A limited vocabulary among hearing impaired pupils impedes their ability to read fluently with meaning. This means that unless the PLP comes up with better strategies of teaching vocabulary to learners with hearing impairment, the problem of poor vocabulary will persist.

6.5. Conclusion

The study established that there was ineffective implementation of the PLP in the development of reading skills of children with hearing impairment. Some of the curriculum areas that rendered this programme ineffective are non-proficiency in sign language among teachers of learners with hearing impairment. The study established that teachers did not have adequate knowledge and skills in sign language to help them handle reading lessons to learners with hearing impairment under the PLP. Next, teachers did not have opportunities to attend CPD orientation meetings to familiarise themselves and sharpen their skills in the PLP methodologies. This study also revealed that most administrators did not have adequate training in special education to monitor how teachers were implementing the PLP. Lack of training in special education by school administrators leads to ineffective implementation of the PLP. Additionally, there was poor implementation of inclusive learning resulting in poor socialisation of children with hearing impairment.

On teaching strategies and literacy methodologies recommended by PLP, it was established that the phonic methodology was not appropriate to children with hearing impairment because the

strength of this methodology lies in the use of sounds. Children with hearing impairment do not poses the sense of hearing to help them manipulate sounds. Teachers also found teaching fluency challenging because they did not have the necessary pedagogical skills to employ this strategy. Additionally, learners with hearing impairment also had problems with fluency as they tend to read text laboriously and spend large quantities of their cognitive resources focused on lower-level skills such as decoding and word recognition thus limiting the processing resources required to focus on meaning. On comprehension, learners with hearing impairment could only work out passages with the help of the teacher, failure to which they found comprehension passages difficult to handle. Pupils with hearing impairment were found to have poor vocabulary mainly due to lack of due to lack of a language to help them develop a word bank.

It was also established that schools lacked teaching and learning materials such as text books, visual aids and reading books to support the full implementation of the PLP to learners with hearing impairment. Schools did not support learners with hearing impairment with assistive technologies such as digital learning aids and cochlear implants to improve the hearing ability of children so as to assist them benefit from the implementation of the PLP. ICT equipment such as computers, projectors and video games were not available in schools leading to ineffective implementation of the PLP.

The study also established that the home literacy environment for learners with hearing impairment did not support the literacy development of pupils. Literacy materials like reading books, magazines and newspapers were not available in homes. Additionally, most parents did not have reading abilities required to support their hearing impaired learners to read at home.

Finally, a comparison made to ascertain performance in literacy skills between learners with hearing impairment and non-hearing impaired learners revealed that learners with hearing impairment performed poorly that non-hearing impaired learners in literacy tasks such as print knowledge and alphabetic awareness reading, comprehension and vocabulary. Learners exhibited deficiencies in the foundation skills of reading.

6.6. Recommendations

1. From the findings, it was clear that teachers were not prepared to implement the PLP as they were not proficient in sign language. Techers did not receive adequate sign language training during their teachers training. Therefore, Ministry of Education should ensure that teachers of learners with hearing impairment undergo intensive sign language training in order to be proficient in sign language skills.

2. The study revealed that teachers found it difficult to teach literacy to learners with hearing impairment using the PLP strategies namely phonics, fluency, comprehension, vocabulary and writing. Ministry of Education should ensure that Colleges of Education and Universities intensfy the training of teachers in strategies of implementing literacy methologies of the PLP in order to prepare teachers of learners with hearing impairment to handle reading lessons effectively.

3. School administrators should ensure that teachers do not apply the phonics method when teaching reading to hearing impaired learners because this methodology is not suitable for children with hearing impairment as it requires the manipulation of sounds, which hearing impaired children do not posses. Teachers should ensure that all learners develop strong pre-reading skills such as alphabetical knowledge and print awareness, as these are foundational skills of reading development.

4. The study established that teachers did not attend CPD meetings meant to orient them on application of the PLP to learners with hearing impairment. The recommendation is that Head teachers should ensure that they conduct CPD programmes in schools in order to help teachers of hearing impaired learners familiarise themselves with the PLP methodology.

5. The study also revealed poor home literacy environment and lack of parental involvement to support reading development of children with hearing impairment. In order to resolve this problem, parents should ensure that they create an enabling home environment that supports reading activities of learners. Parents should provide reading books and supplementary readers such as magazines and newspapers. Parents should also conduct reading activities with pupils at home they read together with children. Parents should also support their hearing impaired children to do homework. Parents should strive to learn to read and write in order to improve a reading culture in the home.

6. The study revealed that schools did not have teaching and learning materials to support the reading development of children with hearing impairment. The Curriculum Development Centre should provide suitable teaching and learning materials such as pupil's books and teacher's guides to support the implementation of the PLP to learners with hearing impairment.

7. The Permanent Secretary, Ministry of Education should procure ICT digital equipment such as computers, projectors and video games to all schools in order to support the reading development of learners with hearing impairment, which will later lead to effective

implementation of the PLP. Assistive devices like cochlear implants and hearing aids should also be made available to hearing impaired learners in schools.

8. The Ministry of Education should design policies to ensure full implementation of inclusive learning in all schools.

6.7. Contribution of the study to the body of knowledge

The purpose of the study was to examine the effectiveness of the PLP to enhance the reading skills of Grade 3 learners with hearing impairment. The objectives that guided the study helped to establish findings that have contributed to the body of knowledge. The contribution to the body of knowledge are in the field of teachers proficiency in sign language through tailor made sign language trainings, exploring other approaches of teaching literacy to learners with hearing impairment away from the phonics method and designing inclusive and appropriate teaching and learning materials suitable for children with hearing impairment.

6.7.1. Teacher Proficiency in sign language

The study has identified gaps in the acquisition of literacy skills among learners with hearing impairment mainly due to lack of proficiency in sign language by teachers. The contribution of this study on teacher proficiency in sign language is seen through the need to create an inclusive nature of teaching and learning, where proficiency in sign language improves access to information and communication of learners with hearing impairment and gives them access to more educational opportunities. This study has contributed to the understanding of the problem of poor sign proficiency of teachers which has arisen due to poor quality of teacher training (Mulonda, 2013). This study has brought out weaknesses in sign language among teachers of learners with hearing impairment which creates a barrier to access and full participation in education programmes among learners with hearing impairment. Conclusively, tailor made programmes should be designed to prepare teachers to handle learners with hearing impaired through intensified trainings in sign language.

6.7.2. Exploring other approaches of teaching literacy to learners with hearing impairment away from the phonics approach

The study has highlighted gaps in the PLPs emphasis of the phonics approach to teaching literacy to children. The phonics approach has proved to be inappropriate for learners with hearing impairment because it focusses on letter-sound relationship whichis challenging to learners

with hearing impairment. Learners with hearing impairment cannot perceive and produce speech sound. This study contributes to the body of knowledge by encouraging the use of other approaches to teaching literacy to learners with hearing impairment away from the phonics approach. Sue (2000) suggests that any intervention in children with hearing impairment to teach them how to read by manipulating sounds has proved unattainable, hence the need to explore other approaches.

6.7.3. Need for provision of inclusive TLMs to support the implementation of the PLP for learners with hearing impairment

The study has identified gaps in the implementation process of the PLP. The study established that suitable teaching and learning materials are not provided to meet the needs of children with hearing impairment. In this area, the contribution to the body of knowledge is in the area of curriculum implementation through the provision of inclusive teaching and learning materials. Uttal and DeLoache (2006) supported the use visual learning materials in reading development by noting that teachers should use concrete objects in a symbolic fashion since representations of the contents of boxes helps children gain insight into the idea of using letters as representations. Any reading programmes which is designed should take into consideration the needs of all learners across the curriculum, and design appropriate teaching and learning materials to support its full implementation.

6.8. Suggestions for further research

This study examined the implementation of the PLP to enhance reading skills among learners with hearing impairment in Grade 3.

A similar study could be undertaken to ascertain the development of literacy skills among early childhood learners with hearing impairment. This would be inevitable to measure the levels of literacy acquisition among pupils in Early Childhood Education schools as they transition into Primary Education.

Another study could be conducted on the implementation of the PLP on learners with visual impairment.

This study also examined teacher's proficiency in sign language to support the implementation of the PLP to learners with hearing impairment.

A similar study could be conducted to examine the proficiency in sign language among lecturers in Colleges of Education and Universities that are training teachers of learners with hearing impairment. This is at the backdrop of findings of this research that non proficiency of teachers in sign language could be attributed to poor quality of teachers training (Mulonda, 2013).

Another study can be conducted to examine sign language proficiency between teachers who are hearing impaired and non-hearing impaired teachers.

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APPENDICES

Appendix A: Questionnaire for Teachers of Hearing-Impaired Learners.

Dear Respondent,

I am a Doctor of Philosophy (PhD) student in the school of Education under the Directorate of Research and Graduate Studies (DRGS) at The University of Zambia (UNZA) carrying out a study on The Implementation of the **Primary Literacy Programme (PLP) to enhance the reading skills among Grade 3 children with Hearing Impairment in Schools of Lusaka, Mansa and Samfya Districts.** This study is part of the fulfilment for the award of a Doctor of Philosophy (PhD) in Literacy and Learning. 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 M F

SCHOOL: ……....

1. Do you have enough visual aids to use during reading lessons for the hearingimpaired learners in your school? Yes No

2. Are the hearing-impaired children stigmatized (as a result of their impairment) by their hearing counter parts? Yes No

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

(a) If the answer to question 3 is 'No', explain why hearing impaired and hearing learners do not learn together during reading lessons.....

4. Has the Curriculum Development Centre developed teacher's guides/books with recommended and appropriate reading teaching methods/approaches that suit the hearing-impaired children? Yes No

(a) If the answer to the above question is 'No', what books do you use to reading to hearing-impaired learners? .....

.....

5. Does your school have reading pupils books designed for hearing impaired children?

Yes No

6. What qualifications do you have?.....

a) Certificate in Special education Yes No

b) Diploma in Special Education Yes No

c) Degree in Special Education Yes No

d) Masters in Special Education Yes No

7. Did you acquire skills and knowledge necessary to teach literacy to hearingimpaired children during your teacher-training period? Yes No

8. Have you attended CPD orientation meeting on how to implement the PLP to children with hearing impairment? Yes No

If the answer to the above question is 'No', how has this affected your teaching? Explain:.....

9. How do you find teaching reading to children with hearing problems using the PLP?

Easy Very Easy Difficult Very difficult Not sure

10. Do you have enough equipment/facilities to support the implementation of the PLP to improve reading skills of children with hearing impairment?

(a) Desks Yes No

(b) Tables Yes No

(c) Chairs Yes No

(d) Black Boards Yes No

(e) Storage Yes No

(f) Class Library Yes No

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

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

13 Does the school/Hospital/ NGO provided hearing aids to hearing-impaired learners?

Yes No

14 Do you have school feeding programmes for the hearing-impaired learners in your school?

Yes No

15 As a practising teacher, how would you describe the suitability of the Grade 3 PLP methodology in relation to teaching reading to hearing-impaired learners?

as contained in the teacher's guide?

(a) suitable (b) Quite Suitable (c) Very suitable (d) Not suitable

16 Does the school timetable have sufficient time required for teaching reading to the hearing-impaired learners? Yes No

17 How often do you conduct reading assessment tests to your hearing-impaired pupils?

Weekly Every after two weeks Monthly Termly None

18 How is the teacher/ pupil ratio in your class?

Normal for a special class Overcrowded for a special class

19 How often are your lessons monitored by:

a) Standards officers

Weekly Every after two week Monthly Termly None

(a) Head teacher

Weekly Every after two weeks Monthly Termly None

(b) Deputy head teacher

Weekly Every after two weeks Monthly Termly None

(c) Senior teacher

Weekly Every after two weeks Monthly Termly None

Appendix B: Questionnaire for Administrators/ Head Techers of Schools Providing Education to Hearing-Impaired Learners.

Dear Respondent,

I am a Doctor of Philosophy (PhD) student in the school of Education under the Directorate of Research and Graduate Studies (DRGS) at The University of Zambia (UNZA) carrying out a study on **The Implementation of the Primary Literacy Programme (PLP) to enhance the reading skills among Grade 3 children with Hearing Impairment in Schools of Lusaka, Mansa and Samfya Districts.** This study is part of the fulfilment for the award of a Doctor of Philosophy (PhD) in Literacy and Learning. 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.

Administrator questionnaire

1. Do you have any training in Special Education Needs (SEN) to help you supervise the teaching and learning of pupils with hearing impairment? Yes No

2. If the answer to question 1 is 'Yes', what qualification did you obtain?

e) Certificate in Special education Yes No

f) Diploma in Special Education Yes No

g) Degree in Special Education Yes No

h) Masters in Special Education Yes No

3. If the answer to question 1 is 'No', have you attended any orientation training or CPD in special education? Yes No

4. Are you farmiliar with the Primary Literacy Programme (PLP) Yes No

5. Have the teachers of hearing impaired learners been oriented on how to implement the PLP to learners with hearing impairment? Yes No

6. How often do you conduct CPD meetings for teachers of hearing impaired learners?

Weekly Every after two weeks Monthly

7. Do you have enough trained teachers for the hearing-impaired learners in your school?

Yes No

8. Do all the teachers have adequate skills in sign language? Yes No

9. Has your school provided/ procured enough reading materials suitable for hearing impaired learners?

Picture books Yes No

Reading books Yes No

Toys Yes No

10. Have you provided ICT materials to help the literacy development of hearing impaired learners?

Computers Yes No

Projector Yes No

Video games Yes No

11. Is there enough classroom accommodation for hearing impaired learners?

Yes No

12. How often do you monitor your teachers of hearing impaired learners?

Weekly monthly Termly

13. Has your school collaborated with organisations that provide digital hearing aids, cochlear implants, or any support to hearing-impaired learners to develop their reading skills?

Yes No

14. The answer to the above question is 'yes', name the organisations/ Ministries that are supporting your school.

Organisation Service provided

a. ……

b. ……

c. ……

d. ……

Appendix C: Focus group discussion guide for teachers of hearing-impaired learners

Dear Teachers of Hearing Impaired Children,

I am a Doctor of Philosophy (PhD) student in the School of Education under the Directorate of Research and Graduate Studies (DRGS) at The University of Zambia (UNZA) carrying out a study on **The Implementation of the Primary Literacy Programme (PLP) to enhance the reading skills among Grade 3 children with Hearing Impairment in Schools** of Lusaka, Mansa and Samfya Districts. This study is part of the fulfilment for the award of a Doctor of Philosophy (PhD) in Literacy and Learning. 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.

Purpose of the research

The problem of poor reading among the hearing-impaired pupils in early grades has been there for many decades. In an effort to address this problem, MOGE is implementing a programme called 'Primary Literacy Programme' whose goal is for learners to be able to read simple sentences by the end of Grade 1 and ensure that they acquire knowledge before moving to Grade 2 and subsequent grades. However, it is not known as to how effective the Primary Literacy Programme is being implemented to enhance the reading skills among Grade 3 learners with hearing impairment. Therefore, we want to establish how the PLP is being implemented in order to improve the reading levels of children with hearing impairment.

Focus Group Discussions (to be chaired by the researcher)

1. Do you have PLP books suitable for teaching reading to hearing-impaired learners in your unit?

……

……

2. Have you attended any CPD meeting on how to implement the PLP to children with hearing impairment?

……

……

3. How many grades of hearing impaired learners do you have in your class?

.....

.....

4. What amount of support do you receive from your Head teacher/School management to help you manage the implementation of the PLP to children with hearing impairment in your special units?

.....

.....

5. During reading lessons, how often are you, as a special education teacher monitored by:

(a) Standard Officers

.....

.....

(b) Head teacher

.....

.....

6. Describe the suitability of your classrooms for hearing impaired learners. How many grades are accommodated at the same time in the same classroom

.....

.....

7. Do you have ICT/visual equipment to help you teach the hearing-impaired learners?

.....

.....

8. How consistent/definite are the signs for words?

.....

.....

9. How often do you assess the reading of children with hearing impairment?

……

……

10. How competent are the teachers of hearing impaired children in sign language?

……

……

11. In the event where a teacher of hearing impaired learners is not competent in sign language, what does your school do to help such teachers improve sign language skills?

……

……

12. What nature of reading difficulties do hearing-impaired learners face in your school?

……

……

13. Is there enough time on the timetable to teach literacy to hearing-impaired children?

……

……

14. Are the hearing-impaired children stigmatized because of their impairment by hearing children during play?

……

……

15. Is there any other issue that you would wish to state on The Implementation of the Primary Literacy Programme (PLP) to enhance the reading skills among Grade 3 children with Hearing Impairment in Schools?

……

……

Appendix D: Class Observation Checklist

I am a Doctor of Philosophy (PhD) student in the School of Education under the Directorate of Research and Graduate Studies (DRGS) at The University of Zambia (UNZA) carrying out a study on **The Implementation of the Primary Literacy Programme (PLP) to enhance the reading skills among Grade 3 children with Hearing Impairment in Schools** of Lusaka, Mansa and Samfya Districts. This study is part of the fulfilment for the award of a Doctor of Philosophy (PhD) in Literacy and Learning. Therefore, the information that will be collected in this class observation checklist is purely for research purposes only.

Your cooperation is highly appreciated.

DISTRICT:……**SCHOOL**: ……

CLASS: ……**TOTAL NUMBER OF PUPILS**: ……

BOYS:……**GIRLS**: ……**CLASS TEACHER'S GENDER**: …… **AGE**: ……

TEACHING EXPERIENCE IN GARDE 3: ……

Grade three (3) teachers of hearing impaired children will be observed teaching reading. Prior permission and consent will be sought. This is an important activity as it will help to understand the type of methods and materials used in the achievement of reading by learners. It will also help in understanding relationships between teachers' input and pupils' output in reading. Essentially, data will be triangulated from both pupils and teachers.

S/N	ASPECTS TO BE OBSERVED	SCORING		
		Available but poor (1mark)	Not available (0 mark)	Comments
A	CLASSROOM ENVIRONMENT			
	1. Talking walls			
	2. Classroom organization			
	3. Furniture			
	4. Labels			
B	LESSON PROCEDURE			
	6. Lesson planning			
	7. Introduction			
	8. Development			
	9. Conclusion			
	10. Time management			
C	TEACHING AIDS/ MATERIALS			
	11.Suitability			
	12. Sufficiency			
	13. Utilisation			
D	ASSESSMENT AND FEEDBACK			
	14. Question and answer			
	15. Individual attention to pupils			

	16. Pupil motivation			
	17.Pupil-overall performance			
E	**METHODOLOGY**			
	18. Phonics			
	19. Fluency			
	20. Comprehension			
	21. Vocabulary			
	22. Writing			
G	**OTHERS**			

Appendix E: Children interview guide

I am a Doctor of Philosophy (PhD) student in the School of Education under the Directorate of Research and Graduate Studies (DRGS) at The University of Zambia (UNZA) carrying out a study on **The Implementation of the Primary Literacy Programme (PLP) to enhance the reading skills among Grade 3 children with Hearing Impairment in Schools** of Lusaka, Mansa and Samfya Districts. This study is part of the fulfilment for the award of a Doctor of Philosophy (PhD) in Literacy and Learning. Therefore, the information that will be collected is purely for research purpose only. Please spare a few minutes to answer questions in this interview guide.

Your cooperation is highly appreciated.

BIOGRAPHICAL DATA

DISTRICT……**SCHOOL**: ……..

NAME:……**ID**: ……..

AGE:……**SEX**:……**CLASS**: ……

The children interview guide shall be completed by the researcher. The interview shall be done on one pupil at a time while the rest of the pupils are kept away from the interview room. The researcher shall use sign language to get information from the pupils.

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 flushable toilet? Yes No

Home literacy environment

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

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

10. Does someone help you to read books at home? Yes No

11. If the answer to the above question is 'Yes', who helps you to read?

Mother Father Siblings Other, please specify_____

12. If the answer to question 10 is 'No', why are you not helped to read at home?

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

14. Do the adults read newspapers/ magazines/ books/ bibles in your home?

Yes No

a. Do your parents/ guardians/ siblings write things like notes, shopping lists etc

Yes No

Parental economic status

15. Are your parents in formal employment? Yes No

16. If the answer to question 16 is 'No', what type of work do they do for a living?

Explain.....

17. Are your parents earning enough income? Yes No

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

19. Describe the type of house you live in.

Grass thatched Yes No

Iron Yes No

Tapped water Yes No

20. Do you have a car? Yes No

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

22. Indicate the type of meals that you have everyday

Breakfast Yes No

Lunch Yes No

Supper Yes No

Appendix F: Basic Skills Assessment Tool (BASAT)

Modified to suit hearing impaired children

BASIC SKILLS ASSESSMENT TOOL (BASAT)

Reading and Writing Skills – Grade 3

Name:_____

School:_____

Grade:_____

Teacher:_____

Examiner:_____

Date	
Date of birth	
Age	

Province: _____ District: _____Sex: □ Female □ Male

Time begun:_____Time ended:_____

1. Has the child got any of the following impairment? Tick where appropriate	
a. Physical impairment	
b. Visual impairment	
c. Hearing impairment	
d. Intellectual disabilities	
e. Speech/language impairment	

2. Summary of the BASAT (Fill in this table after completing the assessment)	
Area	**Score a**
A. Letter knowledge	
B. Letter Knowledge- Continued: Letter identification in a word	
C. C. Reading: Picture to word matching :	
D. Reading and Drawing: Pupils read the word an draw a picture	
E. Reading Vocabulary: Pupils to read the given words	
F. Digit Span: Working memory	
G. Reading Comprehension	

A. Letter knowledge Indicate and count the letters the child knows		Number of Letters Known
1. Re-arrange letters in sequential order.	F, J, H, C, E, A, G, I, B, D *Start: A, B, C, D, E* …… 5 marks for all the 5 letters arranged correctly. Total score (5)	
2. Identify the missing letter in the alphabet by filling in the blank spaces	A, B,C….E, F, G,H….J,K,…M, N, O,P,…..R,S,T,U…… WXYZ 1 mark for each letter identified Total score (5)	
3. Write names of letters signed by the teacher. (Teacher to sign the letters then the child writes them down).	Q, B, X, E, G …… 1 mark for each letter written correctly. Total score (5)	

B. LETTER KNOWLEDGE CONTINUED: MATCHING Match t he letters in column 'A' by identifying it in a word in column 'B'. Circle the letter.		Number of Letters Known
Column A	**Column B**	
Example p w u h b a 1 mark for each letter identified	Pencil under table apple school water	

C. Reading: Picture to word matching :

Pupils to read the words and match with the pictures

Example: Cup →	
1. Box	
2. Pot	
3. Girl	
4. Dog	
5. Chair	

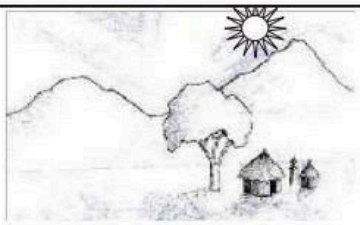
D. Reading and Drawing: Pupils will be asked to read given words silently. Thereafter, they draw a picture to represent a word they have read.	**Pupils to draw the picture**	
Example: Tree		
1. un		
2. gg		
3. us		
4. ather		
5. irl		
1 mark for letter identified and matched correctly. Total score (5)		

E. Reading Vocabulary: Pupils to read the given words			
1. Reads one syllable words	Score		Score
a. it		.	
a. or b.			a. sit
c.			
d.			
e.			
1 mark for each word read correctly Total score (5)			
2. Reads 2-syllable words:			
a.			
b.			
c.			
d.			
e.			
1 mark for each word read correctly. Total score (5)			
3. Read sentences : Pupils to read the following sentences by signing			
a. 1. Musa and Maria are going to school.			
b. 2. Musa is wearing a blue shirt.			
2.			
. Mother is sweeping the floor			
3. Maria is cooking nshima			
4. Chilambe is carrying a black bag			
1 mark for each sentence read correctly Total score 5 marks			

F. Digit Span (Working memory):		Score
For each item ('a' and 'b') Mark "1" if the child remembers the digit sequence correctly otherwise mark "0".Calculate the total score. Pupils should say out the each number using sign		
Example	9, 5, 7, 3, 6	
Answer	**3, 5, 6, 7, 9**	
1. Remembers two numbers in sequence:	4-3	
2. Remembers three numbers in sequence:	5-6-4	
3. Remembers four numbers in sequence:	4-1-6-2	
4. Remembers five numbers in sequence:	5-6-3-1-4	
5. Remembers six numbers in sequence:	7-3-5-1-6-2	
1 mark for each sequence written correctly		
Total score 5 marks		

G. Reading Comprehension:

Tick the child's response for each item and calculate the number of items Correctly understood!

	a. The ball is on the table. b. The ball is under the table. c. The ball is under the car.
	a. He is standing. b. He is walking. c. He is sleeping.
	a. She is drawing a chair. b. She is drawing a bed. c. She is making a drum.
	a. The sun is not shining. b. The sun is shining. c. The moon is shining.
	a. he boy is sweeping b. he boy is cooking c. he boy is sitting

1 mark for each sentence read correctly Total score 5 marks

Appendix G: Questionnaire for Parents of Hearing-Impaired Learners

Dear Parent,

I am a Doctor of Philosophy (PhD) student in the school of Education under the Directorate of Research and Graduate Studies (DRGS) at The University of Zambia (UNZA) carrying out a study on **The Implementation of the Primary Literacy Programme (PLP) to enhance the reading skills among Grade 3 children with Hearing Impairment** in Schools of Lusaka, Mansa and Samfya Districts. This study is part of the fulfilment for the award of a Doctor of Philosophy (PhD) in Literacy and Learning. 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

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

SEX OF RESPONDENT: F M

EDUCATION LEVEL (Grade)

Primary Secondary College/University None

1. Do you conduct reading 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

Comment on the availability of books

……

……

……

1. Do you know sign language? Yes No

2. Are you in formal employment? Yes No

If not in formal employment, explain what you do for a living

……

…

3. Do you help your child to do homework? Y e s
No

Comment ……

…

4. Does the school provide reports about the academic performance of pupils? Yes No

Comment……

5. Do you think the school environment is conducive for educating hearing impaired children?

Yes No

Comment on the school environment ……

6. Have you requested for digital hearing aids or cochlear implants for your hearing impaired child from the hospital?

(a) digital hearing aids Yes No

(b) cochlear implants Yes No

If the answer to the above questions is 'No' state the reason……

7. How often do you take your hearing impaired child to the clinic for continuous ear checkups?

monthly every after 2 months every after 3 months after 6 months

8. What language do you use at home to communicate with your hearing impaired child?

(a) American Sign Language Yes No

Unconventional Sign language Yes No

Appendix H: Ethical Cleareance Certificate

THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

Great East Road Campus | P.O. Box 32379 | Lusaka 10101 | **Tel:** +260-290 258/291 777
Fax: (+260) 211 290 258/253 952 | **Email:** director.drgs@unza.zm | **Website:** www.unza.zm /directorates/drgs

APPROVAL OF STUDY

25th January, 2024

Mr. Langson Chibuye
C/o University of Zambia
P.O. Box 32379
LUSAKA

Dear Mr. Chibuye

RE: APPROVAL - RESEARCH ETHICAL REVIEW WAIVER – LANGSON CHIBUYE

"THE IMPLEMENTATION OF THE PRIMARY LITERACY PROGRAMME (PLP) TO ENHANCE THE READING SKILLS AMONG GRADE3 CHILDREN WITH HEARING IMPAIRMENT IN SCHOOLS OF LUSAKA, MANSA AND KAWAMBWA DISTRICTS."

Reference is made to your request for waiver of ethical approval of the study.

The University of Zambia Humanities and Social Sciences Research Ethics Committee IRB has approved the study noting that there are no ethical concerns.

On behalf of The University of Zambia Humanities and Social Sciences Research Ethics Committee IRB, we would like to wish you all the success as you carry out your study. In future ensure that you submit an application for ethical approval early enough.

Yours faithfully

Dr. J. L. I. Ziwa
CHAIRPERSON
THE UNIVERSITY OF ZAMBIA HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE - IRB

cc: Director
Acting Assistant Director - Research
Assistant Registrar - Research
Senior Administrative Officer - Research

Towards Improving Service and Excellence in High Education Beyond Fifty Years

Appendix I: Letter from Provincial Educational Officer-(Luapula Province)

All Correspondence should be Addressed to
The Provincial Education Officer
Ministry of Education and not to
Individual Officer by name
Tel: +260 212 821209
Fax: +260 212 821483
E-mail: luapulamoe@yahoo.com

In reply please quote

No. .....

REPUBLIC OF ZAMBIA

MINISTRY OF EDUCATION

OFFICE OF THE PROVINCIAL EDUCATION OFFICER
P.O. Box 710196
MANSA

Date: 14th August 2020

To: The District Education Board Secretary

Mansa and Samfya

INTRODUCTORY LETTER FOR MR LANGSON CHIBUYE TO UNDERTAKE RESEARCH IN SELECTED SCHOOLS IN YOUR DISTRICT

Refer to the subject matter above.

The above named person is conducting research on the Implementation of the Primary Literacy Programme to Enhance the Reading skills of Learners with Hearing Impairment in Grade 3.

My office has authorised Mr Langson Chibuye to conduct data collection in your district through focus group discussion with teachers and interviews with teachers, administrators and parents.

You are requested to give him all the support for fulfill this task

nchipolo.

NAOM CHIPOLO

SENIOR EDUCATION OFFICER – G&C

LUAPULA PROVINCE

Appendix J: Letter from Provincial Educational Officer-(Lusaka Province)

All communications should be addressed to:
The Provincial Education Office and not
To only individual

Telephone: +260-2111250655/251220
Fax : +260-251009

REPUBLIC OF ZAMBIA

PEO/LR/101/28/2
In reply please quote

No:.....

MINISTRY OF EDUCATION

OFFICE OF THE PROVINCIAL EDUCATION OFFICER
LUSAKA REGIONAL HEADQUARTERS
PRIVATE BG RW 21E
LUSAKA

21st August 2020

The District Education Board Secretary

Lusaka District

LUSAKA

RE: LETTER OF INTRODUCTION: MR LANGSON CHIBUYE

The above subject matter refers.

I write to introduce to you Mr. Chibuye, a student at the University of Zambia who wishes to conduct a research on the implementation of Primary Literacy Programme to enhance the reading skills of learners with Hearing Impairment in Grade 3.

He has been granted authority to conduct data collection through focus group discussion with teachers and interviews with teachers, administrators and parents in some selected schools in your district.

Kindly welcome him and give him all the necessary support during his visit to your district.

Christopher B. Sinkamba (PhD)

PROVINCIAL EDUCATION OFFICER

LUSAKA PROVINCE

Appendix K: Certificate of Publication

The Board of
International Journal of Research and
Innovation in Social Science
ISSN: 2454 -6186

In hereby awarding this certificate to

Langson Chibuye

In recognition of the publication of the paper entitled

Teacher Proficiency in Sign Language and Reading Skills Development of Learners with Hearing Impairment

Published In IJRISS Online Journal

Page No. 727-742 Volume VII Issue V Month May Year 2023

Chief Editor

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