ACRONYMS

BICS	Basic Interpersonal Communication Skills
CALP	Cognitive Academic Language Skills
CI	Curriculum Implementer
DHH	Deaf and Hard-of-Hearing
DBE	Department of Basic Education
DBST	District Based Support Team
ECD	Early Childhood Education
ILST	Institution Level Support Team
ISP	Individual Support Team
SASA	South African Schools Act (Act No. 70 0f 1996)
SASL	South African Sign Language
SBST	Site/ School Based Support Team
SIAS	Screening Identification Assessment and Support
SLED	Sign Language Education and Development

ABSTRACT

The purpose of the study was to develop a wellness model for teachers in addressing learning barriers for learners with hearing impairment. The study is underpinned by three theories, namely, the Linguistic Interdependence Theory, the Universal Design for Learning and the Wellness Theory to generate understanding of how learners with hearing impairment learn. Ethical standards were adhered to in terms of gaining permission for access, issues of informed consent, voluntary participation, and confidentiality. The study is premised on the pragmatism philosophy that favours a mixed method approach, using both qualitative and quantitative methods of data collection and analysis and interpretation of data. The mixed method is a multi-method, ensuring multiple angles in data collection, interpretation and analysis. Data collection and analysis were concurrent because data were collected and analysed as soon as the data were available. The study used a purposive sampling approach to select samples of educators who responded to the questionnaires and those who participated in the interviews. Three provinces and 11 schools were purposively selected because of their history of providing quality education to learners with hearing impairment. The researcher knew all the schools. One hundred deaf educators (86 female and 14 male) participated in answering a semi-structured, self-completion questionnaire. All respondents were school-based teachers of the deaf, teaching Grade R to seven. Eleven primary school educators were interviewed, consisting of eight women and three men. Concurrent data analysis was used to compare quantitative and qualitative data, which revealed that learners faced several wellness challenges. Most of the learners faced literacy challenges in reading, communication with the hearing and limited academic, social and career dimensions. Some positive strides were showing in the physical and spiritual wellness through health promotion and moral education. The study proposed an integrated wellness model integrating the three lenses. The following four themes emerged from the study. The first theme is that academic challenges are major barriers faced by learners with hearing impairments. The second theme noted that deaf learners faced communication challenges. The third theme indicated curriculum, adaptation, and multidisciplinary teams as factor where hearing-impaired needed support to address barriers to learning. The last theme called for more programmes to be introduced to address academic, career, and spiritual wellness. A wellness model was proposed to assist educators to address the academic, social, career, emotional, physical, and spiritual wellness of the hearing-impaired learners.

KEY WORDS

Barriers to learning, disability awareness, linguistic interdependence theory, universal design for learning, wellness theory

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CHAPTER 1
OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Teachers of hearing-impaired learners face several barriers in addressing the learning barriers of their learners. The educators lack basic theoretical knowledge and practical skills to identify barriers to learning. Educators who lack competence to identify barriers to learning fail to provide effective support to learners with diverse learning needs. A number of measures should be considered to effectively identify barriers to learning, including observation, interviewing, consultation, and reviewing (Department of Education, 2011). It is also important to reflect on previous records of the learner in order to ascertain what difficulties the learner is facing and what has been done so far to provide intervention; and to establish how learning support should be given (Apel, & Masterson, 2015; DBE, 2011; Donald, Lazarus & Lolwana, 2010).

The ability to identify barriers to learning, has positive outcomes particularly purposeful teaching based on constructive intervention programmes Purposeful teaching entails well programmed teaching that takes cognisance of the learners' intrinsic (within the child) and extrinsic (environmental/ outside the child) barriers. A learner with a hearing impairment as intrinsic barrier can rely on lip reading or use sign language to communicate. An extrinsic barrier is evident in a classroom situation where the teacher is not well versed with sign language skills. Miscommunication is likely to result resulting in very little or no learning taking place (Department of Education, 2011). Lack of proper communication with learners with hearing impairment can be due to failure by the learner to understand human speech (Marshark & Hauser, 2012). Learners who become hearing impaired after gaining speech are in a better position. They may speak sufficiently well that others assume they can hear well, yet, they need suitable adjustments to ensure good communication (Solvang & Haualand, 2014)

In South Africa, the challenge facing most teachers today is that they have not been taught to cope with the diversity of learners now entering schools. It is important in this context that all teacher at pre-service be inducted in issues to do with learners experiencing barriers to learning. This helps

the newly trained teacher to be able to deal with a diversity of learners once they start teaching. South Africa is one of several countries who have legislation and policies that not much attention to the needs of people experiencing barriers to learning such as deaf learners. For example, most legislation in most countries require learners to be in school up to age 18 yet not enough support services are available to address barriers learning and facilitate quality education for the learners (Bauman & Murray, 2014; Infante & Matus, 2009). This study suggests that better provision of support services will go a long way in making it possible for deaf or hard-of-hearing learners to be ready when they complete schooling when they reach 18 years. This can be attained if early intervention is successfully implemented for children with hearing impairment.

1.2 RATIONALE AND MOTIVATION

Educating deaf people is a challenge. The fact that the learners have impaired audition means that they miss important information they would normally get through audition. They can see, but do they understand and appreciate what they see? The researcher was involved with hearing-impaired children for several years at the time of the study, teaching in a special school. The researcher noticed that educators did not have a model to use when addressing barriers to learning for their learners with hearing-impairment. The study was not only relevant for personal reasons but also as a contribution to the effective classroom discourse and the motivation to see development of quality education for deaf learners in South Africa. The researcher also feels that findings will be of benefit not only limited to South Africa but also can be used for other contexts and countries. This can be possible by carrying out future studies in similar environments using the same or modified paradigms and methods suited to the environments of research. This also contributes to the academic world. The also contributes to policy and the development of legislation focusing on provision for hearing impaired learners.

The researcher feels that addressing barriers to learning of children with disabilities is a human rights issue. The United Nations Convention on the Rights of Persons with Disabilities (United Nations, 2005) ensures full and equal enjoyment of human rights by all persons with disabilities (Article 1). Article 24 (a) ensures "*The full development of human potential and sense of dignity and self-worth and the strengthening of respect*". One of the important rights for all, including

people with disabilities, is the right to basic education (Kauppinen & Jokinon, 2013).

United Nations (2005) strives to ensure that people with disabilities are supported to maximize their academic, emotional, career, spiritual, physical, and social wellness. It is also important to propose that the educator is the focus person in addressing barriers to learning of learners who have a hearing impairment. The classroom educator through interaction with the learner can identify the academic challenges. Learner behaviour and competency compared to peers can provide information that the learner is experiencing barriers. The availability of a multidisciplinary team provides support in most wellness dimensions assisting in identifying and addressing the barriers. For example, a Psychologist can assess and intervene in emotional wellness. The United Nations (2005) encourages the global community to ensure that learners who deaf have linguistic identity of both sign language and deaf community. Sign language is beneficial for communication with persons who have a hearing impairment. It is the language they understand and, therefore, the best language to teach them something new. For this reason, teachers of learners who use sign language have themselves to be conversant with the language of the learners they are teaching. Humphries, Kushalnagar, Mathur, Napoli, Padden, Rathmann, and Smith (2013) maintain that teachers of deaf learners or hard-of hearing should be competent in sign language. Competent teacher signers are also capable of designing appropriate teaching and learning materials for the benefit of the learner who is deaf or hard-of-hearing (Commission of Deaf, Deafblind & Hard-of-Hearing Minnesotans, 2015).

Van Staden (2013) highlights the benefits of competency in sign language by teachers to the contribution of positive development in academic wellness for deaf learners. Sullivan and Oakhill (2015) submitted that early intervention has several benefits in the development of social, emotional and academic wellness of learners who have a hearing impairment. Early intervention makes it possible for learners to develop competency in their first language (sign language). Learners also develop early competency in their language of Learning and Teaching (for example English or Afrikaans). It also helps the learners to be better prepared to leave school when they reach school leaving age. The learners through skills programmes provide successful career wellness. The researcher was particularly interested to ascertain challenges faced by educators of learners with hearing impairment in addressing barriers to learning towards a wellness model. In

order to address the barriers, several wellness dimensions need to be catered for, namely, the academic, emotional, emotional, social, spiritual, and career wellness dimensions. The educators, through their regular interaction with learners with hearing-impairment, are the best to express their views and opinions on the various wellness issues related to their learners.

1.3 PROBLEM STATEMENT

The role of the teacher for learners with hearing impairments is very important in the holistic development of the learners. The educator interacts on a daily basis with the learner. At special schools, which in most cases have boarding facilities, the educator plays a big role in identifying and providing for most of the wellness dimensions. The educator ensures that academic, social, physical, emotional, spiritual, as well as career dimensions are catered for. The educator gets the support of the school administration and other educators through committees such as the School Based Support Team (SBST) (Department of Basic Education (DBE), 2011). External support is also necessary through departments such as health, social service, and the Inclusive section of the department of education. The main purpose of a school is to provide academic knowledge, skills and other extra-curricular (DBE, 2013). It is important for educators to be properly qualified to teach learners with hearing impairment. Educators who lack proper qualifications ad who do not have proper theoretical knowledge of hearing impairment cannot be effective teachers of learners with hearing impairment. According to Martin (2014:143) "... *in 44 schools for the deaf... many teachers have basic knowledge of sign language, but lacked qualifications*". Besides having knowledge of basic sign language most educators lack basic understanding of the hearing impairment on behaviour and interaction with hearing people. The educators were also not well versed with knowledge of causes and degrees of hearing loss and their effect on different areas of development. Most teachers of learners with hearing impairments are worried and frustrated when their learners are not performing to their expectation (Mcllroy, 2010; Thomas, 2015).

The current position in schools in which the study was carried out is reflected through reports by the DBE. The DBE (2013) reported that currently educators are not well trained to teach learners with hearing impairment. Most of the teachers do not know how to communicate using South African Sign Language (SASL). Storbeck (2009) reports that educators lacked competency in

SASL and knowledge and experience in deaf culture. Gaps exist in both in pre-service and in-service training. Pre-service teachers are not trained in inclusive education. Newly qualified teachers are ill prepared to deal with a variety of barriers their learners experience (DBE, 2010). They lack knowledge of assessing learners who have challenges such as reading, spellings and writing (Storbeck, 2009). In-service training is also lacking with educators unable to communicate effectively using SASL. Teachers are unable to effectively adapt the curriculum (DBE, 2013). The in-service training available for different subjects conducted by Curriculum Implementers (CIs) does not consider learners who have hearing impairment. Personnel knowledgeable in inclusive education can effectively impart such knowledge. Yet, such personnel are currently not easily available. The DBE has the responsibility to provide training for the teachers of deaf learners to close the gaps. In the last year (2016), a number of in-service training courses were conducted in SASL and curriculum adaptation in order to close the gaps. Yet, more needs to be done in terms of providing support services in order to effectively close the gaps. Some special schools especially rural-based schools do not have enough resources such as workbooks and learning and teaching material adapted for deaf learners. The more resourced urban-based schools do have challenges but they are minimal. Both pre-service and in-service training need to be well budgeted for and the necessary training done regularly in SASL, curriculum adaptation, pre-vocational skills training and sport to effectively close the gaps.

1.4 RESEARCH QUESTION

How can a wellness model be developed for teachers to address barriers to learning for learners with hearing impairment?

The question was clarified further into subsidiary questions to ask:

- What are the barriers to learning experienced by learners with hearing impairment at Primary School level?
- What are the teachers' experiences regarding the wellness of learners with hearing impairment in the learning environment?

- Which support services are needed to address the barriers to learning of learners with hearing impairments?
- Which academic programmes need to be strengthened to assist educators address limited wellness dimensions?

1.5 RESEARCH AIMS AND OBJECTIVES

It is important to understand what guided the study to get a glimpse of the whole purpose of the study. The purpose of the study was to develop a wellness model for teachers to use in addressing barriers to learning for hearing impaired learners. Aims and research objectives helped to answer research questions and clarify the issues to get an understanding of the current situation and what could be done to improve it.

The following aim guided the study: *To develop a wellness model for teachers to address the barriers to learning of learners with hearing impairment.*

The following objectives were developed to guide the study:

- To determine the barriers to learning experienced by learners with hearing impairment at Primary School level;
- To identify the teachers' experiences regarding the wellness of learners with hearing impairment in the learning environment;
- To identify important support services needed to address barriers to learning of learners with hearing impairments; and
- To determine which academic programmes need to be strengthened to assist educators to address limited wellness dimensions.

1.6 SIGNIFICANCE OF THE STUDY

The study is significant in a number of ways. The study will contribute to the education of learners who are hearing-impaired. It is important for children who are hearing-impaired to have their barriers addressed like all other children in the spirit of Education for All (United Nations Educational Scientific and Cultural Organization (Unesco, 2013). The rights issue is well supported through reports and pronouncements by government officials (DBE, 2010; South African Rights Commission, 2012; Strasburg, Meny-Gilbert, & Russell, 2010).

In spite of the legislative or policy pronouncements, the provision quality education for learners experiencing barriers to learning is not well catered for. The DBE (2011) acknowledges that part of the problem lies in lack of sufficient learning and teaching materials. South African Rights Commission (2012) observes that there is inefficient resource allocation in schools educating learners with disabilities including deaf learners. The DBE (2013) puts the blame on provincial departments of education for inappropriately diverting funds allocated for learners experiencing barriers to learning for other provincial needs. The study is significant on how the educators view the situation in terms of support by district, provincial and national government officials. The level of support is important because the success or failure in provision is determined by how far schools are able to address barriers to learning of every learner. For example, is the level of support enough to improve communication between deaf learners and the teacher? The educator of a child with hearing impairment has the daunting task of teaching the child to be able to read and write and to reach a high standard of literacy despite their barriers (UNESCO, 2013). However, the educator must be competent in the use of the major communication mode of deaf people, sign language. The benefits of competency by educators of the hearing impaired learners in communication and understanding deaf culture helps improve the quality and standard of education of the learners with hearing impairment (Department of Education, 2011).

The study will be of significance and benefit to schools with hearing impaired learners. The Department of Education will also benefit from the study on how they can better support and allocate the needed resources to schools with deaf learners. Other stakeholders such as parents,

social workers, psychologists, and police and health services will also appreciate the kind of support they can give to the educators of learners with hearing impairment.

Storbeck (2009: 356) maintains that support is needed to train teachers of learners with hearing impairment who are fluent in sign language skills and theoretical knowledge of hearing impairment those who understand the relevant theories. This is also supported by other studies (Gascon-Ramos, 2008; Hauser, O'Hearn, McKee & Steider, 2010). Institutional support is needed for policy formulation and resource allocation to make teaching and learning easier. The researcher tapped on the experiences of educators of learners with hearing-impairment on how they were identifying and dealing with barriers to learning. The study is beneficial for overall curriculum planning, resource allocation, of educators in sign language and curriculum adaptation to effectively deal with barriers to learning of deaf learners. Teachers need resources to address barriers to learning, including time, collaboration and administrative support (Swart & Petipher, 2009: 20).

1.7 CONTRIBUTION TO THE BODY OF KNOWLEDGE

The study contributes to the existing body of knowledge in terms of policy, theory and practice as outlined below.

1.7.1 Policy

Several gaps in policy need to be completed. The Department of Education (2011) seeks to address barriers to learning for learners with a variety of special needs. However, none of the policies uses a model in dealing with barriers to learning. The researcher feels that such a policy is important and necessary**.** The recommendations of the study and the model that has been designed will assist policy makers to adapt aspects of the model for use by teachers teaching hearing impaired learners. The recommendations are made with the setting of the different special schools in mind. For example, findings from rural special schools call for the need for more resources to be made available. The better resourced special schools call for less support needs.

1.7.2 Theory

The study formulated an Integrative Theory that harnessed the ideas of Cummins' Linguistic Interdependence Theory and the Universal Design for Learning and Wellness Theory. The three theories contributed towards a better understanding of the current state of addressing barriers to learning by the teachers. The Universal Design for Learning illuminated an understanding of how learners with hearing-impairment are actively involved in the learning situation. The Linguistic Interdependence Theory gave a better understanding of the role of sign language as first language for hearing impaired learners and its role in facilitating easier communication with hearing-impaired learners. The Theory further clarified the role of the Language of Teaching and Learning such as English in facilitating reading and writing for the learners. The theory played a role in promoting the development of a second language based on the knowledge already gained in the first language. The wellness theory helped the study to understand how the different wellness dimensions were being addressed.

1.7.3 Practice

The recommendations of the study will be shared with the schools teaching learners with hearing impairment. The recommendations are formulated in a wellness model that can be used by teachers to provide support to learning of their hearing impaired learners. The model will be made available to the provincial offices of the Department of Education. The model focuses more on rural schools which do not have enough resources. However, even the more resourced rural schools will benefit because challenges such as limited training by the DBE in SASL and adaptation is a national challenge irrespective of locale. A summary of the findings, model and recommendations be sent to the schools for teachers to try it out and come up with comments on its applicability and suggestions for improvement considering their locality. The study could be replicated in similar conditions and environments in other provinces to improve practice. The study can also be widened to include a larger number of male subjects in the studies. Future studies can also be carried out with learners with hearing impairment as research subjects. This will give the voice of the people with hearing impairment themselves and get their perceptions.

1.8 THEORETICAL FRAMEWORK

Cummins' Linguistic Interdependence Theory, the Universal Design for Learning (UDL) and the Wellness Theory, informs the study. The three theories have a shared goal.

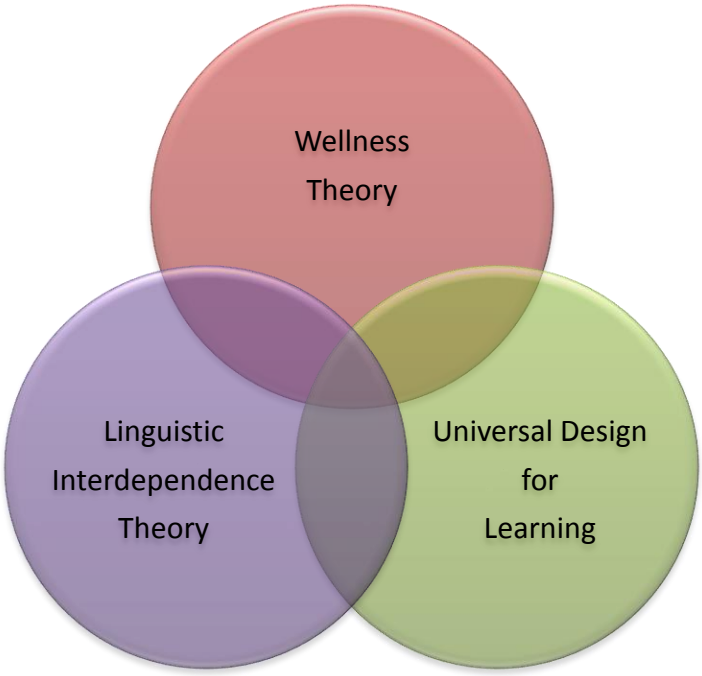

Figure 1.1: Three Theories

The Linguistic Interdependence Theory (Cummins, 1984, 1989) focuses on the development of language, including the ability to use language abstractly. This is important for learners who are hearing-impaired because in most cases there is delay in language development caused by late identification and schooling. Currently, most schools educating learners with hearing impairment use SASL as home language. SASL is a visual not written language. In order to facilitate reading and writing, a second language, the language of learning and teaching (LOLT) is introduced to learners. In South Africa, two languages used as LOLT are English and Afrikaans. Of the learners with hearing impairment, the Universal Design for Learning (UDL) Theory focuses on the active participation of learners in their learning situation. The theory emphasizes the need for flexibility in instruction materials, with the use of adaptation and differentiation. The UDL is an important

theory hence it was selected to develop a wellness model for teachers in addressing barriers to learning for learners with hearing impairments. The current position in schools for deaf learners or hard-of-hearing is that educators utilise visualization as a key teaching and learning strategy. Implementing UDL will involve involving learners in multiple methods of learning (Dalton, McKenzie & Kahonde, 2012). Learners will also participate in their learning activities through projects and other activities. Wellness is an active awareness and learning of choices geared towards a longer and successful existence. The model comprises of six dimensions that are physical, emotional, intellectual, social, occupational, and spiritual wellness (Hettler, 1979). The wellness theory seeks the development of the whole person. The special role of the educator in providing support to enhance the wellness dimensions is important. The support of other government departments and other professionals as part of the SBST is operating at a minimal level in most rural based schools. Therefore, the urban-based schools with more resources have fewer challenges and can provide assistance and models for the poorer rural schools. Each of the three theories, therefore, has an important role that helped the study to achieve its central goal and objectives and this will be discussed below.

1.8.1 Linguistic Interdependence Theory

The study used the linguistic interdependence theory of Cummins (1984: 1989). Cummins (1984) coined his theory and called it the "iceberg theory" shortened BICS/CALP. The theory combines Basic Interpersonal Communication Skills (BICS) and the Cognitive Academic Language Proficiency (CALP). BICS is the language we use when we speak face-face. It is the language of social interaction. BICS is the surface fluency; however, having surface fluency does not mean total fluency. For competence in a language, both communication skills (BICS) and academic language (CALP) are needed. CALP is important because it helps a person think in the abstract; it helps carry on cognitively demanding tasks. For hearing-impaired learners, thinking abstractly involves creating visual pictures of concepts. It also involves being able to relate events and telling stories using the imagination.

Cummins hypothesised that the development of competence in the second language (L2) is partially a function of the type of competence already developed in the first language (L1) at the

time of intense closure to L1 begins (Cummins 1994, 2000). The hypotheses further proposed that there might be threshold levels of linguistic competence, which a bilingual child must attain to avoid cognitive disadvantage, and allows the beneficial aspects of bilingualism to influence the cognitive and academic functioning. The hypothesis explains a model in which bilingual outcomes are a function of interaction between background, child input and educational treatment factors.

The theory is, therefore, important in the understanding of how educators help learners with hearing impairment achieve bilingualism and bicultural education. The theory of Cummins helped the study to explain how to assist learners with hearing impairment achieve L1 (Sign language) and how they use L1 to develop their academic competence in L2 (English).The theory is also important in how educators who are not hearing-impaired, learn sign language. Bilingualism or even multilingualism for teachers might mean that it might be easier for them to learn the sign language because their first language (L1) is already developed. The current study hopes to take advantage of the Linguistic Interdependence Theory to influence language policy for deaf or hard-of-hearing learners. At present, SASL is developing to be a full-fledged language at par with other languages in South Africa. The revolution in transforming SASL can lead to the language developing all the lexical forms necessary for reading and writing. Once that is achieved, SASL will be a language examinable up to matriculation. The development of SASL is important for overall academic wellness of deaf learners. The benefits are not only limited to academic wellness but other wellness dimensions as well. Emotional wellness is also enhanced because if learners are able to communicate with the hearing frustrations, communication problems are removed. It also brings social wellness benefits since it is easier to create friendships and understanding with people you can communicate easily with. Spiritual wellness can also be enhanced with easier communication.

1.8.2 Universal Design for Learning

The Universal Design for Learning (UDL) addresses and redresses the primary barriers to make expert learners of all students (Roe & Meyer, 2006). The UDL provides a blueprint for creating instructional goals, methods, materials, and assessments that work for everyone. Each learner learns in a unique manner, a one-size-fits-all approach will not work. The problem with a one-size

fits all is that it raises unintended barriers to learning. Learners with disabilities are more vulnerable to such barriers and learners without disabilities find that curricula are poorly designed to meet their learning needs. Diversity is the norm not the exception wherever individuals are gathered, including schools (Dalton, McKenzie & Kahonde, 2012). Curricula that are designed for the broad middle at the exclusion of the different abilities, learning styles and even preferences, fail to provide all individuals with fair and equal opportunities to learn. The UDL helps to meet the challenge of diversity by suggesting flexible instructional materials, techniques and strategies that empower educators to meet these varied needs. A universally designed curriculum has three kinds of flexibility. The first strategy seeks to represent information in multiple formats and media. The second strategy is to provide multiple pathways for students' action and expression. The third strategy is to provide multiple ways to engage students' interest and motivation.

Educators of learners with hearing impairment need to use varied flexible methods of designing curricula. These help to make the learners with hearing-impairment understand aspects of the curriculum they are taught. Representation is a principle that can assist educators to find alternative ways to present information to the auditory impaired. One important way is the use of sign language. Learners with hearing impairment also learn through visualisation. The situation in South African special schools is the embracing of SASL as the official home language of learners with hearing impairment. Educators apply visualisation techniques in most learning situations. Other techniques involve participating in practical activities, project work and skill development utilising other senses.

There are similarities between the linguistic interdependence theory (BICS/CALP) and wellness theories on occupational, intellectual and social dimensions/ aspects. On the intellectual dimension, BICS/CALP seeks to develop the second language (sign language) for the teachers so that they can effectively educate the child with hearing-impairment. Wellness theories seek to promote intellectual growth and, therefore, get more skilled and knowledgeable. Occupational wellness implies that the individual is enriched and gains satisfaction through work. In BICS/CALP, the individual gets skilled, enriched and satisfied because of the skill of sign language gained by educating the learners with hearing-impairment. Concerning social aspect, BICS/CALP acknowledges the importance of language in social interaction. To be able to use sign

language is beneficial to the educator because he/she gets to interact socially with the learner with hearing-impairment who can understand the teacher communicating in their first language. It is true of the wellness theory that the educator of learners with hearing impairment has to develop social interaction with others who could include teachers with hearing-impairment.

1.8.3 The Wellness Theory

Dunn (1959) defines high-level wellness as an integral method of functioning that is oriented towards maximizing the potential of which the individual is capable. Dunn (1959) maintains that it is necessary for every individual to know himself or herself. This also means being balanced and being able to meet daily problems more adequately. Wellness entails positive health in an individual and is manifest by quality of life and wellbeing (Donnelly, Greene, Gibson, Smith, Washburn, Sullivan, DuBose, Mayo, Schmelzle, Jacobson & Williamson, 2009). Wellness is an active awareness and learning of choices geared towards a longer and successful existence. Hettler (1979) proposed a six-dimension model of physical, emotional, intellectual, social, occupational, and spiritual wellness. Hettler (1979) believed that by having a balance of each of the six dimensions and working hard to ensure that all the dimensions are taken care of, helps to improve the overall wellbeing. The Whole Person Wellness (WPW) embodies a comprehensive approach to wellness, which respects our complexity by acknowledging that we are multidimensional beings. Whole Person Wellness represents the integration of an individual's multiple dimensions into positive beliefs and meaningful activities to include proper weight control, nutrition, physical activity and exercise, and control of health (Florence, Ashbridge & Veugelers, 2008). Good personal care, healthy lifestyle, good general health, being happy and productive, and having less health care costs are important indications of positive wellness (Dunn, 1959; Hettler, 1979). In the current study, the wellness theory provides a lens for practice with educators finding ways to enhance the wellness of their learners through utilising local support services. The level of wellness at present is limited at present especially in rural schools. With support from personnel in the DBE and other community personnel and the better-resourced urban schools, most of the wellness dimensions were provided for.

1.9 RESEARCH DESIGN AND METHODOLOGY

1.9.1 Research Paradigms

The study is located in the pragmatism philosophy and interpretive paradigms, guided by a set of beliefs and feelings about the world and how it should be understood and studied (Teddlie & Tashakkori, 2010). Pragmatism is the interface/bridge between philosophy and the methods. Creswell (2010) maintains that pragmatism allows a study to use different methods. In the current study, it allowed the use of quantitative and qualitative methods to complement each other. The study also followed an interpretive paradigm, which maintains that human beings are self-directing and symbolic (Greene & Hall, 2010). Through the interpretive paradigm interview, interaction was made possible between the participant and the researcher (Scotland, 2012). It contends that human beings continuously interpret, create and give meaning and justification to what they do (Babbie & Mouton 2011: 28).

1.9.2 Research Design

The four most common mixed method designs are Triangulation Design, Embedded Design, Explanatory Design, and Exploratory Design (Creswell & Plano, 2007). Triangulation Design is a one–phase design combining quantitative and qualitative data collection concurrently. Integration of the two sets of data is done at the interpretation and discussion stage (Creswell, 2009). In the Embedded Design, a component of qualitative design is used as a secondary methodology in a primarily quantitative method (Ivankova, Creswell & Plano Clark (2007). The Explanatory Design is a two-phase design in which qualitative data helps explain results from a quantitative design (Creswell, 2009).

1.9.2.1 Triangulation Design

When a researcher chooses a mixed method design among the four major mixed method designs, consideration is made to the one best suited to the research question. In the current study, both

types of data are given equal emphasis with convergence done on the problem of how a wellness model could be designed to address barriers to learning for learners with hearing impairment. Triangulation design allowed the researcher to collect data using both quantitative and qualitative data concurrently (Creswell & Plano, 2007).This single–phase design was complimentary and easier to manage because the researcher conducted interviews at the same time the respondents were completing the questionnaires.

1.9.2.1a Quantitative Strategy (Survey)

Quantitative designs can be either experimental or non-experimental. The survey is a non-experimental design that provides quantitative data on attitudes, trends and opinions of a population based on a sample (Creswell, 2009). In this study, the survey strategy was chosen using a questionnaire to generate quantitative data on educators of learners with hearing impairment. The survey helped to complement qualitative data on interviews carried out with educators of learners with hearing impairment.

1.9.2.1b Qualitative Strategy (Phenomenology)

Creswell (2007) identified five strategies to obtain qualitative data; the narrative, phenomenology, grounded theory, ethnography, and case study strategies. Phenomenology utilizes human lived experience described by those who experienced the phenomenon (Creswell, 2007). Phenomenology is interpretive and attempts to bring out meaning to the lived experience (Creswell, 2014). In this study, the meaning was generated of the lived experience of educators of learners with hearing impairment. The qualitative subjective view is important to explore social reality and opinions of the participants. In this study, it is the experiences of the educators in natural settings (Creswell, 2007). In the qualitative methods, data were obtained using words (Joubish, Kurran, Ahmed, Fatima & Houder, 2011).

1.9.3 Population and sample

The study used the purposive sampling approach to select the participants. Purposive sampling is popular in qualitative research. All special schools in three provinces known to the researcher were selected to participate in the study. In all the schools, all the teachers teaching primary school grades were selected to participate in the study. Therefore, subjects were selected because they had the same criteria (Onwuegbuzie & Leech, 2007). Babbie and Mouton (2011) noted that sample can be chosen "*... on the basis of your own knowledge of the population, its elements and the nature of your research aims*". In this study, the criterion is that researcher knew the study population very well. They were all teachers of deaf learners. It was relevant to the nature of the research on designing a wellness model to assist educators address barriers to learning of learners with hearing impairment. The sample comprised (N= 100) primary school educators who participated in the study quantitative study and (N= 11) primary school educators as participants.

1.9.4 Instruments

1.9.4.1 Questionnaire

One set of self- completion questionnaire was designed for educators teaching learners with hearing impairment at the (N= 11) selected schools. The questionnaire had four sections; A to D. Section A had six questions on personal life such as gender, age range, home language, deaf education, and work experience in general. In this section, the respondents were required to put a circle around the chosen option. Section B had (N= 14) statements with a five point Likert scale of responses. Respondents were required to make a selection by encircling: Strongly Agree, Agree, Unsure, Disagree, and Strongly Disagree. The 14 statements were enlisted as information concerning the educators' work on communication, teaching strategies, identifying barriers and giving support to learners with hearing-impairment. Sections C had (N= 18) questions on aspects of wellness for learners with hearing impairments.

1.9.4.2 Interview schedules

An interview with open-ended questions was designed for eleven teachers of learners with hearing impairment. The interview schedule had three sections. Section A had biographical data with four questions on gender, age range, experience in deaf education and home language. Section B required interviewees to respond in full to 10 questions. Section C required participants to suggest a maximum of five measures they felt needed to be adopted to facilitate the effectiveness of teachers to address barriers to learning of learners with hearing-impairment (See Appendix 1). For both questionnaires and interview schedules, instructions were simple, clear and concise as recommended by (Maree & Petersen, 2007).

1.9.5 Data Collection

1.9.5.1 Piloting

Questionnaires and interview schedules were pilot tested with (N= 5) colleagues completing questionnaires and (N= 2) being interviewed. These educators of the learners with hearing impaired were not included in the final sample (Cohen, Manion & Morrison, 2007). Piloting helped to ensure that the questions were well worded, clear and with clear instructions (McMillan & Schumacher, 2010). It also helped to see how much time was needed for the interview and to complete the questionnaire. This facilitated adjustment by the researcher. An adjustment was made to the original questionnaire. The portion where respondents were supposed to circle when selecting, the spaces were shaded on the original questionnaire. The researcher removed the shading and it became clear.

1.9.5.2 Data collection

1.9.5.2a Questionnaire

A face-to-face survey ensured good response rate with the researcher meeting the participants at their schools. It also made it possible to administer long questionnaires since the researcher was

there to explain any part of the questionnaire the respondents wanted clarified.

1.9.5.2b Interview

The researcher conducted a one-to-one interview with eleven of the participants. Each interview took about 30 minutes. In order to ensure validity of the interview, the interaction between the interviewee and the interviewer was focused, asking relevant, unambiguous questions. The researcher explained that the identity of the participant was not to be shared with any other person. Probing for more information was done during the interviews in order to get in depth information (Maree & Petersen, 2007)). This was possible because of items that were open ended in the interview schedule.

1.9.6 Data analysis

The study used concurrent mixed method, which combined quantitative, and qualitative analysis.

1.9.6.1 Data analysis Questionnaire

The response rate for questionnaires was 83%. This translated to 100 out of 120 questionnaires successfully completed. Quantitative data analysis was collected using questionnaires. Data from questionnaires was converted into numerical equivalents so that it could be quantitatively analysed and tested. Descriptive statistics was employed, firstly using Measures of Central Tendency, the mean, median and mode. The study also used the Measures of Spread or Variability. Variability refers to how spread out or scattered the distribution is, whether positively or negatively (Babbie & Mouton, 2011). These included the range, quartiles, variance, and standard deviation. With descriptive statistics, group data was summarized using a combination of tabulated descriptions such as tables, and graphical descriptions with the use of bar and line graphs. Statistical comments helped discuss the results (Teddlie & Tashakkori, 2009)).

In order to facilitate data analysis, the Statistical Package of Social Sciences (SPSS) was employed to calculate data such as N (Number in sample who answered a particular question). The SPSS created a data definition file. The package also calculated maximum, minimum, mean, standard deviation and ANOVA.

1.9.6.2 Data Analysis Interviews

After each interview, the researcher transcribed all handwritten information into a final record of interviews. Each interview had details of both verbal and non-verbal responses (Creswell, 2007) Details of the interviewee included biographical data and a code assigned for each interviewee.

1.10 METHODS OF DATA VERIFICATION

For verification of the findings, the study considered issues of reliability, validity, trustworthiness ad ethical considerations.

1.10.1 Reliability

The aim was to have high reliability. To ensure reliability the researcher ensured that the research instruments were specific and provided robust results. In order to ensure reliability the researcher recorded information from questionnaires and interviews in a clear, honest and bias free manner. The instruments of questionnaires and interviews schedules were clearly written to ensure that they are easy to understand and easy to replicate. Clear, specific research instruments are important for replication of the study. The researcher will keep all data from the study safely so that it can be available if needed in future. This will also ensure that the findings of the current study can be transferred to other studies in other provinces.

1.10.2 Validity

Validity is mutual agreement between how the researcher sees the situation and how participants see it (McMillan & Schumacher, 2010). In this study, to ensure validity, the following were

observed. Face validity facilitated the calculation of means, standard deviation and other statistics (Tabachnick & Fidell, 2013). Concerning content validity, valid tools were used to get results that could be applied in the real world (Babbie & Mouton, 2011). The study relied on the knowledge of the participant educators of learners with hearing impairment.

Concerning construct validity, the researcher ensured that the questionnaire was appropriate and suitable (McMillan & Schumacher; 2010). Pilot testing of the questionnaire helped to ascertain that the questions were well worded and meant the same thing to the respondents. The study also complemented questionnaire data with face-to-face, open-ended interviews in order to avoid mono method bias (Creswell, 2014).

1.10.3 Trustworthiness

In this study, the trustworthiness of the educator responses was important. The qualitative part of the research sought to ascertain credibility, transferability, dependability and confirmability (McMillan & Schumacher, 2010). The four criteria were used to judge the qualitative part of the research. The study ensured the results were credible or believable from the perspective of the participants in the study (Babbie & Mouton, 2011). The study ensured that the results were trustworthy in the eyes of the participants. Feedback was given to the participating schools to get their feedback on the research report. The study ensured that findings could be transferred to other contexts or groups (Lincoln & Guba, 1985). This is possible with the provision of "thick description" of the processes of data collection. To check for dependability of the study, the researcher's supervisor who was not involved in the study checked the appropriateness of the procedures used (McMillan & Schumacher, 2010). The processes involved a thorough description of the research design and how it was implemented. It also described in detail how data were gathered and a clear implementation of the whole project. The study ensured that the confirmability of the results could be confirmed or corroborated by others. To enhance conformability, the researcher documented the procedures for checking and re-checking data in the study. A data audit was carried out after the study to examine data collection and analysis procedures and make judgements about potential bias or distortion. Part of audit involved member

checking by respondents and participants to ensure that the findings were true to what was actually collected (Teddlie & Tashakkori, 2010)

1.11 ETHICS

The study ensured ethics of the data collection process. Ethics refers to human conduct with respect to the goodness of certain actions, and to the badness or goodness of the motives and ends of such motives (McMillan & Schumacher, 2010). Ethics arises because of the interaction between the researcher, trying to search for the truth and the participant from whom the truth is obtained (Babbie & Mouton, 2007). The researcher obtained ethical clearance from the University of South Africa to protect human subjects who participate in research studies. It also ensures that research is of high quality. It is a requirement for formally registered research students to get an ethics clearance certificate before they collect data. To obtain the ethics clearance, the application form was completed. It had a number of sections to complete on issues of ethics. The abstract to the proposal gave an outline of the main issues of the research study. These include background and purpose of the study. The ethics clearance certificate was obtained, giving the researcher permission to collect data.

The study considered informed consent based on voluntary participation, competence, full information and comprehension (Cohen, Manion & Morrison, 2007).The study upheld voluntarism, implying that the participants were free to or not to participate in the research study (Babbie & Mouton, 2011). It also ensured that risks were encountered voluntarily and knowingly (Cohen, Manion & Morrison, 2007). With this in mind, the researcher explained in the letter to the participants of their voluntary participation. It stated the time needed for the questionnaire and participation in the interview. Concerning the participants' competence, the study ensured that participants were competent, mature and responsible teachers of the deaf (Cohen, et al, 2007). The letter to the participants gave full information to the participants. This made it possible for them to have reasonably informed consent (Cohen, et al., 2007). Part of the information was that the participant was free to withdraw at any time without fear of reprisals. The study informed the participants of the nature of the research as part of comprehension. In order to make comprehension easier, the different sections of the questionnaire had clear explanations on what the section was

about and how the researcher expected the participant to respond. The study upheld the aspect of possible harm to participants. The questionnaires and interviews asked non-sensitive questions. In addition, the researcher ensured that the questions were not embarrassing or demeaning to the participants (Babbie & Mouton, 2011). The study, therefore, followed the principle of non-maleficence, not to harm that considers human dignity, worthiness, potential and uniqueness of each individual (Cohen, et al., 2007)). The study also ensured that the results were truthfully reported from the data collected on the ground. Member checking of the research report by some of the participants and respondents facilitated this. The study considered the issue of beneficence; that is what benefits the study brings and who are going to benefit (Ivankova, et al., 2007). The researcher clearly indicated that the study was for educational purposes and dealing with barriers to learning. The study ensured anonymity of participants, meaning that the identities of the participants were not revealed, for example their names and addresses (Cohen, et al., 2007). Instead, the study used pseudonyms to identify participants.

The study ensured confidentiality of participants as a means to keep faith with them (Allwood, 2012). The letter to the participants explained that the researcher would uphold confidentiality. This meant that information collected would not be shared with other people. In this study, consent to conduct the study was limited to the educators only. The researcher did not request consent from the learners because they were not directly involved in the study.

1.11.1 Access and acceptance

Access to the institutions where the study is to be conducted is very important for the success of the study. The researcher needs to achieve goodwill and cooperation of the institutions (Creswell, 2009). Gaining access to the institution is not a right. The researcher was sensitive to protocol when visiting schools by informing the school administration in advance before the visit. In most cases, it was easy to follow the protocol because the Principal told the researcher who to approach once I arrived at the school.

1.12 CLARIFICATION OF CONCEPTS

In a study of this nature, certain terms were defined to ensure they were not mistaken to mean what the study did not intend them to mean throughout the study. It was important to define them in the context of the study.

1.12.1 Wellness

Wellness is a state of functioning as a human being that maximises the potential that you can reach. It is the development of a whole person and includes all aspects of one's life, the intellectual, social, physical, occupational, emotional, and spiritual suspects. It is important to maintain a balance of all the aspects in a specific environment (National Wellness Institute, 2007).

1.12.2 Barriers to learning

Barriers to learning are the difficulties that children with hearing impairments face in the education system. These include communication difficulties. It also includes challenges of effectiveness in learning such as reading, writing and concept formation (Department of Education, 2014).

1.12.3 Model

A model has a specific area of concentration, has explicit and implicit assumptions about the character of learners and how they learn, including guidelines for developing definite patterns and requirements for the learning activities, and evaluation of their effectiveness (Government of Western Australia, 2009).

1.12.4 deaf

In the context of this study, the term *deaf* with a lower case *d* is used interchangeably with *hearing-impaired***.** It refers to people with hearing loss that is severe to profound. Such children choose to speak and lip-read (Marshark & Hauser, 2012).

1.12.5 Deaf

Deaf with upper case *D* refers to people who are a linguistic and cultural group. They communicate using sign language and belong to the Deaf Culture (Mcllroy, 2010).

1.12.6 Support Needs

They are needs that affect the child's learning and depend on the nature of hearing impairment and particular needs of the child (Salvano & Haualand, 2014).

1.12.7 Bilingualism

It is the use of two languages in an equally competent manner. In the case of this study, deaf people use sign language as the Home language and in addition, use a spoken language as a language of teaching and learning (DBE, 2011).

1.12.8 Institution Level Support Teams

These are school based and are known as the SBSTs. They are there to support the learners in a variety of learning needs. Teachers get the support of the SBSTs in trying to address learner needs and where they feel they need the support of the colleagues and the school in general (Department of Education, 2010).

1.12.9 Individual Support Plan

A plan designed for learners who need additional support or expanded opportunities. The plan is worked out with the parents and the Institution Based Support Team (Strasburg, et al., 2010).

1.13 DEMARCATION OF THE STUDY

The study focuses on designing a wellness model to address barriers to learning for hearing-impaired learners. Data were collected in three provinces of South Africa, namely, Mpumalanga, Limpopo and Gauteng. The researcher sought information from educators in special schools with hearing-impaired learners on how they were addressing learners' barriers to learning. It also sought to establish how educators viewed their learners' wellness issues. The chapters to the thesis were demarcated into eight chapters.

CHAPTER 1: OVERVIEW OF THE STUDY

The focus of this Chapter was to give a background and orientation to the study. The theoretical framework, rationale and statement of the problem were given. The main research questions, sub-questions and research objectives were also presented. The research methodology, design, data collection and analysis were discussed Issues of the quality of the research were also given with the consideration of reliability, validity; trustworthiness and ethical consideration were outlined and explained.

CHAPTER 2: CONCEPTUAL FRAMEWORK

This chapter gave a glimpse of hearing impairment from a psychological perspective. It also gave a review of challenges faced by educators in addressing barriers to learning of learners with hearing impairment.

CHAPTER 3: THEORETICAL FRAMEWORK FOR THE STUDY

This chapter focused on theories that informed the study, namely, the UDL and the Linguistic Interdependence Theory. The chapter reviewed issues of wellness of learners with hearing-impairment. It also reviewed some of the perspectives and theories of wellness from a developmental perspective.

CHAPTER 4: RESEARCH METHODOLOGY

The chapter gives in detail the research methodology, sampling, data collection, and analysis procedures. Ethical issues were also clarified.

CHAPTER 5: QUANTITATIVE DATA ANALYSIS

This chapter analysed data quantitatively using frequencies, percentages, reliability, factor analysis, statistical inferences by way of independent T-tests and ANOVAS.

CHAPTER 6: QUALITATIVE DATA ANALYSIS

This chapter gives an analysis of qualitative data. It also gives an interpretation of the findings and themes which emerged from the data.

CHAPTER 7: DISCUSSION OF THE FINDINGS

Findings are discussed considering the main research question. Discussion begins with quantitative data in relation to the literature. It also focuses on the themes that emerged from the qualitative data findings based on the interviews with the educators.

CHAPTER 8: OVERVIEW OF THE STUDY, MODEL DEVELOPMENT, CONCLUSIONS, AND RECOMMENDATIONS

This chapter gives an overview of the study, outlines the Wellness Model to assist teachers address barriers to learning, gives conclusions and recommendations for further study.

CHAPTER 2
CONCEPTUAL FRAMEWORK

2.1 INTRODUCTION

This chapter focuses on the concepts pertaining to hearing impairment, deaf culture and the way learners and teachers perceive it. Many aspects of wellness affect learners in their classrooms. This is affected in subjects in the curriculum and extra-curricular activities. Sign language is an important communication tool for intellectual wellness of learners with hearing impairment (Storbeck, 2009). The study will emphasize the competence in communication, using sign language to communicate with other hearing-impaired learners (Bauman & Murray, 2014; Infante & Matus, 2009; Kauppinnen & Jokinen, 2013). It will also establish how emotionally well learners with hearing impairment are as the system and in particular, teachers address their barriers to learning.

2.2 BACKGROUND TO DEAFNESS

2.2.1 The ear and deafness

The ear is made up of three parts. The outer ear is the visible part of the ear that traps sounds into the eardrum. The eardrum is located between the outer and the middle ear. The middle ear is made up of small bones, which conduct sound through into the inner ear. The inner ear has the cochlear, which is responsible for hearing. Information from the inner ear is transmitted to the brain for interpretation. Each of the three parts has a role to play in hearing (Storbeck, 2011).

Levels of hearing loss range from 26dB to 91dB+ for people who can be considered as having profound hearing loss. An audiogram is used to assess hearing and determines the degree of hearing loss in children (Storbeck, 2011). Levels of hearing loss are illustrated in Table 2.1 next page.

Table 2.1: Levels of Hearing loss

Category of person	Nature of hearing loss	Extent of hearing Loss in decibels
Hearing person	Person considered hearing	0 - 25 dB
Hard of hearing	Mild hearing loss	26 - 40 dB
	Moderate hearing loss	41- 55 dB
Deaf	Moderate severe hearing loss	56- 70 dB
	Severe hearing loss	71- 90 dB
	Profound hearing loss	91+ dB

A person whose hearing falls in the category of 0 to 25dB is considered hearing. A person with between 26 – 40dB is considered hard of hearing and having mild hearing loss. In a quiet environment, the person can communicate effectively. However, faint and distant sounds are inaudible to the individual (Northern & Downs, 2000: 14). Such a person can benefit from wearing aids. People with moderate hearing loss have 41 – 55 dB and are also hard of hearing. Such a child can only benefit from conversation at close range. The person is likely to encounter difficulties when it comes to group work (John, 2008: 45). A person who has moderately severe hearing loss (56- 70 dB) is considered deaf. The person can only hear sound if it is loud and clear. The person is most likely to have trouble with class discussions (Benedict, Rivera & Antia, 2015). A person who has severe hearing loss (71- 90 dB) only hears loud sounds. The individual is unaware of sounds in the environment. The person needs amplification of sound to recognise them (Northern & Downs, 2000)

2.2.2 Deaf people and deaf culture

One cannot talk about people with hearing impairment without talking about their culture. The culture of people is their shared experiences, of knowledge, values, beliefs, customs, practices, and language (Chimedza, 2001). Culture is important for group survival and maintaining the group

identity. Deaf culture is a set of beliefs and practices shared by a group of people with hearing impairment using common sign language, shared norms, values, and beliefs. People with hearing impairment derive their identity as people, who use sign language, have common interests, and prefer to marry within the group. They define deafness as an identity, not an inadequacy (Chimedza, 2001). Being in a community of people who are hearing impaired and refer to themselves as deaf identify, stay/ live, communicate, and have common values (Mcllroy, 2010).The deaf community includes other people who are not hearing impaired, family members, sign language interpreters and people who work or socialize with them. People who are hearing impaired people meet at local, national and international levels on social, athletics, scholarly, religious and literary levels. They join and become members of deaf clubs and cultural groups. Membership of the culture is having positive attitude about people with hearing impairment and identifying with the culture and being acceptable in the community (Marshark & Hauser, 2012; Sovang & Haualand, 2014)

2.2.3 Learning patterns of deaf learners

Learners with hearing impairment are visual learners. The appearance of the classroom needs to be attractive for them to learn effectively (Archbold & O'Donoghue, 2009; Marshark & Haer, 2012). This also calls for visual teaching methods such as the use of pictures and diagrams. The seating arrangement needs to be well thought out. The learner with hearing impairment should be seated in such a way that they see the teacher clearly as well as their peers. Where possible, this can be done in a semi-circle seating shape (Storbeck, 2009). Background noise should be avoided because it disturbs the learning of the child who is hearing impaired (Thomas, 2015). The use of DVDs is also important because they are visual and enhance the learning of the child with hearing impairment (Department of Education, 2011).

2.2.4 Challenges of communication

Communication between a learner who is hearing impaired and a teacher can be a major barrier to learning for some of the learners. The background noise can be heard but human speech can be difficult to understand (Marshark & Hauser, 2012). Learners who become hearing impaired after

gaining speech are in a better position. They may speak sufficiently well that other people can assume that they can hear well yet they need suitable adjustments to ensure good communication (Benedict, et al., 2015).

Learners with hearing impairment may also not be immediately aware of who is speaking and miss on lip reading clues (Archbold & O'Donoghue, 2009). This is particularly true in an inclusive environment. Sustaining good communication strategies can be hard to maintain. Learners with hearing impairment frequently comment that their teachers start well but then forget them. Teachers, therefore, need to be reminded of the presence of deaf learners in their classroom if teaching is to be accessed by the deaf and hard of hearing in an inclusive classroom (Thomas, 2015). Certain strategies need to be borne in mind, including inclusive teaching, universal design for learning, sustaining learner motivation and recognising barriers to learning (Dalton, McKenzie & Kaonde, 2012; Fernandes & Myers, 2010; Solvang & Haualand, 2014).

2.2.5 The Deaf community culture

People with hearing impairment regard sign language as the foundation of their culture. They distinguish between users who acquire the language before six years as 'pure signers'. The pure signers say that they can recognize the approximate age at which a person acquired sign language by the way that they use facial expressions ((Bauman & Murray, 2014). People who acquired sign language in late childhood are not regarded as pure signers. Advocates of people with hearing impairment regard cochlear implants negatively because they feel that it delays the individual to acquire sign language. They also regard children who are hearing impaired and are raised orally as having 'cultural homelessness' (South African Rights Commission, 2012). Some even deplore the use of cochlear implants as a form of cultural genocide because they believe such people want to kill deaf culture. Sign language is a common heritage and inability to sign can lead to exclusion from the deaf culture (Mcllroy, 2010). A person who is hearing impaired who cannot sign is not considered a member of the deaf culture. Attitudinal deafness also plays a role with persons who acquired sign language in early childhood, prejudicing against those who acquired it later. They also prejudice against anyone considered hearing because they consider oral communication negatively. They are negative about anyone outside their culture. Even hearing professionals who

work in an area of hearing impairment are not spared. Some even go to the extent that hearing parents of children with hearing impairment should accept that their child who is hearing impaired is not hundred per cent theirs (DBE, 2013). Prejudice is used as a means to maintain the legitimacy of deaf culture (Bellentine, 2010). A division exists in deaf culture whereby the pure signers regard themselves as the 'in group' and the other members as the 'out group' (Mcllroy, 2010).

Culture is a design for having to tell people what their needs are and how to go about meeting those needs. It is a shared experience of knowledge, values, beliefs, customs, practices, and language of a group. Culture ensures the survival and adaptation of group identity to changing environments. Deaf culture is about beliefs, practices, shared by a group of deaf people who also share a common signed language. People who are hearing impaired have shared norms, values, beliefs, practices, and language (Kauppinen & Jokinen, 2013; Marshark & Hauser, 2012).

People who are hearing impaired use sign language. In South Africa, they use the South African sign language. Each sign language has its own characteristic that makes it different from any other. Deaf culture categorises people with hearing impairment as belonging to a deaf identity. Some members of Deaf culture are not deaf. They are hearing but they function just like people who are hearing impaired. They use sign language when communicating with other people with hearing impairment. They share the same interest values and norms with other people with hearing impairment. Membership of the deaf culture is not about hearing loss only. It is also doing with attitudes. Positive attitude and knowledge of deaf culture is important for educators who teach learners with hearing impairment so that they are able to teach effectively their learners (Apel & Masterson; Kelly & Berent, 2011; Strasburg, et al., 2010).

Acceptance by people with hearing impairment of their impairment is necessary in order to develop social and emotional wellness. It is important for munities such as schools to regard hearing impairment as normal and part of its daily existence (Mcllroy, 2010). A deaf child should be regarded as normal in a different way. Access to support systems including deaf culture should be readily available to support a child who is accessed as deaf or hard-of-hearing (Archbold & O'Donoghue, 2009; Dalton, McKenzie & Kahonde, 2012; Thomas, 2015).

2.2.6 Sign language in the classroom

Learners with a hearing impairment should be competent in the skill for sign language for successful communication. Children who are hearing impaired are in most cases bilingual and bi-cultural. Less than 10% of learners with hearing impairment have parents who are also hearing impaired. These are exposed to deaf culture (Chimedza, 2001). The remaining 90% have parents who are hearing who do not know or use sign language. Such children are at a disadvantage because sign language is the home language of people with hearing impairment. It is the only true language they can acquire naturally (Mcllroy, 2010).

Some of the useful models of educating learners with hearing impairment involve bilingual and bi-cultural education. The first model uses sign language from pre-school to third grade. In grade three, English is taught in sign language with speech as an option is introduced as a language of instruction. This is done until sign language and English are used equally throughout the school day (Storbeck, 2009). In the second model, educators of learners with hearing impairment should also use sign language, and be taught by two teachers from pre-school to high school. One teacher is hearing and the other has a hearing impairment and both use sign language for face-face communication. Reading and writing are taught using English while the subject matter is taught using sign language (Marshark & Hauser, 2012).

The third model is one that uses sign language only as a mode of communication for learners who have hearing impairment and limits the use of English for reading and writing only. The researcher notes the need for both parents and educators of learners with hearing impairment to be able to communicate fluently in sign language (Storbeck, 2009: 354). However, the unfortunate thing is that "few hearing educators do have the fluency to be able to teach and help learners develop the first language. When the fluency is not present, "teaching and learning become complicated (Storbeck 2009: 354). This also makes the learning of the second language more difficult". Educators, therefore, have a need for adequate training to teach hearing impaired learners. The teacher must use appropriate gestures, facial expressions and body language to reach out to the deaf learner. The teacher needs to use visual materials. The use of Individualised Education Plans is also crucial (Department of Education 1998: 17). Where possible, support can also be made

available from assistants who have hearing impairment to make learning easier because the best educators of people with hearing impairment are people with hearing impairment themselves who are also role models. Several studies highlight the importance of such assistants in teaching the deaf culture to learners with hearing impairment (Gascon-Ramos, 2008; Haualand & Allen, 2009; Hauser, et al., 2010).

Most individuals with hearing impairment benefit from Bilingualism. Storbeck (2000: 52) defines Bilingualism as, "*The use of two or more languages, usually the family language (minority language) and the language of the community (majority language)*". The individual develops two languages and two cultures. Sign language is learnt as the first language because it is the first language for people with hearing impairment (Storbeck, 2009). It is the majority language for people with hearing impairment, considering that they are a community in their own right. The written language, which is the spoken language, is the language for reading and writing. However, the use of the second language for reading and writing implies that the individual should learn about the culture of the spoken language. It becomes imperative that people with hearing impairment are exposed to sign language and deaf culture as well as the spoken language and its culture (Thomas, 2015). The goal of bilingual and bicultural education is that children with hearing impairment can be competent linguistically. It gives them access to a wider curriculum. It also helps them to develop good literacy skills. The learner with hearing impairment also develops a sense of identity (Peel 2004: 21). In developing bilingual education, there is a need for educators who are fluent in signing skills and who understand the relevant theories and the implications for practice (Storbeck, 2009: 356). Institutional support can also be provided through positive role models of adults with hearing impairment and staff who are fluent in the sign language (Peel, 2004). There is also a need to instil policy formulation and resource allocation to make teaching and learning easier. Teachers of the hearing impaired learners have special responsibility to give children additional supports in order for them to effectively utilise bilingual and bicultural education (Fernandes & Myers, 2010).

2.2.7 Challenges faced by teachers who teach children who have hearing impairment

Teachers of learners who have hearing impairment generally lack basic theoretical knowledge and practical skills to identify barriers to learning (Bauman & Murray, 2010). However, inclusive education helps educators to appreciate the diversity of learners (Storbeck, 2009). With lack of skills to identify barriers to learning, educators are unable to render the required assistance and support to all learners in terms of diverse and individual learning needs (Solvang & Haualand, 2014). The role of the educator is very important in uncovering barriers to learning. Identifying barriers to learning should be based on observation, interviewing, consultation, and reviewing (Department of Education, 2008: 80). Previous records of the learner have to be brought to the fore because they are a reflection of what has been going on. They reflect what difficulties the learner is facing and what has been done so far to provide intervention.

The curriculum also has its own demands and expectations. In the spirit of inclusion and Education for All (EFA), the national curriculum should be accessible to all learners (UNESCO, 2013; United Nations, 2005). Both intrinsic (within child) and extrinsic (environmental; outside the child) barriers exist. Intrinsic barriers can be sensory in the case of a hearing impairment. Hearing impairment is an intrinsic barrier because the child cannot use audition to hold conversation. S/he can rely on lip reading or sign language to communicate. Extrinsic barriers can be varied. In a classroom situation, the teacher who does not understand sign language will find it difficult to understand what the needs of the learner are. With miscommunication, there are other barriers. Very little or no learning takes place. It is only when teachers are able to identify barriers to learning that teaching becomes purposefully based on constructive intervention programmes they have developed (Archbold & O'Donoghue, 2009). The ability of teachers to identify barriers to learning is a major step in the process of addressing barriers to learning (Dalton, McKenzie & Kahonde, 2012; Storbeck, 2009). Identifying difficulties experienced by individual learners and assessing them in order to establish learning which supports should be given is important (Khoetze & Vermotor, 2007: 23).

In South Africa, the challenge facing most teachers today is that they have not been taught to cope with diverse learners who are now entering schools (Swart & Petipher, 2000). Educating diverse

learners demands that the educator is able to differentiate and adapt the curriculum to meet various needs of the learners. In a class with learners with hearing impairment visualisation must be the key learning strategy. This follows that the teacher must be properly trained to differentiate or adapt the curriculum for each learner. This can also be facilitated by using Individualized Education Plans to meet specific needs of each learner. This is a weakness in the legislation. It is in this context that initial teacher training must have a compulsory component concerned with special needs education in schools (Republic of South Africa, 1996). This state of affairs is not particular to South Africa. Many countries have legislation that could be creating barriers to learning for learners with disabilities. For example most legislation require learners to be in school up to age 18 (Chimedza, 2001; Peel, 2004).

2.2.8 Parental involvement in the education of learners with hearing impairment

It is important for parents to be actively involved in the education of their children who are hearing-impaired. This should be encouraged in the Early Childhood development (ECD) programmes. There should be open dialogue between parents and teachers on how the child with hearing impairment is progressing with his/her school work. Parents need to be well informed about school activities (Marshark & Hauser, 2012). Informing parents about school activities can be done during weekends, monthly, or during term meetings. When invited for meetings, parents can take the opportunity to discuss the progress of their children and see their children's schoolwork. In addition, newsletters, websites, Short Message Services (SMSs) can provide useful information to parents about various school activities taking place in the school. Storbeck (2009) advises that it is necessary to offer support to parents. This can be in relation to the difficulties they encounter in assisting their children who are hearing impaired. Parents can also be involved by doing training in First Aid, Parenting skills, nutrition, and hygiene to assist their children. Parents can also be involved in the administration of the school through participation in the School Governing Body (BDE, 2011, 2013). What is important is that parents should be involved as partners in the education of their children. Swart & Petipher (2000) argue that involving parents is a means to enhance the school's accountability. This means that parents should ensure that the school is accountable for curriculum delivery, financial management and provision of suitable teaching and learning materials for the learners with hearing impairment and their teachers. Placing parents in

decision-making positions such as being School Governing Bodies' representatives empowers them to play a more active role (Singh, 2013).

2.2.9 Individualized Education Plans for learners with hearing impairment

The Individualized Education Programme (IEP) is a written plan for a named learner that gives a record of what is to be done, additional to and is different from the usual differentiated curriculum provision (DBE, 2011). An IEP involves parents, teachers, other professionals, and the learner. The IEP is a working document subject to amendment, considers the progress, and needs of the learner. An IEP is very important for deaf learners, considering that they have challenges in reading, writing and communication. The key information in the student's IEP should have information about the child. Learner's strengths and needs are primarily the first priority in a learning programme. It further includes important information such as the current level of performance of the child, obtained through formal and informal assessment. Of concern is also the learner's priority teaching needs (Leigh, 2008). In planning, it is paramount to consider targets you need to obtain and the exact learning targets or information the children need to get. This could be, for example, to read a short passage for understanding, find out key words in the passage and look up for the meanings of the words. A grade six learner can do this. Planners should take special consideration of the nature of resources and personnel involved. This is an important aspect because without the necessary resources, the IEP cannot succeed. For deaf learners, this can involve visual materials such as pictures, videos and DVDs to enhance learning. Professionals such as teachers and parents or guardians should be involved in the IEP implementation. The IEP should have an implementation plan of how the child is going to be assisted with the challenges s/he is facing.

It is important to have an IEP that is child centred and considers the specific needs of the learner with hearing impairment. This implies having targets that are Specific Measurable Agreed Realistic and Time framed (SMART). For example, the learners should be able to read a paragraph, summarise the paragraph in their own words. The IEP should also be holistic and the child's strengths, needs and abilities should be considered. This means the IEP does not only look at the academic wellness but at the broad areas such as emotional, social, skill needs and abilities of the

learner. An effective IEP is collaborative. It involves the whole school, the teachers of the deaf child, the parents and other professionals. The child is an active player in his/ her IEP. For effectiveness, the IEP should be accessible to all interested parties and it should be written in a clear language. It is the responsibility of the class teacher in collaboration with the school principal to take responsibility for the implementation of the plan.

In setting goals for the IEP, it is possible to set different goal patterns. One strategy is to have intensive sessions with one goal in a vertical goal attack strategy (DBE, 2011). For deaf learners, reading can be done with the intention for word recognition. For deaf learners, most of the strategies should use their strong visual sense so that they develop reading. Graphical representation can be enhanced using pictures, models and illustrations (Benedict & Wang; Kelly & Berent, 2011). Visualisation using pictures can help to develop creating and telling stories, important for creative writing (Apel & Masterson, 2015).

2.3 IDENTIFYING BARRIERS TO LEARNING

The DBE (DBE, 2014: 8) defines barriers to learning as difficulties that children face in the education system. This can be about the curriculum, the school, or the disability of the learner, which prevents access to learning and development for the learners. Barriers to learning, therefore, must be understood as emanating from outside the school, at the school, and in the learning needs created by the child's disability. There has been a significant policy shift and clarity through the Screening Identification Assessment and Support (SIAS). DBE (2014: 16) aims to identify three things. It is important to identify barriers to learning. Secondly, to identify support needs and to identify support programmes to address the barriers to learning.

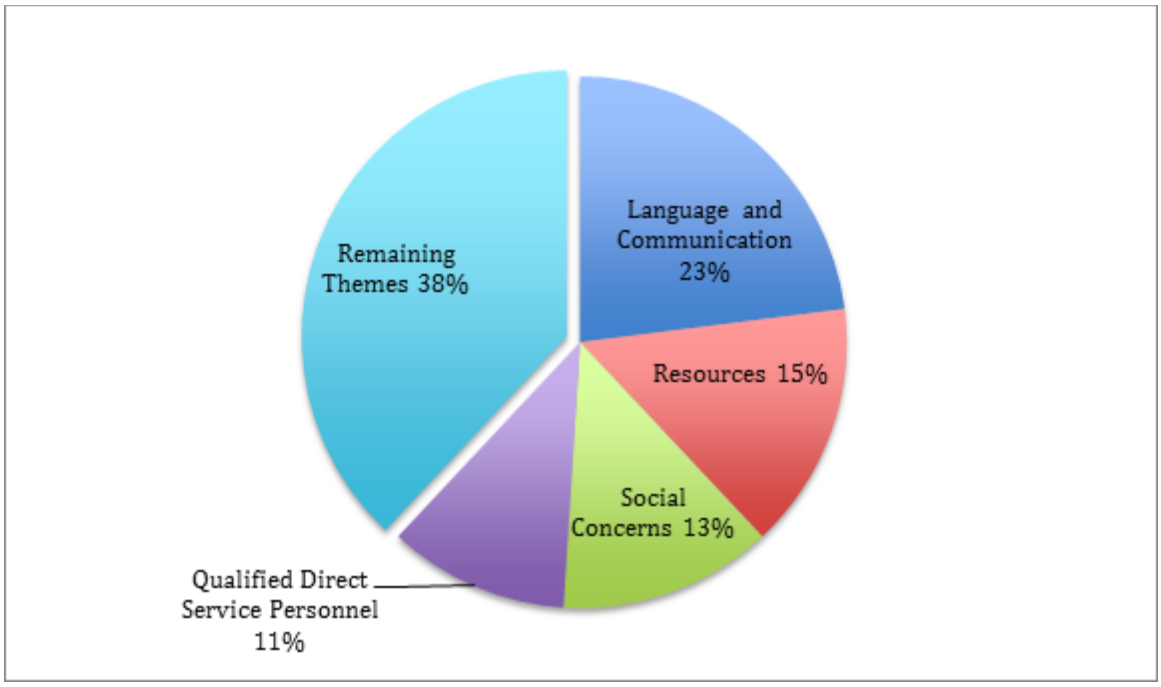

Figure 2.1 : Barriers facing hearing-impaired learners

Figure 2.1 Adapted from Szymanski, Lutz, Shahan and Gala (2013)

The above pie chart represents a study by Symanski, et al. (2013). In the present study, the remaining themes making up 38% are limited support in academic, career and spiritual wellness and gaps in legislation. Legislation plays an important role in facilitating the addressing of barriers to learning. The Constitution of South Africa indicates that every person has a right to be educated in the language of his or her choice. It also prescribes, in section 30 and 31that every person has a right to participate in the cultural life of their choice (DBE, 2010). The legislation lacks in addressing specific issues concerning learners with disabilities such as deaf learners. The legislation calls for adaptation that will be implemented according to the knowledge and abilities of the educator (Storbeck, 2009). With language and communication at 23%, it was a major barrier in a list of four barriers facing learners with hearing-impairment. The other three barriers were lack of resources, social concern on social and emotional wellness and lack of qualified direct service personnel such as counsellors (Szymanski, et al., 2013). There is a dire need for direct service personnel in most schools with only a few well-resourced schools not facing this challenge. The

social and emotional concern is quite substantive in South Africa because educators, as well as communities in general are incompetent in sign language. The situation in South African schools with deaf learners is that language and communication is one of several academic challenges faced by learners. Lack of support in provision of resources is very common (Storbeck, 2009). Learners if identified late are prone to develop limited language. This leads to delay in both home language (sign language) and the LOLT (DBE, 2013). Limited language interferes with reading and the ability to understand concepts. Vocabulary is also adversely affected because they cannot engage easily into incidental learning (Bellentine, 2010; Marshark & Hauser, 2012). Learners can also develop limited interpreting information and appear to tire or give up easily (Solvang & Haualand, 2014; Thomas, 2015). Adaptations and modifications include giving more time for activities. Language development programmes can be made daily activities including having a seating plan in which they can visualize the educator (Benedict, et al., 2015). Experiential learning is an important aspect of learning for learners with a hearing impairment where they learn through first-hand experience (Strasburg, et al., 2010). There are gaps in programmes that specifically address the barriers of learners with hearing impairment. Initiatives are taking place of developing SASL so that it becomes an official South African language (DBE, 2013). However, there is scarcity of literature on different wellness dimensions from a South African perspective. Moreover, information on support services for learners with hearing impairment is limited. Literature on career wellness is also limited. Skills training programmes are taking place but they are part of broader independent living programmes and literature to support the initiatives for deaf learners is lacking. Literature on spiritual wellness on a South African perspective is lacking. This creates a gap for such an important aspect of addressing barriers to learning.

To motivate learners who have a hearing impairment to learn, the use of drama, poetry and games can also be effective. Learners enjoy dramatizing their experiences. It is also important to understand the needs of learners. Learners who have a hearing impairment can sometimes be less motivated to learn. They may not see the value struggling to read and write yet at the end of the day they do not benefit much. This can be facilitated by having relevant and authentic tasks to their learning. Tasks should be relevant to their daily lives and not something abstract (DBE, 2011).

2.3.1 Support for learners experiencing barriers to learning

Various forms of support are needed for learners who need additional support such as the learners who have a hearing-impairment. The Department of Education (2014) suggests that the support of learners with hearing impairment is important for them to learn effectively. It recommends having a SASL interpreter to assist the classroom teacher who is not competent enough in SASL. It is also important to have an educator who has been trained in SASL to provide teaching. Psychosocial support to manage behavioural challenges associated with the child's disability is also necessary (Department of Education, 2013). The Department of Education (2014: 16) suggests that there should be specialist support staff. The department further recommends the availability of assistive devices, specialised equipment and teaching and learning support materials. On curriculum design and implementation, it is important for curriculum differentiation to meet the individual needs of learners (Burke, Kushalnagar, Mathur, Napoli, Rathmann, & Vangilder, 2011).

Learners further need to be trained in areas of language development and to have good mentors who provide the necessary guidance (Hauser, O'hearn, Mckee & Steiner, 2010). In terms of support for hearing impaired learners, research studies in the United States of America have indicated that using multimedia promotes effective learning (Marshark & Hauser, 2012). Advanced technology for the hearing impaired learners has also made subjects such as English, Mathematics and Science accessible to the learners (Donald, et al., 2010). There is no doubt that the need for specialist support staff is one of greatest support needs. Those learners who need assistive devices such as hearing aids for some learners with hearing-impairment cannot be ignored. Specialised visual support materials include slides, DVDs and videos. The specialised materials can be part of a strategy for curriculum differentiation. Teaching strategies are best conducted using Individualized Education Plans and differentiated assessments (Hoffman & Wang, 2010). However, in some countries including South Africa and other developing countries assessment such as common examinations are differentiated and adapted by the specialist teacher (DBE, 2013). This takes a lot of time and energy for the teacher and therefore the idea of training is a noble one.

Government initiatives are important to implement inclusive education for deaf learners. The government of South Africa used the Education White Paper 6 to build an inclusive education and training system (Department of Education, 2011). This was followed up by the Screening Identification, Assessment and Support (SIAS) document that clarified issues mentioned in the White Paper 6 for action and implementation (Department of Education, 2008; Department of Education, 2013).

Support should be brought to the child as part of a paradigm shift from the medical model to the psychosocial support for learners with hearing impairment. The Department of Education (2011) support initiatives for health promotion to ensure learners learn in a clean, safe and protected environment. As part of social support, the social welfare service provides the needed support to the learners and their families, including psychosocial and material support (Gascon- Ramos, 2008).

Support services are important in all aspects of the curriculum (DBE, 2011). Learners must be motivated to learn. The teacher has a responsibility to motivate learners by using proper teaching strategies and techniques. This makes the learner an active participant in the learning situation. A self-motivated person is eager to learn (Salvang & Haualand, 2014). The individual finds a purpose in learning. Dalton, McKenzie and Kahonde (2012) highlighted the advantages of implementing the Universal Design for Learning in South Africa and other African countries for the benefit of deaf learners.

Curriculum support is as much the responsibility of the educator as it is of the whole school. Curriculum is what is taught, how it is taught and under what conditions it is taught (Department of Education, 2011). For curriculum to be effectively implemented, it has to be flexible. However, what constitutes a flexible curriculum is questionable because it may not be reliably flexible to hearing impaired learners. Even with the CAPS curriculum, it needs adaptation to implement. Curriculum Implementers (CIs) provide support to schools in their subjects by training teachers. However, they, in most cases, lack the knowledge of how the curriculum is applicable to the learner with a hearing impairment.

2.3.2 Need for early intervention

Early intervention is necessary for effective intervention and addressing barriers to learning of learners with hearing impairment. In America, Public law (PL) 94-142 which catered for ages six to 21 was expanded with PL 99- 457 to include children under five and as early as new born babies (Kirk, et al., 1997). The young child needs the family, school and other support systems to be able to benefit from an early intervention programme (DBE, 2013; Marshark, 2012). The benefits of early intervention are well documented (Archbold & O'Donoghue, 2009: DBE, 2011; Storbeck, 2009)

Early intervention aims to give a supportive and stimulating environment for learners experiencing barriers to learning (Kirk, et al., 1997).The overall purpose is to avoid developmental delays. Developmental delays are seen when a child seems to show delays in physical, emotional and intellectual development compared to children of the same age. Archbold, and O'Donoghue (2009) strongly support early intervention for children who are deaf and indicate that it benefits in averting additional secondary barriers to the learners.

The DoE (2008) puts emphasis on the need for early intervention in addressing barriers to learning. This calls for the critical role of the Childhood Development Programme (ECD) to ensure that assessment and teaching is done early. Learners who are introduced early to the learning environment will have a smooth transition from Grade R to Grade one. They are not overwhelmed by the school system when they get to Grade one. It will be a continuation of what they were learning in Grade R.

The benefits of early intervention are outlined by Kirk, et al. (1997:97) as

> "*providing those factors of quality physical and emotional care that promote self-esteem and self -efficacy. These factors are the key to a positive outcome for children in any intervention programme, whether they are disabled or non-disabled.*"

Here the use of 'quality physical and emotional care' shows how important quality intervention is for the benefit of the young child. The ultimate aim of intervention and education in general is for the individual to achieve 'self-esteem'. Early intervention programmes are focused to help learners experiencing barriers to learning reach their maximum potential. The implementation of intervention programmes is on the lines of the Individualized family Services Plan in the USA.

It is a written plan, focused on among other things,

> "*...A statement of specific early intervention services necessary to meet the unique needs of the child and family, including frequency, intensity and method of delivering services*"

(Kirk, et al., 1997). Different professionals play different roles in a multi-disciplinary team. The table below outlines those functions.

Table 2.2: Roles in a Multi-disciplinary Team

Specialist	**Function**
Audiologist	determines if hearing losses are present.
Ophthalmologist	determines if vision losses are present.
Early childhood special educator	plans and administers programmes for remediation of deficits and coordinates special therapies.
Physician	determines if a biological or health defect exists and plans treatment.
Nurse	provides a plan for adequate health.
Occupational Therapist	promotes individual development of self-help skills, play and autonomy.
Physical Therapist	enhances motor development and suggests prosthesis and positioning strategies; provide needed therapies.
Psychologist	provides a comprehensive document of the child's strengths and weaknesses and helps the family deal with the stress of having a child with disabilities.
Social Worker	assists the family in implementing appropriate child rearing strategies and helps families locate services as needed.
Speech and Language Pathologist	provides a necessary assessment plan, needed therapies and delivers services in appropriate cases.

Figure 2.2 Adapted from (Kirk, et al., 1997: 110).

The above professionals, including the special educator in the primary and secondary school system, are important in helping to address barriers to learning and enhance optimal development of disabled children, including the hearing-impaired child. In the case of learners with hearing-impairment, it is very important to realise the importance of the sign language interpreter in easing the communication with the learner with hearing impairment.

2.4 SUMMARY

The chapter gave a glimpse of hearing impairment from a physiological perspective. It interrogated the challenges met by learners with hearing impairment in the classroom. The biggest challenge is that of communication. Sign language is an important language for the learner and it distinguishes people with hearing impairment from other minority groups. In order for the learner to learn effectively, certain strategies have to be taken into consideration. Visualisation is very important for person with hearing-impairment because the individual relies on their vision for their communication and getting information. The teacher of the learner with a hearing impairment also faces challenges, especially if s/he is hearing. The biggest challenge is competence in sign language, especially the inexperienced teacher. Support is needed so that teachers of that the learners are able to deal positively with the challenges they face in trying to address their challenges. The next chapter gives the theoretical framework for the study.

CHAPTER 3
THEORETICAL FRAMEWORK FOR THE STUDY

3.1 INTRODUCTION

The study is informed by three theories, namely, the UDL, the Linguistic Interdependence Theory and the Wellness Theory. The three theories provide an important lens for understanding education of learners who have a hearing impairment. The UDL promotes the active participation of learners in their education. Through UDL, learners are able to plan and assess their learning. UDL promotes multiple ways of gaining information involving a variety of media. The Linguistic Interdependence Theory provides an important lens in language development for hearing impaired learners, considering the role of sign language in their overall learning. The Linguistic Interdependence Theory explains that sufficient knowledge of a first language should provide a basis for the development of a second language. For deaf learners, the early and sufficient development of sign language should be able to provide a basis for development of a second language, usually the LOLT. The Wellness Theory provides an important lens on a wide variety of wellness dimensions. Educators have an important role in addressing barriers to learning and ensure that their wellness is well catered for. The study identified six wellness dimensions, emotional, physical, intellectual, spiritual, career, and social wellness.

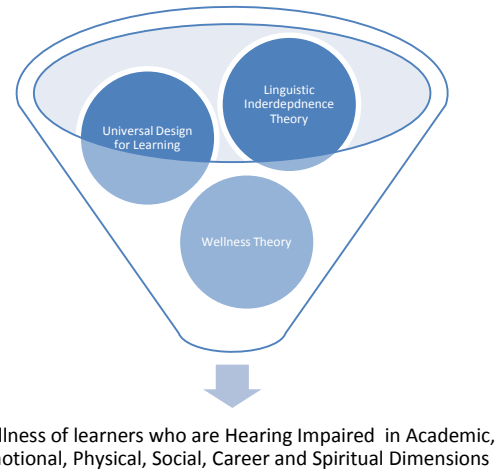

Figure: 3.1 Three Theories and the Wellness of learners who have Hearing-impairment

3.2 UNIVERSAL DESIGN FOR LEARNING AND EDUCATION OF LEARNERS WHO ARE DEAF

The UDL seeks to make expert learners of all students (Rose & Meyer, 2006). The Universal Design for learning helps teachers to plan learning to meet the diverse needs of learners (Rose, Meyer, Strangman & Rappolt, 2016). Teachers of learners with hearing-impairment use multiple means of engaging learners in the learning process (Rose & Meyer, 2002). The UDL takes the barriers to learning into consideration. With the UDL, the goals, tools, materials and assessments are geared in such a way that they address the different barriers to learning (Rose & Meyer, 2006). The UDL acknowledges that not all children are the same, that they are heterogeneous, needing different kinds of supports and scaffolds to learn effectively (Rose, et al., 2016).

Learners have different kinds of abilities yet; the general curriculum treats them as a homogenous group. The UDL is an important lens for the study on the children with hearing-impairment in that they should gain the necessary support in their learning. The curriculum is unable to meet the specific needs of the learners. The challenge is on an inclusive curriculum, effective and accessible for the learners. Therefore, UDL targets not just the average learner but also the slower learner so that they can access the curriculum. The emphasis is on facilitating design and implementation of a flexible, responsive curriculum. It offers options for how information is presented and learner response to the information. If all learners are able to access and progress in general education curriculum that is responsive to their needs, thus, barriers to instruction are reduced (Daiton, McKenzie & Kahonde, 2012). The emphasis of early special education legislation was on the need for learners to be taught in the least restrictive environment (Storbeck, 2009).Three conceptual shifts led to the birth. First was the advancement in architectural design. Then there were developments in technology. Finally, there were discoveries from brain research that influenced education. In order to meet the UDL standards, schools and other public buildings were refitted with physical facilities for easier access for people with disabilities, features that provided easier physical access to buildings. In order to make the designs cheaper, all new buildings had to be designed with universal design principles in mind (Rose & Meyer, 2006). Technological advances made it possible to manipulate print materials to make it possible to be accessed by people with different abilities and disabilities. For learners with hearing impairment, simplified, graphical

information could help them access information more easily. Brain imaging was conducted while children were learning. It enabled researchers to make recognition network; what of learning, strategic network; the how of learning, and the affective network; the why of learning (Rose & Meyer, 2002).

The UDL values diversity and promotes inclusion, reducing barriers to learning. Individualized Education Plans (IEPs) are carried out to meet the goals, standards and classroom expectations, the knowledge, concepts and skills that need to be mastered. The methods to be used should support every learner. Furthermore, the UDL methods are flexible and adjusted through consistent monitoring of learner progress. A variety of materials offering multiple media options are used in the UDL to support the learning process. With the UDL, various methods and materials are used to assess the knowledge of the learners, their skills, and making sure that assessments are valid. With the UDL, hearing impaired learners are self-directed and actively involved in visual materials, which they can understand and interpret. Learners who have hearing impairment are able to assess their own learning needs, monitor their progress and remain motivated in their learning (Rose & Vue, 2010).

3.3 THE LINGUISTIC INTERDEPENDENCE THEORY AND EDUCATION OF DEAF LEARNERS

James Cummins (1984) proposed the linguistic interdependence or iceberg hypothesis that clarified the relationship of the first language (L1) with the learning of the second language (L.2). Cummins (2014) maintains that two languages may appear different on the surface yet, when you look closely, they have more similarities (Cummins, 2014). The argument for the linguistic interdependence theory for the hearing impaired learners is that if learners develop sign language, it is easier for them to learn the second language (Mayer & Akamatsu, 1999). Cummins (1984) proposed the Common Underlying Proficiency model (CUP) or ‘one balloon theory’ of common aspects of language that include content, abstract thinking and problem solving common across languages. This means that sign language should be able to engage learners to think abstractly and engage in problem solving. The CUP model emphasizes the ‘dual iceberg’ whereby two languages look the same in their surface features (Cummins, 2014). This also explains the fact that if an

individual is able to use the first language effectively, it is easier to transfer that knowledge to learn the second language.

Cummins' (1984) identified two forms of proficiency in language, namely, the Basic Interpersonal Communicative Skills (BICS) and the Cognitive Academic Language Proficiency (CALP). The former (BICS) is the language used in daily conversation while the latter (CALP) is the academic language used in the learning environment. Regarding bilingualism, the use of two languages concurrently and in equal weight, learners could develop sign language as their BICS while developing English for the more complex aspects such as writing and reading. SASL is more of a conversational language that can be developed through BICS. Cummins (1984) proposed that learners with low levels of proficiency in two languages develop cognitive deficits (Cummins, 2014). Incomplete development in the first language is closely related to less development in the second language. This is because of the linguistic interdependence, that is, languages have similar forms and structures able to be transferred between languages. The development of two languages equally at the same time, that is, bilingualism, develops in three levels, namely, proficient, partial and limited. Bilingualism is additive because learners develop both fluency and proficiency in a second language while at the same time continue to develop proficiency in their first language. This helps to add, not replace, the first language with the second language (Cummins, 2014). CUP centres on cognitive competence with the primary language (L1) providing a basis for competence in the second language (L2). It starts with the learning of skills, content and linguistic knowledge learning in the L1 being used to learn the L2 or vice versa. The relevance of the Linguistic Interdependency Theory to the current study is that learners should develop competency in SASL in order to develop the LOLT, that is, English or Afrikaans.

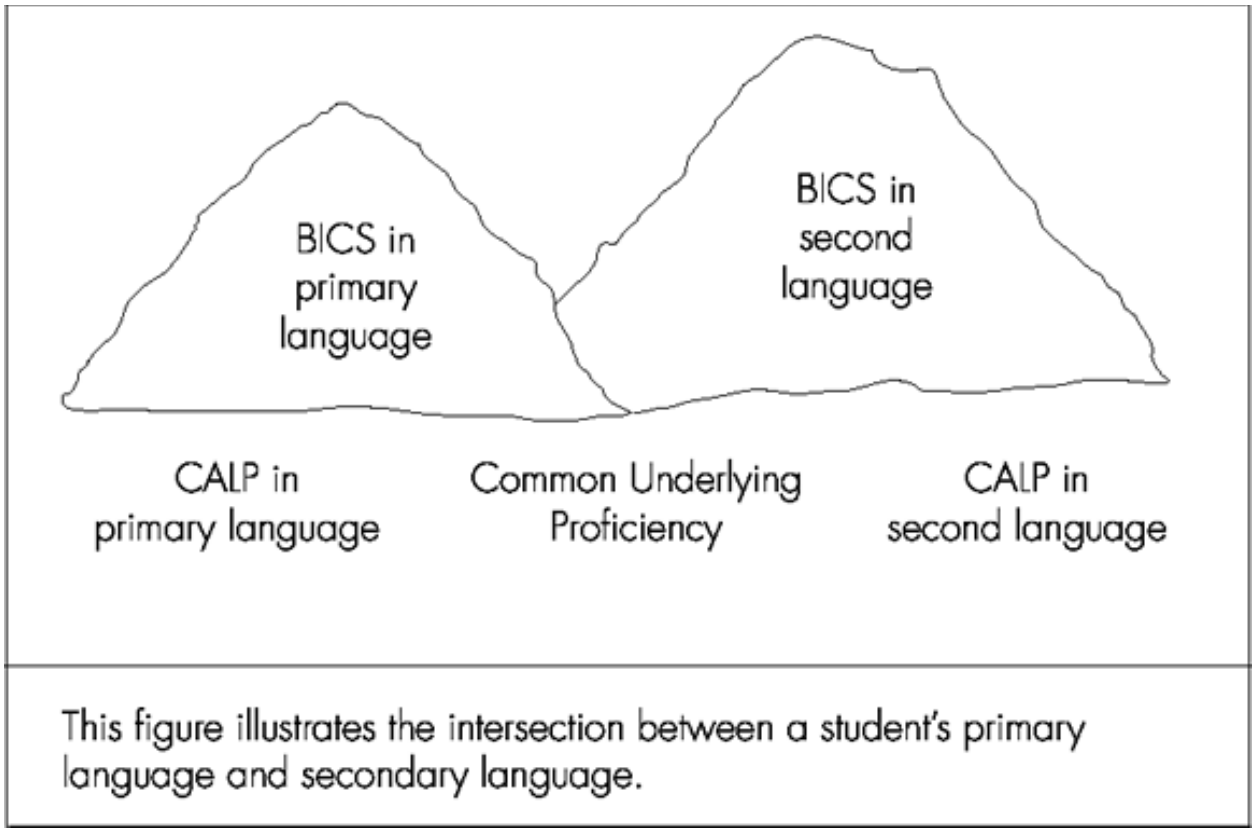

Figure 3.2: Relationship between primary language and secondary language

Adapted from Cummins (2000)

Cummins (1984) proposed the conversational fluency, BICS in the second language as important in bilingual education. CALP is the cognitive academic language proficiency used in different academic situations. CUPS centres on cognitive competence with the primary language (L1) providing a basis for competence in the second language (L2). It starts with the learning of skills, content and linguistic knowledge learning in the L1 being used to learn the L2 or vice versa.

This means that if a person with a hearing impairment is able to sign well, the learning of the L2 should be easier because s/he should be able to sign the written word in the L2 and possibly write the word. Having a firm foundation in the L1 can be helpful in enabling the mastery of reading and writing in the L2. However, it is not absolute and straightforward that the learning of a first language (L1) is a strong basis for learning a second language (Mayer & Wells, 2010). The

applicability of the linguistic interdependence theory is that you should be able to read and write in the L1 so that there is positive transfer of reading and writing in the L2. This cannot necessarily be true of first language signers because sign language is not a reading and writing language. This makes it necessary to use certain techniques to make the learning of the L2 easier. In the case of learning English as L2, some systems were invented to make learning the language easier for deaf people using signed English. However, such systems proved difficult to use because they needed specific criteria to use (Mayer & Wells, 2010). If the interdependence of spoken language and writing is not easy even for learners who can hear, then learner who is hearing-impaired is further disadvantaged. In order to facilitate the process, children who can hear say out what they are going to write. If that same system is used for the hearing impaired learners, to write what they sign then the written word will for sure miss out many unsigned words. A whole language bilingual programme natural communication helps develop the meaning and understanding of text (Solvang & Haualand, 2014). Through this approach, knowledge of sentence construction does not start with phonics, learning individual words but through natural speech. Ignoring the bottom up approach of starting with the basics of word recognition may be a recipe for disaster. Mayer and Wells (2010) advocate for the integration of top-down and bottom-up to facilitate effective bicultural-education.

With an early development of the L1, it will be easier to integrate the L2. If a learner with a hearing-impairment has a well-developed sign language (L1), he/she is in a better position intellectually to be able to read in the L2 (Cummins, 2013). Cummins (2013) adds that"*...new understandings are constructed on a foundation of existing understandings and experiences*."

3.4 THE WELLNESS THEORY

3.4.1 Defining wellness

Dunn (1961: 4) defines high-level wellness as

> "*... an integral method of functioning which is oriented towards maximizing the potential of which the individual is capable. It requires*

that the individual maintain a continuum of balance and purposeful direction within the environment where he is functioning".

According to Dunn (1959: 791), it is possible for an individual to achieve "peak wellness". Dunn (1959) maintains that it is necessary for every individual to know himself or herself. This also means being balanced and being able to meet daily problems more adequately.

Wellness is a multidimensional state of being manifest in positive health in an individual and exemplified by quality of life and well-being (Donnelly, Greene, Gibson, Smith, Washburn, Sullivan, DuBose, Mayo, Schmelzle, Jacobson & Williamson, 2009). Wellness is an active awareness and learning of choices, geared towards a longer and successful existence. Some writers give a health perspective of wellness as encompassing proper weight control, nutrition, physical activity and exercise, and control of health (Florence, Ashbridge & Veugelers, 2008). Avoidance of health risks includes not taking tobacco, alcohol, and drugs. The Wellness Proposal (2013) argues that good personal care, healthy lifestyle, good general health, being happy and productive, and having less health care costs are important indications of positive wellness. Wellness is proactive and provides optimum levels of health, emotional and social functioning. Wellness is about the complete individual, mind, body, what you do, feel, think and believe have a direct effect on your state of health (Yoshida, Craypo & Samuels, 2011).

3.5 HOLISTIC APPROACHES TO WELLNESS

Stonehecker (2006; 2015) gives a candid historical development of wellness. The history is both holistic and developmental. Stonehecker's description is in the early days of how wellness developed to its current state. In discussing the perspectives, the history from early days will be discussed. This will include important concepts drawn from Travis (1976; 2004). Travis came up with three key wellness concepts; the Illness Wellness Continuum, the Iceberg Concept of Health and the Wellness Energy System. These will also be clearly illustrated diagrammatically.

3.5.1 Wellness Concepts- Travis (1976; 2004)

Travis (1976) in Stonehecker (2015) developed three key wellness concepts. Each of the concepts is important in developing a holistic state of wellness. These concepts are important for the study in understanding the wellness of people with hearing impairments. Their lives are shaped by what happens in the general wellness of humanity.

3.5.1(a) the Illness Wellness Continuum

The Illness Wellness Continuum is a synergy of the health risk continuum of Dr Robbins, Maslow's concepts of self-actualization and Halbert Dunn's High Level Wellness. It is therefore integrative in nature. Moving from the left to the right is a state of health. Towards the left is an increasing health and well-being (Stonehecker, 2015). Treatment only assists you to get to the neutral point, indicating that there is no illness or wellness. However, the wellness paradigm is found anywhere across the continuum and helps to move towards higher levels of wellness. Figure 3.3 clearly illustrates the Illness Wellness Continuum.

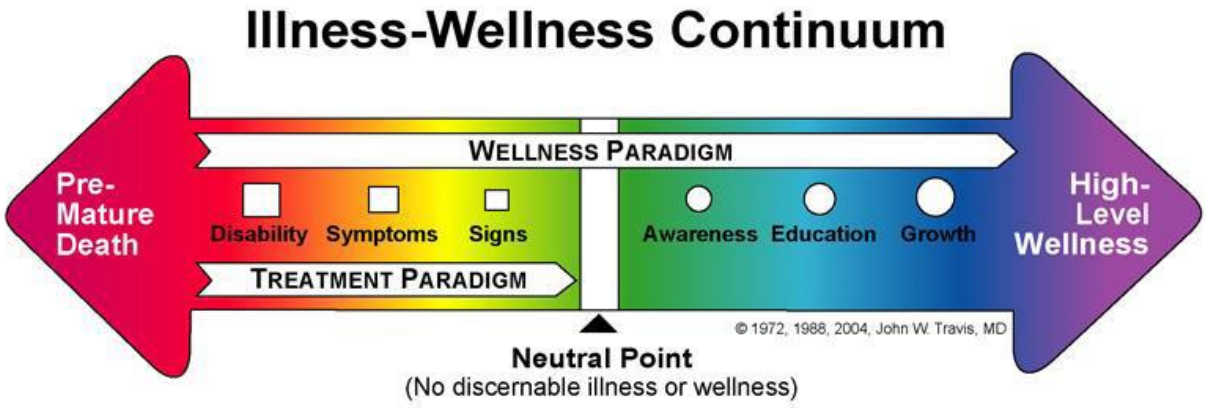

Figure 3.3: Illness Wellness Continuum. Adapted from Stonehecker (2015)

3.5.1b the Iceberg concept of health

In this concept, Travis (1976) illustrated that illness and health are only tips of the iceberg. In order to understand the causes, one must look below the surface. This includes lifestyle, behavioural,

cultural and motivational levels. Deeper were the realm of meaning and spirituality. This concept is illustrated in Figure 3.4below**.**

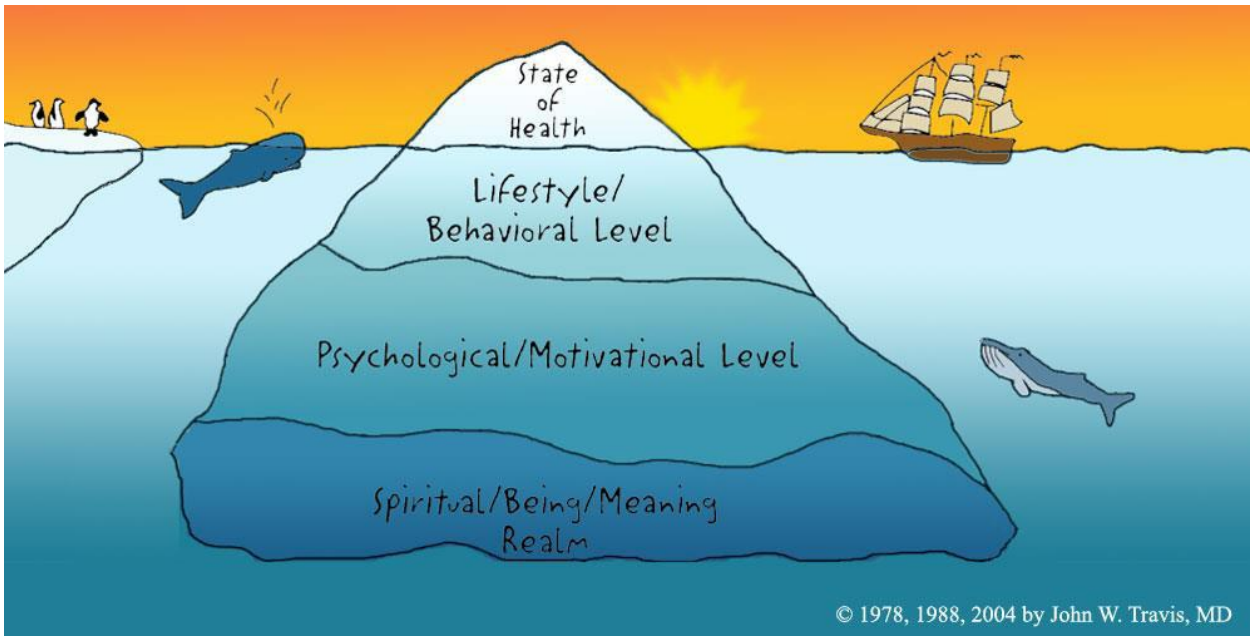

Figure3.4 Iceberg model of health adapted from Travis (1976).

3.5.1c The Wellness Energy System

Travis (1976) emphasized that it is important to consider the input and output of energy for a whole person wellness. This is illustrated in the pie chart, diagram 3.4 below. In this concept, self-responsibility and self-love are harnessed in utilizing senses. The body needs to eat to gain energy. Energy is utilized in human activities such as moving, thinking, feeling, playing, working, communicating, intimacy and spirituality (Travis, 1976). Figure 3.5 illustrates this concept with a pie chart.

Figure 3.5: Wellness Energy System adapted from Travis (1976)

3.6 WELLNESS MODELS

There are a number of wellness models. Like other aspects of life, including education, wellness models have also been transformed, influenced by new thoughts and ideas in education. Just like early ideas in special education, wellness has moved from the medical model to the current holistic or whole person model. The medical model was replaced by the environmental models, which eventually gave birth to the whole person model.

3.6.1 Whole Person Model

Ancient cultures in Asia and Greece, some 3000 years ago, developed an understanding that good health encompasses a balance between body, mind and spirit (Strohecker, 2015). Some 2500 years ago, Hippocrates, a well-known Greek figure, emphasized the need for healthy living. Some of his sayings are testimony to his strong beliefs about healthy living. Hippocrates' sayings include; "Let food be your medicine, and your food". "Walking is man's best medicine"; "Natural forces within us are the true healers of disease."

Indian systems of yoga and meditation also made a positive contribution to fitness, stress and management. Chinese acupuncture, well supported by herbal medicine and diet, was also part of holistic medicine. The development of the "culture of wellness" was largely influenced by Dunn (1961). Dunn is considered the original theorist of the wellness movement (Stronehecker, 2015).

3.6.2 Travis Illness Wellness Continuum

Travis (1976) in Stonehecker (2015) conceived the Illness Wellness Continuum, based on the self-actualization ideas of Maslow. The theory emphasizes the need for treatment and looks at other aspects of wellness to achieve greater wellness. Travis believed that treatment only gets you to a neutral point of wellness. However, to achieve high-level wellness, awareness education and growth are important aspects that should be attained. Travis invented the iceberg model of health, which argues that illness and health are only tips of the iceberg. To understand them, one must look below the surface at issues such as lifestyle and behavioural level, cultural issues, psychological and motivational levels and spirituality.

3.6.3 Sweeny and Witmer's Wheel of Wellness Model

The model is based on counselling theory, which integrates a number of concepts. It was introduced in the 1880s (Myers & Sweeney, 2004). The model used Adler's (1927, 1954) ideas on three major life skills tasks of work, friendship and love (Myers & Sweeny, 2004). It is at the core of the wheel of wellness. With further analysis and evaluation, this was further developed to the indivisible self-model of wellness.

3.6.4 Health promotion wellness

Health promotion is gaining attention globally. Green (1986:17) gives a definition of health promotion as *"any combination of health education and related organizational, economic and environmental supports for behaviour, conducive to well-being."* Health promotion seeks to promote many facets of life; including social, economic, and health aspects. Initiatives in school

settings help to protect and promote the wellness of children from an early age right into adulthood (Archbold & O'Donoghue, 2009; Mcllroy, 2010).

3.6.5 Hettler's Whole Person Wellness

Hettler (1979) proposed a six-dimension model, actively involved in the individual's overall well-being. The six dimensions are physical, emotional, intellectual, social, occupational, and spiritual wellness. Hettler (1979) believed that by having a balance of each of the six dimensions and working hard to ensure that all of them are taken care of helps to improve their overall well-being. The Whole Person Wellness (WPW) embodies a comprehensive approach to wellness, which respects our complexity by acknowledging that we are multidimensional beings. We have to act to develop each dimension of wellness. The Whole Person Wellness represents the integration of an individual's multiple dimensions into positive beliefs and meaningful activities. The model promotes concepts of moderation rather than exercises and balance among various facets of activities. The individual plays a personal role in shaping one's health. Various activities are integrated to enhance human functioning and the quality of life.

3.6.5.1 Learners with Hearing-impairment and emotional wellness

Emotional wellness is awareness and acceptance of feelings for oneself and for others in a flexible manner (Strydom, 2011) Gascon Ramos (2008) maintains that to be emotionally well, one has to be autonomous, yet seek support from other people. Thomas (2015) expresses that human beings have mixed feelings, which affect them at different times in their lives. They can either be positive like in the case of being glad or negative in the case of being sad, mad or being scared. People therefore; react differently to different situations in their lives. Strydom (2011:100) says it is, "*When a person evaluates an event of importance and an aim, which considered a priority formulated. The core of an emotion is the readiness to engage in an activity and the planning of action.*"

People with Hearing-impairment have emotions like everyone and take action in response to an event. It is important to note that hearing impaired learners develop positive mental health

including having secure attachment (Gascon-Ramos, 2008: 57). They also must develop a sense of purpose and direction in life. This is made easier with effective coping strategies to overcome daily life challenges (Gascon Ramos, 2008). Social relationships become more rewarding emotionally with positive emotion and social integration. Secure attachment at home and school is important and it has to be safe and secure (Strydom, 2011). Children who are hearing impaired who grow up in secure, well-attached environments are more likely to develop a positive self-concept and self-esteem. A self-concept is three pronged ;it is what children see of themselves, where they want to be (the ideal self) and their construction of themselves, self-esteem (Storbeck, 2009). A positive self-concept depends on how one is brought up ((Kauppinen & Jokinen, 2013). It depends on the individual experiences of a child. Children who are identified and placed early are more likely to have a positive self-concept (Storbeck, 2009). Children learning at schools where there are other learners who have hearing impairment are more likely to have positive role models of people who have a hearing impairment. They are also more likely to have rewarding friendships of other peers who have a hearing impairment. Social integration is made possible by school programmes that give chance to learners to mix and mingle with learners who are hearing in other schools. This can be enhanced through sport and other recreational activities.

Children also need to be valued and appreciated. In some cases, educators impede the development of emotional wellness by using inappropriate teaching and learning strategies. This leads to ineffective learning (Chimedza, 2011). Quality education is compromised. To achieve quality education, teachers who are conversant in sign language are needed. Storbeck (2011:356) says *'Teachers who are fluent in signing skills and who understand the relevant theories and the implications for practice".*

Children who are hearing impaired who do not have good communication skills may be vulnerable to abuse. Abuse can be physical or emotional and takes place within the family, in the community or at school. Abuse at school and at home may be sexual in nature (Mcllroy, 2010). Specially trained signing therapists assist abused children. Bauman and Murray (2014) argue that people who are hearing impaired have poor vocabulary associated with emotion. Kauppienen and Jokinen (2013) argue that when deaf people act impulsively it is lack of support. John (2009:70) observes maladaptive behaviour among children who are hearing impaired, which leads to social isolation.

These are negative aspects of emotional wellness of people with hearing impairment. The most likely reason for a struggle with self-concept can be attributed to late identification. The other reason could be that the learners lack a role model (Hauser et al., 2010). A better and healthier self-concept is attributable to positive situations (Hauser, et al., 2010: 487).

3.6.5.2 People with hearing impairment and intellectual wellness

Florence, Ashbridge and Veuglers (2008) argue that intellectual wellness makes a person self-directed, intuitive, creative and having critical thinking. Intellectual wellness is about using your mind to the best possible way by being intuitive, critical, clear thinking, creative and problem solving (Florence, et al., 2008). It is about challenging us with learning new things and sharing our gifts of learning and creativity with others. The well person pursues intellectual growth through reading, being inquisitive. Being intellectually well is not about a high IQ or that you are intelligent. There is more than one way to define intelligence. It is important to understand that despite having hearing impairment, the child who has a hearing impairment can use other senses to utilize learning. It is important to utilize resources, which help to expand knowledge and understanding of the child with a hearing impairment (Cummins, 1989). The availability of visual materials goes a long way in achieving this understanding. The use of computers, including accessing the internet is a practical example of such a resource that is helpful in getting visual information. This helps to get new ideas and increase the cognitive function as they mature (Perveen & Mustafa, 2013).

It is important for every learner to enter school with some background knowledge that the individual has acquired from home (Skrebneva, 2010). Children who do not have a hearing loss when they enter school are already having speech and language. They have acquired a lot of language through play, participating in speech and language at home, in the family and in the community. When they enter school, hearing learners already have a strong language base which the teacher can develop (Cummins, 2007).

However, with learners who have a hearing loss, both language and general knowledge are delayed. They are also delayed from gaining vocabulary, concepts and expressions (Hoffman &

Wong, 2010; Kelly & Bent, 2011).). Learners who have a hearing impairment also lack exposure to incidental learning. Children with a hearing loss can understand the meanings of words within a sentence but fail to make sense of the whole sentence. This is especially true if the child's hearing loss was identified late (Gascon-Ramos, 2008).

Learning is facilitated by cognition. Cognition is the process of knowing, which includes awareness, perception, conceptualisation and judgement (Marschark & Spencer. 2003). It is what you see or perceive in the real world in order to understand the experience (Cummins, 2013). There are a number of schools of thought regarding the cognition of people with hearing impairment. One view hinges on the fact that no proper cognitive development can take place if there is no language. However, it is widely accepted that sign language is indeed a language that is distinct and stands on its own amongst languages of the world. It has been proved internationally that sign language is indeed a language with distinctive structures whether you are in America, Europe or anywhere in Africa. Some researchers believe it is wrong to believe that people who have a hearing impairment operate at concrete level (John, 2009). People who are hearing impairment have the capacity to think abstractly, using their cognitive functions. One of the areas of child development in terms of intellectual development is the development of the self-concept. Children born of parents who can hear are more likely to experience delays in intellectual development and self-concept (Szymanski, et al., 2013).

Learners who have a hearing impairment need to have positive intellectual wellness; using their minds to the fullest, using intuitive skills, clear thinking, creativity and problem solving (Gascon-Ramos, 2008). Intellectual growth develops through reading, writing and skills development. To enhance intellectual development, activities such as reading, creativity and resourcefulness could be included in the learning programme (Unesco, 2013). Learners who have hearing impairment need to learn and understand about deaf culture. Intellectual wellness acknowledges that every individual has multiple- intelligence. Learners with hearing impairment are capable of learning new skills. They can also develop a career based on their interests and skills.

In developing their intellectual wellness, hearing impaired learners use sign language to communicate and use LOLT like English to read and write (DBE, 2011).They can also use English

as a language of teaching and learning throughout the school day (Storbeck, 2009). An ideal situation that promotes intellectual development of hearing impaired learners is one in which there are two teachers from pre-school to high school. One teacher is hearing and the other hearing impaired and both use sign language for face-to-face communication. The teacher who can hear assists in reading and writing, using English. The teacher who has a hearing impairment helps explain subject matter using the sign language (Kelly & Berent, 2011). However, some teachers who are hearing impaired favour a model that uses the sign language only as a mode of communication for hearing impaired learners and limits the use of English for reading and writing only (Benedict, Rivera & Antia, 2015). It is important for both parents and educators of learners who have a hearing impairment to fluently and sufficiently communicate in the sign language (Storbeck, 2009: 354). However, the unfortunate thing is that few educators who can hear do have the fluency to be able to teach and help learners develop the first language. When the fluency is not present, teaching and learning become complicated (Storbeck, 2009:354). This also makes the learning of the second language much more difficult. With support, however, from assistants who have a hearing impairment, learning becomes easier.

In developing bilingual education, there is a need for educators who are fluent in signing skills and who understand the relevant theories and the implications for practice (Storbeck, 2009:356). Institutional support is needed to instil policy formulation and resource allocation to make teaching and learning easier. Teachers of learners who have a hearing impairment have a special responsibility to give the children additional support they need in order for them to break their barriers (Dalton, McKenzie, Kahonde, 2012; Storbeck, 2009).

Some learners who are hearing-impaired can benefit from the use of hearing aids. Hearing aids are not the same for every learner because they are tuned to the learners' hearing loss. It is expected that learners wear the hearing aids the whole day. Hearing aids assist the learner to hear sounds and therefore be able to communicate orally (Archbold & O'Donoghue, 2009). To enhance intellectual development of deaf learners, interpreters help in taking notes and interpreting the content during lessons in some learning situations (Marshark & Hauser, 2012). The interpreter shows visual cues such as facial expressions in lesson presentations using DVDs. Infante and

Matus (2009) and Thomas (2015) maintain that intellectual wellness can be developed by aptitudes of being creative and resourceful.

3.6.5.3 People with hearing impairment and physical wellness

Physical wellness is keeping your body in top condition not just eating nutritious food (DBE, 2011). Physical wellness is also about developing personal responsibility for your health by caring for minor illnesses and paying regular check-ups with medical personnel. Developing physical wellness empowers you to monitor your own vital signs and understand your body warning signs.

It is about understanding and appreciating the relationship between sound nutrition and body performance. The benefits of looking good are not only physical but enhance self-esteem, self-control, determination and a sense of direction (Mcllroy, 2010). In order to engage physical wellness, the individual checks weight, blood pressure and blood sugar levels. You also need to be physically examined at least once per year. It is also important to avoid tobacco to have enough sleep. Regular exercises are also a necessity.

As a way of meeting health needs of all learners, the Department of Health facilitated the creation of Health Promoting Schools. Guided by the primary health care (PHC) package of South Africa (Standards and Norms) document (2001), the Department of Health and the DoE introduced the nutrition program and school food gardening to increase food security and promote good nutrition in schools. Schools are situated in communities. The promotion of good health in the schools affects the local community in which they are situated. The World Health Organization (WHO) launched the Global School Health Initiative that targets school personnel, pupils, families and the wider community (WHO, 2006). WHO (2006) encourages health promoting school as constantly strengthening capacity as healthy settings for living, learning and working. The initiative of health promotion promotes healthy environment, health education, individual well-being and dignity. It also aims to provide multiple opportunities for success. Overall, it strives to improve the health of school personnel, families and the community. Parental involvement has a special place in school health promotion. It is also important for the community to participate actively to ensure the sustainability of the programme. The health-promoting document has a number of objectives. The

document advocates policies and behaviours, which recognize human rights and human safety. It also advocates support services for the accessibility, integrated, systematic, and preventative and health promotion approach. The program aims to address barriers to learning by reducing all factors that put learners at risk (WHO, 2006).

It is important for hearing impaired learners to have physical fitness. One has to be physically fit to sign well and with energy and the necessary body language and facial expression (Florence, et al., 2008). It is also important for the learners to be stress free through physical exercises and sound nutrition to gain the benefits of enhanced self-esteem, self-control and a sense of direction. They need to have a sense of direction, to balance their schoolwork and leisure time for their physical well -being.

A learner who is hearing impaired is not necessarily in ill health. The individual plays an active role in his/her own health. It is, however, important when they consult a health professional such as a doctor and their concerned parent about their health to include the person who is hearing-impaired in the conversation (Archbold & O'Donoghue, 2009). Health care professionals need to be able to communicate with the person who is hearing-impaired for them to give the best possible intervention. Health personnel play an active role in using their knowledge to screen, diagnose and treat learners with hearing impairment and ensure physical wellness (Storbeck, 2009). Sport and physical fitness exercises promote physical wellness (Hartmen, Houwen & Visscher, 2011). Health promotion provides access to a range of health care and wellness systems that are crucial to the person with a hearing impairment (Fore, Jaen & Barker, 2008).

3.6.5.4 People who are hearing impaired and social wellness

Social wellness is important in terms of the study on how people who have hearing-impairment relate to their peers and to other people within the communities in which they live. Social wellness deals with successfully communicating and negotiating with other people. The individual reveals his/ her needs and feelings in a constructive manner (Strydom, 2011:102).

In outlining social skills, Strydom (2011:102) highlights the importance of social skills such as the ability to respond to the needs of others and the ability to maintain healthy relationships in order to create self-awareness, self-acceptance and the ability to regulate thoughts, emotions and behaviours. Learners who are hearing impaired should learn to take up responsibilities and learn to be accountable, committed, dependable and trustworthy (Haualand & Allen, 2009). Learners who have hearing impairment must acquire conversation skills such as beginning and ending a conversation. Feelings of empathy are also important in building healthy social relationships. These include recognizing others' feelings, showing concern for others and understanding teasing (Strydom, 2011). Learners also need to develop consequence-predicting skills such as avoiding trouble and accepting consequences.

It is important for learners to understand their own needs and feelings as well as understand that others also have needs and feelings like them. It is also important that learners regulate their thoughts and emotions and how they behave (Northern& Downs, 2002).No one wants to deal with a person who is intolerant of other people's needs and feelings. A socially acceptable person who has a hearing impairment is not afraid to show or indicate that they do not understand what you are saying if you are not signing well. Such children will use hearing aids if they benefit from their use. They will not be worried about their visibility. Children who are hearing impaired enjoy spending time with other learners who have similar impairment. This is most common at special schools for the learners who have a hearing impairment.

The use of personality inventories point to the fact that children who are hearing impaired are not well adjusted compared to children who are hearing (Kirk, et al., 1997:280). Some studies have observed that learners who were hearing impaired displayed tendencies of rigidity, egocentricity, no inner control, impulsivity and suggestibility (Kirk, et al., 1997:380). The above observation seems to be strongly worded. The individual has a fixed mind set, has certain ideas or preconceived ideas that cannot be changed easily.

Empathy is about understanding what other people are going through and taking action to assist or help them through it. Social problems have to be solved in a manner that shows understanding and is reflective (Bellentine, 2010). It is also crucial to have anger management in order to have good

social relationships. Learners who are Hearing-impaired have a need for understanding that if given a responsibility; they are accountable for the success or failure to carry out their responsibility(Department of Education, 2005).Deaf learners understand that it is important to be accountable for the completion of a given task. They are also aware that if they are involved in group work, they should participate actively because group commitment is as important as individual commitment (Marshark & Hauser, 2012). Learners who are Hearing-impaired also appreciate the need for dependability, reliability and trustworthiness as important attributes that make a person a socially acceptable individual (National Wellness Institute, 2007). It is important to begin and end a conversation in an acceptable manner. Good communication entails that a person does not interrupt other people while still communicating because that will cause conflict (Mcllroy, 2010). People with hearing impairment are naturally good at holding conversations with each other (Kelly & Berent, 2011). However, just like in any other situation, some learners are disruptive. Such learners should be taught the skill of beginning and ending a conversation. It is also important to understand that everything they do has their own benefits and consequences. That if they engage in trouble making, they should accept the consequences of their trouble making.

It is important to have satisfying relationships with spouses, family, friends, and other people in the community. In the community, a person should play an active role to uplift his/her social wellness (Solvang & Haualand, 2014). People who have a hearing impairment regard sign language as the foundation of their culture. They distinguish between users who acquire the language before six years as 'pure signers'. The pure signers say that they can recognize the approximate age at which a person acquired sign language by the way that they use facial expressions (Storbeck, 2000). People who acquired sign language in late childhood are not regarded as pure signers.

Advocates of people who have a hearing impairment are against cochlear implants to learners who use sign language because they feel that cochlear implants delay the individual to acquire sign language. They also regard children who are hearing impaired who are raised orally as having 'cultural homelessness' (Mashark & Hauser, 2012). Some even deplore the use of cochlear implants as a form of cultural genocide because they believe such people want to kill the deaf

culture. Sign language is a common heritage and the inability to sign can lead to exclusion from the deaf culture (Mcllroy, 2010). Even a person who is hearing impaired who cannot sign is not considered a member of the deaf culture. Attitudinal deafness also plays a role with persons who acquired sign language in early childhood, showing prejudice against those who acquired it later. They also show prejudice against anyone considered hearing because they consider orality negatively (Schirmer, 2001).They are negative about anyone outside their culture. Even professionals who can hear who work with people who are hearing impaired are not spared. Some even go to the extent that parents who can hear of children who are hearing impaired should accept that their child who is hearing impaired is not hundred percent theirs (Fernandes & Myers, 2010). Prejudice is used as a means to maintain the legitimacy of the deaf culture. A division exists in the deaf culture whereby the pure signers regard themselves as the 'in group' and the other members as the 'out group' (Thomas, 2015).

It is important for learners who have a hearing impairment to have a sense of independence. With support, hearing impaired learners are able to achieve independent skills. One of the strategies to develop independence is to give the learner responsibilities (Chimedza, 2001). Children can practice responsibility taking personal responsibility for their books, bookcases and other personal belongings. It is important for the deaf learner to understand rules about how they should learn. The learner is expected to know the teacher's expectations and endeavour to behave according to those expectations. It is also important to create opportunities for leadership for the learners. This can be done in group work and project work (Marshark & Hauser, 2012). There are cases where an interpreter is used in a classroom situation. It should be for the benefit of the learner who is hearing impaired (Storbeck, 2009).

3.6.5.5 People with hearing impairment and occupational Wellness

Hettler (1980) defines occupational wellness as the level of satisfaction and enrichment gained by one's work and the extent in which the work gives expression of values. The National Wellness Institute (2012) maintains that it is important for people to understand the value of work. People should appreciate balancing work and leisure. They should also be able to enjoy new responsibilities to take them as challenges with a possibility to achieve better results. As a lens to

the study, occupational wellness is important because hearing-impaired learners have a need to develop skills, which they can use in future. Hearing impaired learners need to appreciate what they can do in order to build future job preferences. According to the National Wellness Institute (2012), work should be enriching and bring personal satisfaction. Work is important in spending your day in a rewarding way. For this reason, it is important for someone to make a good choice of career, a job that satisfies the individual. A job is a "calling" because you do what you enjoy doing and in that way, you will be contributing to your community, country and the world (Solvang & Haualand, 2014).

3.6.5.6 People with hearing impairment and spiritual wellness

Religion and spirituality are two distinct terms that have different meanings. Baclay, Dombo and Kobel (2012: 300) define religion as a "*relationship with a specific social institution that advocates for specific beliefs, rules, rituals, covenants and personal activities related to the institution*". This means that religion is an organised institution that expects its members to follow certain rules or practices. Rituals, covenants and specific ways of living are expected of members of a religious group. However, spirituality may be related to religion but sometimes it may not be related. In contrast, Johnstone, Glass, and Oliver (2007) in Baclay et al. (2012: 300) define spirituality as "*...focusing on an individual's increasing sense of a universal connectedness... a search for meaning of life purpose*". Webster (2016) maintains that spirituality originates meaning, purpose and fulfilment in life. Spirituality is therefore, a broader term compared to religion. For example, a religious group may have a spiritual connectedness with a creator when they perform their rituals. Spirituality for people who have a hearing impairment involves an understanding, appreciation, and connectedness to forces beyond the ordinary that give meaning and purpose in one's life. To develop that understanding is not an easy task. The child's background and communication levels play an important role in creating spiritual wellness.

People who have hearing impairment have a gift of sight, which they can use to understand the beauty of nature. The person who is hearing impaired grows spiritually through life's experiences. The person should understand what life is for and what it is all about (Baclay, et al., 2012). People who are hearing impaired also get to understand why they should care for themselves and for

others. This is evident when they are able to do good things and being kind to other people. They get to develop their spiritual life through the visual sense. People with hearing impairment and other people for that matter, enjoy well-communicated approaches of a spiritual nature. Being part of a religious group can be a positive step in developing spiritual awareness. Understanding of spirituality can be developed by involving visualisation, involving interpreters. Interpreters who are proficient and who have an understanding of deaf culture can provide a useful link in the development of spiritual wellness of deaf people. If a deaf person becomes a member of a religious group, hearing members should be sensitive not to use metaphors that create a negative depiction of deaf people. Phrases such as "give a deaf ear" can make a person who is deaf to think that people regard them as stubborn and should be avoided. With the proper use of sign language, meaning is more pronounced than with the spoken word for most people with hearing impairment. People with a hearing impairment can praise the creator or God by using hymns, prayers and visual symbols. Through spirituality, they are able to discover themselves and how worthy they are, using hands (Baclay, et al., 2012).

People who have hearing impairment can develop positive attitudes to their hearing impairment. Dr Mary Weir describes hearing impairment as a gain, not a loss. This is clearly outlined in her own words adapted from Burke et al (2011: 12).

> *"I have come to claim my deafness as a banner over my life and a blessing which am called to honour and use for God's greater glory. I chose and choose to be deaf even though this particular gift of God has not always been to my liking. Deaf is who I am and where I come from, deaf is more than not hearing. In it is being a person of vision and touch. Perhaps it is that all deaf people need to come to choose their deafness- as a calling, a gift, and as essentially good creation".*

It is clear from the words used that the person has not only accepted her disability. She is also proud to be who she is, a unique creation from God. She chose and chooses to be hearing impaired and feels blessed to be hearing impaired. With such an attitude, the individual develops appreciation that there is purpose in existing despite the hearing impairment. Spiritual wellness

helps the deaf child to gain friendships and membership to the religious community and subsequently develop spiritual wellness. A spiritually well person develops a healthy identity and self- esteem (Burke et al, 2011).

3.7 SUMMARY

The chapter focused on the theoretical framework that guided the study. The literature review focused on the need for wellness in all its aspects in order for the educator and the learner to be fully engaged in the teaching and learning situation. It is not enough to consider wellness as the absence of disease. There are many aspects including physical, emotional, spiritual, occupational, social and intellectual. There has been a paradigm shift from the medical model where any educational problem was considered to be within the individual who was failing to respond to the materials and the strategies. Emphasis is now on the whole person; including the family, the school, the community and other aspects that affect the individual directly and indirectly. The Universal Design for Learning motivates the learner who is hearing-impaired to learn using sign language and a variety of visual learning materials and media. It allows the hearing-impaired learners to be fully engaged in the learning and assessment processes. They are also able to assess themselves and suggest better ways of addressing their needs. The Linguistic Interdependence Theory helps learners who are hearing-impaired develop bilingualism, using the sign language and the language of teaching and learning, for example, English or Afrikaans.

CHAPTER 4
RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

This chapter explains the research design to understand how data were collected, analysed and interpreted. A pragmatism paradigm was selected to guide the study because it facilitated the use of both quantitative and qualitative methods within the same study. The triangulation design underpins the study allowing for data collection, analysis and interpretation between quantitative and qualitative methods concurrently. Both quantitative and qualitative methods enabled data to complement each other. The population comprises teachers of hearing impaired learners at different special school in South Africa. The study used purposive sampling to identify respondents and participants in the mixed method study. Self-completion semi-structured questionnaires were used to conduct the quantitative portion of data collection. Semi-structured interviews obtained information on the qualitative strand of the study. Data were collected by visiting schools and administering the questionnaire and conducting face-to-face interviews.

4.2 RESEARCH PARADIGM

Babbie and Mouton (2011: 645) define paradigm as a "*model or framework for observation and understanding... what we see and how we understand it*". Creswell and Plano (2007) maintain that paradigm is the worldview that influences how we conduct research. Thomas Kuhn (in Babbie & Mouton: 2011) define paradigm as a "theoretical tradition" accepted by scientists and is used to advance scientific knowledge. Paradigm encompasses epistemology, ontology and axiology theoretical framework (Creswell & Plano, 2007). Paradigms seek the nature and origins of knowledge (epistemology). The focus is on obtaining knowledge that can be regarded as truthful or close to the truth as a way to validate evidence (Mertens, 2012). The ontology of research entails the nature of reality. Scotland (2012) argues that ontological is the, what is, the situation as it really is in the eyes of the researcher. Mertens (2016) defines axiology as, *"the theory of values that informs how we see the world and value judgements within our research".* Axiology therefore describes the role of value in the study. In this study, the researcher involved participants in the

decision making of the research process. Member checking enabled respondents and participants to view and comment on the results for their input before the final report.

Creswell (2009) identified a worldview that includes positivism and pragmatism. Positivists seek to generate data using observation and measurement. This helps to obtain the truth through the obtained data. The interpretive paradigm seeks to get subjective experiences of individuals (Morgan, 2007). The interview is one of the key techniques involving interaction between the participant and the researcher. Teddlie and Tashakkori (2010) refer to pragmatism as the interface or bridge between philosophy and research methods. Creswell (2010) maintains that pragmatism is effective because it uses different methods, not one method in research. Greene and Hall (2010) strongly suggest that pragmatism enables a study for better action and better problem solving by doing "methodical mix". Most mixed method studies use the pragmatic paradigm (Creswell, 2009). Furthermore, pragmatism supports a combination of qualitative and quantitative research method within the same study Pragmatism rejects the forced choice of either positivism or constructivism. (Teddlie & Tashakkori, 2009).

4.3 RESEARCH DESIGN

Babbie and Mouton (2011: 74) define research design as *"... a plan or structured framework of how you intend conducting the research process in order to solve the research problem"*. Creswell and Plano (2007: 58) define research design as "*... procedures for collecting, analyzing, interpreting and reporting data in research studies*". Different disciplines use different terminology to classify mixed method. Teddlie and Tashakkori (2003) identified about 40 different mixed method designs. Creswell and Plano (2007) identified four major mixed method designs by integrating different designs. The mixed method designs include Triangulation Design, Embedded Design, Explanatory Design and Exploratory Design (Creswell & Plano, 2007). Triangulation Design is a one-phase design in which both quantitative and qualitative data collection and analysis are done concurrently but separately. Integration of the two sets of data is done at the interpretation stage (Creswell, 2009). In the Embedded Design, a component of qualitative design is used as a secondary methodology in a primarily quantitative method (Ivankova, et al., 2007). This implies that one data set (qualitative) supplements the other (quantitative) and is given minor weight. The

Explanatory Design is a two-phase design whereby qualitative data helps explain results from a quantitative design (Creswell, 2009). In explanatory designs, quantitative data are collected first, followed by qualitative data. Exploratory designs are usually used in survey research studies to collect data using the sequence of collecting qualitative data followed by quantitative data (McMillan & Schumacher, 2010).In the Exploratory Design, the qualitative design helps to build on the quantitative stage as a preliminary stage (Creswell, 2014).

4.3.1 Triangulation Design

When a researcher chooses a mixed method design among the four major mixed method designs, consideration is made to the one best suited to the research question. In the current study, both types of data are given equal emphasis with convergence done on the problem of how a wellness model could be designed to address barriers to learning for learners with hearing impairment. Triangulation design allowed the researcher to collect data using both quantitative and qualitative data concurrently (Creswell & Plano, 2007).This single–phase design was complimentary and easier to manage because the researcher conducted interviews at the same time the respondents were completing the questionnaires.

4.3.1.1 Quantitative Strategy (Survey)

Quantitative designs can be either experimental or non-experimental. The survey is a non-experimental design that provides quantitative data on attitudes, trends and opinions of a population based on a sample (Creswell, 2009). This study employed the survey strategy using a questionnaire to generate quantitative data on educators of learners with hearing impairment. The survey helped to complement qualitative data on interviews carried out with educators of learners with hearing impairment. Quantitative research involves numbers (Cameron, 2011). Quantitative studies concentrate more on hypothesis and develop the problem before data is gathered, then data is gathered to verify or dismiss the assumptions or hypothesis (Creswell, 2009, 2014; Mertens, 2010). The quantitative part was the structured portion of the questionnaire with Likert type questions, allowing the participants to choose what best applied to them (Babbie & Mouton, 2011).

4.3.1.2 Qualitative Strategy (Phenomenology)

Creswell (2007) identified five strategies to obtain qualitative data; the narrative, phenomenology, grounded theory, ethnography and case study strategies. Phenomenology utilizes human lived experience described by those who experienced the phenomenon (Creswell, 2007). Phenomenology is interpretive and attempts to bring out meaning to the lived experience (Creswell, 2014). In this study, the meaning was generated of the lived experience of educators of learners with hearing impairment. The qualitative subjective view is important to explore social reality and opinions of the participants. In this study, it is the experiences of the educators in natural settings (Creswell, 2007). In the qualitative methods, data were obtained using words (Joubish, Kurran, Ahmed, Fatima & Houder, 2011). The use of a qualitative method in the study is relevant because of the individuality of the participants. Although the participants are all teachers of the learners who have a hearing impairment, they have different experiences as educators in terms of age differences and experience, and different views on how to deal with barriers to learning.

4.4 POPULATION AND SAMPLE

4.4.1 Population

The study used the purposive sampling approach to select the participants. Purposive sampling is popular in qualitative research. Subjects were selected because they had the same criteria (Onwuegbuzie & Leech, 2007). Babbie and Mouton (2011) noted that sample can be chosen "... on the basis of your own knowledge of the population, its elements and the nature of your research aims". In this study, the researcher knew very well the study population and it was relevant to the nature of the research on designing a wellness model to assist educators address barriers to learning of learners with hearing impairment. The sample comprised (N= 100) educators who participated in the study quantitative study and (N= 11) participants.

4.4.2 Purposive sampling

Babbie and Mouton (2011) noted that choice of sample could be done because someone has enough knowledge of the population. In this study, the researcher knew very well the study population and it was relevant to the nature of the research on designing a wellness model to assist educators address barriers to learning of learners with hearing impairment. The sample comprised (N=100) educators who participated in the study quantitative study and (N=11) participants in the qualitative study. Subjects were selected because they were all teachers of the deaf learners, thus providing the same criteria (Onwuegbuzie & Leech, 2007). Purposive sampling in this study was suitable the researcher was familiar with the selected three provinces and eleven schools. Five of the 11 schools were rural-based schools while six schools were urban-based schools. All the 11 schools were accessible with roads leading to the schools. The researcher was also familiar with the participants and respondents since he was involved in the same type of work. Participants who took part in the qualitative study were purposively selected from the 100 respondents. The educators volunteered and were willing to take a 30-minute interview.

4.4.3 Respondents in the quantitative strand

A total of 100 primary school educators of learners with hearing impairment in the deaf participated out of an intended target of 120. This translated to a response rate of 83%. The socio-demographic variables are presented in Table 4.1.

Table 4.1: Characteristics of the teachers that responded in the study

VARIABLE	CATEGORY		
Gender	Male	14	73.4%
	Female	86	26.6%
	Total	**100**	**100.0%**
		1	
Age in years	30 years and below	16	16.0%
	31 – 50 years	51	51.0%
	Above 50 Years	33	33.0%
	Total	**100**	**100.0%**
Home language	West Germanic	30	30.0%
	Nguni Speakers	27	27.0%
	Sotho Speakers	25	25.0%
	Other	18	18.0%
	Total	**100**	**100%**
Highest professional	Teachers' certificate/Diploma	44	44.0%
Qualification	Bachelors/Honours Degree	51	51.0%
	Masters/ Doctorate Degree	05	05.0%
	Total	**100**	**100.0%**
Teaching experience	0 - 7 years	31	31.0%
	8 - 15 years	23	23.0%
	Above 15 years	46	46.0%

	Total	**100**	**100.0%**
Experience in deaf education	0 - 7 years	45	45.0%
	8 - 15 years	31	31.0%
	Above 15 years	24	24.0%
	Total	**100**	**100.0%**

The majority of the respondents were females, that is 86% (n=86) whilst 14% (n=14) were males. All the respondents were school-based teachers of learners with hearing impairment the deaf, teaching Grade R to seven. These figures show the trend at most special schools that there are more female teachers than males. The majority of the respondents (51.0%; n=51) were aged between 31 – 50 years whilst the second highest (33.0%: n=3) were aged over 50 years. Those who were 30 years and below were (16.0%; n=16).These figures clearly indicate that 84.0% of the respondents were above 30 years of age and 16% were below 30 years of age. This reflects that the majority of the respondents were matured and experienced educators.

With regard to the home language, the highest percentage of the respondents (30.0%; n=30), were of English and Afrikaner home language. Speakers of Nguni languages such as IsiZulu accounted for 27.0% (n=27). Speakers of other languages accounted for 18.0% (n=18) while Sotho speakers accounted for 25.0% (n=25). The percentages reflect that about half 52.0% (n=52) of the respondents were of Nguni and Sotho origin. Speakers of other languages accounted for 48.0% (n=48). These included the West Germanic speakers 30% (N=30).

On the highest professional qualification, 51.0% (n=51) had a Bachelors/ Honours degree whilst 44.0% (n= 35) had a national teachers' Diploma or Certificate in Education. This indicates that about 95% were qualified to teach the grades they were teaching. A small percentage, 5.0% (n=5) had postgraduate qualification of Masters or Doctoral degree.

Concerning teaching experience, most of the educators 46.0% (n=46) had experience of more than 15 years. Teachers with less than seven years' experience were 31.0% (n=31) whilst only 23.0% (n=23) had experience of 8 to 15 years. Concerning experience in deaf education, 45% (n=45) had experience of between 0 and 7 years. Respondents with eight to 15 years in deaf education were 31.0% (n=31). The more experienced with above 15 years were 24.0% (n=24). This reflects that 55.0% (n=55) had experience of more than eight years.

4.4.4 Participants in the Qualitative strand

A total of 11 primary school educators of learners with hearing impairment were selected using purposive sampling. They were part of the 100 respondents and volunteered to participate in the interview. Both sexes were interviewed, consisting of eight women and three men. Eight out of the eleven managed to disclose their age. The age range was from 26 years to 60 years, with four of them in the age range 51 – 55 years. Three of them did not want to disclose their age.

In terms of work experience, 10 managed to disclose their years of experience. Only two had at most 2 years' experience and three of them more than ten years' experience. The teachers spoke Afrikaans, Southern Sotho, SiSwati, Tsonga and Venda with four speaking Afrikaans and three with SiSwati as their home language. Two teachers spoke Venda while one each spoke Southern Sotho and Tsonga.

4.5 INSTRUMENTS

4.5.1 Questionnaire

A questionnaire is a tool that is used to collect and record information about an issue that you are interested to find out about (McMillan & Schumacher, 2010: 195). Structured questionnaires are associated with quantitative data, which is interested in numbers (Babbie & Mouton, 2011). Self-completion questionnaires can be mailed, sent online or personally distributed by the researcher.

Goddard and Melville (2005) list the attributes of a good questionnaire as: full data, short, not long and cumbersome, gives clear and relevant questions and instructions. The researcher made sure that the questions in the questionnaire were well thought out, specific and clear, asking relevant questions in line with the research questions (Bell, 2010). One set of self-completion questionnaires was designed for educators teaching deaf learners at the (N= 11) selected schools. The questionnaire had four sections, A to D (*See Appendix 1*). Section A had six questions on personal life such as gender, age range, home language, and work experience in general and teaching learners with hearing impairment. In this section, the respondents were required to put a circle around the chosen selection. Section B had (N= 14) statements with a five point Likert scale of responses. Respondents were required to make a selection by encircling: Strongly Agree, Agree, Unsure, Disagree and Strongly Disagree.

The 14 statements were about enlisted information on the educator's work on communication, teaching strategies, identifying barriers and giving support to hearing-impaired learners. Section C had (N=18) questions on aspects of wellness for learners with hearing impairments. The questions required the educator to assess how well their learners were in six wellness dimensions. Questions on physical wellness sought information on healthy lifestyles, healthy eating, and physical activity by the learners with hearing-impairment. Questions on emotional wellness sought information on how educators viewed their learners' ability to understand and express their feelings.

Questions on Intellectual Wellness needed educators' views on how learners with hearing impairments utilised their mind. For example, how they dealt with academically challenging situations. Questions on Social Wellness required educators to assess how well learners created and maintained healthy relationships. Questions on Occupational Wellness required educators to assess how well learners with hearing impairments were about vocational skills. This included an awareness of careers available in the community. Questions on spiritual wellness required respondents to evaluate their hearing-impaired learners' awareness of spirituality. A Likert Scale was used with the following scale: Unbelievably Well, Very Well, Well, Somewhat Well and Not so Well. This scale has "Unbelievably Well" as the highest scale and "Not so Well" as the lowest scale. Section D is open-ended and required participants to write five things that could be done to

enhance the wellness of hearing-impaired learners in order to address their barriers to learning.

4.5.2 Interview schedules

In an interview, the interviewer elicits information from the interviewees (McMillan & Schumacher, 2010). An interview involves a small number of people being interviewed on their perspectives on the programme or situation at stake (Babbie & Mouton, 2011).

An interview with largely open-ended questions was designed for 11 teachers of learners with hearing impairment (*See Appendix 2*). The interview schedule had three sections. Section A had biographical data with four questions on gender, age range, experience in deaf education and home language. Section B required interviewees to respond in full on 10 questions. The first five questions required the educator to respond in full on questions about how they feel about their work, learners' communication, and academic challenges and how they were successfully dealing with some of the challenges. Question 6 had 12 questions on the six dimensions of wellness. Each of the dimensions had two questions the interviewees had to respond to on physical, emotional, intellectual, social, occupational, and spiritual wellness. Question seven required respondents to identify support services that assist them to address learners' barriers to learning. Question eight required educators to identify dimensions of wellness, which learners with hearing impairment lacked and needed to be addressed urgently for effective addressing of their barriers to learning. Question 9 required interviewees to suggest how curriculum adaptation contributed to addressing barriers to the learning of deaf learners. Questions 10 required interviewees to state one programme they felt encouraged the wellness of learners with hearing impairments. Section C required participants to suggest a maximum of five measures they felt needed to be adopted to facilitate the effectiveness of teachers to address barriers to learning of learners with hearing-impairment (See Appendix 1). For both questionnaires and interview schedules instructions were simple, clear and concise as recommended by (Maree & Piertersen, 2007).

4.6 DATA COLLECTION PROCEDURES

4.6.1 Piloting

Questionnaires and interview schedules were pilot tested with (N= 5) colleagues completing questionnaires and (N= 2) being interviewed. These were educators of hearing impaired learners who were not included in the final sample (Cohen, et al., 2007). Piloting helped to ensure that the questions were well worded, clear and with clear instructions (McMillan & Schumacher, 2010). It also helped to see how much time was needed for the interview and to complete the questionnaire. This facilitated adjustment by the researcher. An adjustment was made to the original questionnaire. Where respondents were supposed to circle when selecting, the spaces were shaded on the original questionnaire. The researcher removed the shading and it became clear.

4.8.2 Questionnaire

A face-to-face survey ensured a good response rate with the researcher meeting the participants at their places of work. It also made it possible to administer long questionnaires since the researcher was there to explain any part of the questionnaire the respondents wanted clarified. There was also a further advantage that there was easier communication and knowledge about the respondents. The researcher has to know the respondents better. The disadvantage was that there were higher costs because the researcher had to travel to the schools.

4.8.3 Interviews

A letter was distributed to the participants to request their voluntary participation in the study. In the letter to the participants, the researcher promised confidentiality and that the interviewees could withdraw at any time without fear of reprisals. The researcher made phone calls to each of the schools to arrange dates and times when he could visit them. The principal of each of the schools facilitated access to the participants. During the administration of the instruments, the researcher explained the possible benefits of the study to the participants. The researcher also conducted a one to one interview with eleven of the participants. Each interview took about 30 minutes. In

order to ensure the validity of the interviews, the interaction between the interviewees and the interviewer was focused, asking relevant, unambiguous questions. The researcher explained that the identity of the participant was not to be shared with any other person.

Probing for more information was done during interviews in order to get in depth information (Maree & Pietersen, 2007: 158). This was possible because of items that were open ended in the interview schedule. The researcher manually took notes while conducting the interviews. The interviews were not tape-recorded to allow friendly relaxed atmosphere during interviews. The interview schedule also was designed in such a way that it was easy to follow and take down notes on the semi-structured portion of the interview. Additional notes were written on A4 paper for transcription later. He also encouraged cooperation with the interviewees and let the participants open up. For example, the participants were able to say what they felt about lack of support from other professionals within the school situation. They suggested that if there were no psychologists within the school, it delayed the process of addressing psychological barriers.

4.7 CONCURRENT DATA ANALYSIS DESIGN

Concurrent data analysis was used to triangulate quantitative and qualitative data. It involved the following procedures recommended by Creswell and Plano (2007: 136):

- The first stage involved conducting separate data analysis for the quantitative and qualitative sets of data (see chapters 5 and 6);
- The second stage involved merging the quantitative subset of data with the qualitative subset in order to compare the two.
- Merging involved matching research questions with quantitative and qualitative data in order to interpret the significance of the two types of data.

This helped to identify:

- the extent to which the two types of data were similar;

- the extent to which quantitative data complemented themes emanating from qualitative interview data; and
- The similarities and differences existing between the two types of data.

The data collection was done at the same time, separately analysing quantitative and qualitative data. The combined data from quantitative and qualitative data helped in eliciting data and cross checking using triangulation (Babbie, 2012; Babbie & Mouton, 2011). The questionnaire elicited quantitative data but also elicited qualitative data because the last question was open-ended.

4.7.1 Quantitative Data Analysis

Quantitative data analysis was obtained from questionnaire data. Data from questionnaires were converted into numerical equivalents so that it could be quantitatively analysed and tested. Descriptive statistics were employed, firstly using Measures of Central Tendency, the mean, median and mode. The median helped to divide data into two halves. The advantage of using the median was that it was simple to understand and did not have extreme values (Babbie, 2012; Green, Kreider & Mayer, 2005).The mode was the most common observation in the data. The mode was used because it is simple to understand, is not affected by extreme values and it is one of the data values. The mean was also used as a measure of central tendency. It is the sum of all observations divided by the number of observations. The mean had the advantage that it could be calculated exactly, used all the data and could be used in further statistical calculations (McMillan & Schumacher, 2010). Secondly, the study used the Measures of Spread or Variability. Variability refers to how spread out or scattered the distribution is; whether the distribution is positive or negative (Tabachnick & Fidell, 2013). These included the range, quartiles, variance, and standard deviation. The range showed the difference between the highest and lowest values. A large range showed data that was widely spread. The quartile divided the data into four equal portions. The lower quartile divided the first half of the entire data Q1 (25 percentile). The median divided the data into two equal parts Q2 (50 percentile). The third quartile, also referred to as the upper quartile Q3 (75 percentile) exceeded three quarters but was less than one fourth. The Standard Deviation (SD) represented the sum of all squared deviations from the sample mean. To obtain the SD, the

total of observations were calculated from their average value and divided by the total number of observations. In simple terms, the SD is the deviation considering how far it is from the average. The SD ensured that distributions packed together were close to the average whilst those distances from each other were also far from the average (Babbie & Mouton, 2011). The variance was used as a statistical measure of spread. It is a measure of the arithmetic mean. The letter N is used to denote the number of measurements in the sample.

With descriptive statistics, group data were summarized, using a combination of tabulated descriptions such as tables and graphical descriptions with the use of bar and line graphs. Statistical comments helped discuss the results (Hair, Black, Babin & Anderson, 2010). In order to facilitate data analysis, the Statistical Package of Social Sciences (SPSS) was prompted to calculate data such as N (Number in sample who answered a particular question). The SPSS created a data definition file. This gave the data list representing all the names of the variables in the data. Value labels were generated for each variable. Missing values of missing data were also identified (Babbie, 2002). The package also calculated maximum, minimum, mean, and standard deviation.

4.7.2 Qualitative Data Analysis

After each interview, the researcher transcribed all the handwritten information into a final record of interviews. Each interview had details of both verbal and non-verbal responses (Creswell, 2007). Details of the interviewees, including biographical data and a code assigned for each interviewee. The final narrative record had the date; place and code of the interviewee with the researcher's comments for each interview (Creswell, 2010). The researcher wrote a detailed version of what was obtained in each interview. This was done soon after the interview so that no finer details are lost. Interpreting interview data took three times the time of the actual interview (McMillan & Schumacher, 2010). A comprehensive, combined interpretation of all the interviews was written as a narrative of what transpired in the interviews (*See Appendix 12*). A comparison was made in the analysis; whether there were similarities or differences in the information obtained from questionnaires and interviews; whether the interview data confirmed or differed with the information obtained from the questionnaires.

4.8 ISSUES OF QUALITY IN RESEARCH

Issues of reliability, validity and ethics are important in carrying out a study.

4.8.1 Reliability

Babbie (2012) defines reliability as considering that a particular technique, applied repeatedly to the same object, would yield the same result each time. What this means is that there should be self-consistency earned by the individual. The aim was to have high reliability. The researcher ensured that the research instruments were specific and provided robust results (Babbie & Mouton, 2011). In order to ensure reliability, the researcher did not to allow perceptions, motivations and attitudes study, thus creating bias in the study .The researcher recorded the information from questionnaires and ensured objectivity as a key concept in quantitative research (Cohen, et al., 2007). The researcher also ensured that interviews were conducted in a clear, honest and bias free manner (Creswell & Plano, 2007). The instruments of questionnaires and interview schedules were clearly written for easier understanding and replication. The reliability procedure used in the study was that the study ensured that the coding process was clear and consistent (Creswell, 2009).

Table 4.2 Reliability results of items in the questionnaire

Table 4.3: Reliability results of dimensions			
Aspect	**No. of items**	**Cronbach's alpha**	**Acceptable level**
Question 7	14	0.699	Acceptable
Question 8	18	0.876	Good
Total	***32***	***0.860***	***Good***

No variables were removed from the analysis to increase the reliability of the instrument. A Cronbach's alpha of 0.7 or more indicates a reliable scale. All the other dimensions had a reliability scale of more than 0.7 except the dimension ^Question 7 (0.699^. According to Hair et al (2014),

a reliability of 0.6 is acceptable in exploratory research and in this case, the value is close to 0.7. The overall reliability of the instrument was 0.860, which is good, and thus overall the instrument was reliable.

4.8.2 Validity

Validity is mutual agreement between how the researcher sees the situation and how participants see it (McMillan & Schumacher, 2010). To ensure validity in this study, the following were observed:

4.8.3 Face Validity

Face validity is the degree to which an assessment appears to measure what it is intended to measure (Anderson, 2003). It is how representative the measure is at face value. Face valid data facilitated the calculation of means, standard deviation and other statistics (Hair et al., 2010).

4.8.4 Content Validity

Content validity is how well a construct measures the behaviour for which it is intended. With context valid tools, the results can be applied in the real world (Babbie & Mouton, 2011). The study relied on the knowledge of the participant educators of the deaf. The educators used their knowledge, ideas and beliefs to provide answers to the questionnaire and interview questions, ensuring content validity.

4.8.5 Construct validity

Construct validity is how the nature of measurement is related to the interventions the constructs are meant to perform (McMillan & Schumacher, 2010). In order to avoid threats to construct validity, the researcher ensured that it was clear what exactly was being investigated before the collection of data. In order to ensure that the questionnaire was appropriate and suitable, pilot testing of the questionnaire helped to ascertain that the questions were well worded and meant the

same thing to the respondents. Where there was no clarity, the wording had to be changed. The study also complemented the questionnaire data with face-to-face, open-ended interviews in order to avoid mono method bias (Borg & Gall, 1989).

4.9 TRUSTWORTHINESS

The qualitative part of the research sought to ascertain credibility, transferability, dependability, and confirmability (Cohen et al., 2007). The four criteria were used judge the qualitative part of the research. The researcher briefly explains each of the criteria below.

4.9.1 Credibility

A credible criterion involves establishing that the results of the qualitative research are credible or believable from the perspective of the participants in the study (Babbie & Mouton, 2011). One of the important strategies to ensure credibility is to do member checking. Participants are given a chance to correct errors of fact or interpretation of the study (Lincoln & Guba, 1985) in this process. The study allowed the participant educators to do member checks on the results before the final compilation of the study. The researcher also gave details of how member checks altered the data (McMillan & Schumacher, 2010**;** Simon, 2011)**.**

4.9.2 Transferability

This concept refers to the extent to which findings can be transferred to other contexts or groups (Lincoln & Guba 1985: 316). This is possible with the provision of "thick description" of the processes of data collection so that it could be possible for someone to do a transfer in a different setting and different groups. However, a larger sample will be needed to ensure generalisation. In the current study, the data collection tools of questionnaire and interview schedules were clear, specific with clear instructions that they can be used for a different group in a different setting. The fact that the researcher carried out the data collection in both rural and urban setup is also an advantage because other studies will be able to use any environment possible. Transferability can

also be done with future studies using either qualitative or quantitative method because the current study used both (mixed method).

4.9.3 Dependability

Dependability was used instead of reliability on the qualitative strand of the study (Creswell, 2014; Lincoln & Guba, 1985). Dependability ensured that the processes in the study were reported in detail. This makes it possible for a future researcher to repeat the same work, not necessarily to get the same results (Babbie & Mouton, 2011). The researcher clearly described the research design and data collection and analysis procedures.

4.9.4 Confirmability

Qualitative research tends to assume that each researcher brings a unique perspective to the study (Babbie & Mouton, 2011). Confirmability is the alternative to objectivity and ensured that results could be confirmed or corroborated by others. To enhance confirmability, the researcher documented the procedures for checking and re checking data in the study. A data audit was carried out after the study to examine data collection and analysis procedures and make judgements about potential bias or distortion.

4.10 ETHICS

The study ensured ethics in the data collection process. Ethics refers to human conduct with respect to the goodness of certain actions, and to the badness or goodness of the motives and ends of such motives (Cohen, et al., 2007). Ethics arises because of the interaction between the researcher trying to search for the truth; and the participant from whom the truth is obtained (Babbie & Mouton, 2007).

4.10.1 Permission

The University of South Africa's Research Ethics Clearance aims to protect human subjects who participate in research studies. It also ensures that research is of high quality. It is a requirement for formally registered research students to get ethics clearance before they collect data. To obtain ethics clearance, the application form was completed. It had a number of sections to complete on issues of ethics. The abstract of the proposal gave an outline of the main issues of the research study. These included background and purpose of the study. It also outlined the research problem, research questions and accompanying objectives. Issues of population and sampling were also included. The design and methodology were explained, including instruments, data collection processes and analysis. Ethics issues were clearly outlined on the informed consent, voluntary participation, anonymity, confidentiality, harm, risk benefits, and issues of access and permission.

The appendices to the ethics clearance included instruments, the questionnaire and interview schedule. Letters were written to the HoDs of the three sampled provinces. Permission letters were also included for the principal and the teacher participants. The ethics clearance certificate was obtained, giving the researcher permission to collect data.

4.10.2 Informed consent

Informed consent refers to procedures in which an individual decides whether to participate in a research study (Cohen, et al., 2007). The study considered informed consent based on voluntary participation, competence, full information, and comprehension.

4.10.3 Voluntary participation

Participating in a research study requires a portion of someone's time and energy (Babbie & Mouton, 2011). Voluntarism implies that the participants are free to or not to participate in a research study. It also ensures that risks are encountered voluntarily and knowingly (Cohen, et al., 2007). With this in mind, the researcher explained in the letter to the participants of their voluntary

participation. It clearly stated the time needed for the questionnaire and participation in the interviews.

4.10.4 Non-Maleficence

The study upheld the aspect of possible harm to participants. The questionnaires and interviews asked non-sensitive questions. In addition, the researcher made sure the questions were not embarrassing or demeaning to the participants (Babbie & Mouton, 2011). The study, therefore, followed the principle of non-maleficence, not to harm that considers human dignity, worthiness, potential, and uniqueness of each individual (Creswell, 2009). The study also ensured that the results were truthfully reported from the data collected on the ground.

4.10.5 Beneficence

The study considered the issue of beneficence. Beneficence is what benefits the study brings and who are going to benefit (Cohen, et al., 2007). The researcher indicated that the study was for educational purposes. The study also indicated professional benefit in dealing with barriers to learning.

4.10.6 Anonymity

The study ensured anonymity of participants. Anonymity ensured that the identities of the participants were not revealed, for example, their names and addresses they would be identified by pseudonyms (Cohen et al., 2007).

4.10.7 Confidentiality

The study ensured the confidentiality of the participants as a means to keep faith with them (Babbie & Mouton, 2011). The letter to the participants explained that the researcher would uphold confidentiality. This meant that information collected would not be shared with other people.

4.10.8 Access and acceptance

Access to the institution where the study is to be conducted is very important for the success of the study. The researcher needs to achieve goodwill and cooperation of the institutions (Cohen, et al., 2007). Gaining access to the institutions is not a right. It is important to follow the protocol, considering that there are officials within and outside the school. In the study, permission had to be sought from the HoD at each of the three sampled regions. Each of the HoDs was furnished with the research proposal, letters seeking permission and copies of the questionnaire and interview schedule. Letters from the HoDs clearly stated how the researcher was supposed to conduct research in the schools. The letter to the HoDs explained the purpose of the study and indicated possible benefits to the schools. The letter also indicated that participation was voluntary.

It also indicated that participants were free to withdraw at any time without fear of reprisals. All the provinces indicated that data collection was not supposed to disrupt school programmes. This meant that the researcher could only administer questionnaires and conduct interviews during breaks or in the afternoon after the lessons. Permission letters from the three HoDs are on Appendices3.1, 3.2 and 2.2.

The HoD's letter giving permission to conduct research in their provinces was used to negotiate with principals to conduct the study in their schools. A letter was emailed to the Principals of the (N= 11) special schools where data were collected to get their permission to conduct research at their schools. It also indicated that participation was voluntary. It also informed that participants were free to withdraw at any time without fear of reprisals. The researcher and principals agreed on the data and time of the visit to the schools. The principals organised access to the educators. The researcher explained the aims of the study, its objectives, data collection procedures, and what he expected them to do for him. The researcher ensured that there was informed consent from the participants. The study ensured confidentiality and anonymity of the participants. Their names were not be revealed but instead pseudonyms were used (McMillan & Schumacher, 2010). As part of adhering to the ethical principle of confidentiality, to include all questionnaires and interview schedules, the researcher will keep the data from the quantitative and qualitative processes.

The summative data is part of the thesis. A hard copy of the thesis will be submitted to the Unisa Library.

4.11 SUMMARY

The chapter focused on a positivist post-positivist paradigm. A pragmatic paradigm was used as a philosophy of the study. The mixed method approach used triangulation design with quantitative and qualitative data collection, analysis and interpretation. Questionnaires occupied the quantitative aspect. It had closed questions from which figures and numbers were obtained. It also had one open ended question to complement the qualitative data. The qualitative aspect of the study used an open-ended interview schedule. The participants were purposively sampled from a population of teachers of the deaf. Data were analysed, using descriptive statistics. Qualitative data were synthesised into codes that were transformed into themes. Quantitative data were analysed using the Statistical Package of Social Sciences (SPSS). The study considered reliability and validity issues. Reliability was concerned with the possibility to replicate the study. Validity issues considered the suitability of participants, credibility of instruments and their dependability. Ethical considerations were also strongly considered. The researcher obtained an ethical clearance certificate from the university's ethics committee. The research followed ethical issues such as having informed consent and anonymity of participants and their schools. The next chapter focuses on quantitative data analysis.

CHAPTER 5
QUANTITATIVE ANALYSIS OF RESULTS

5.1 INTRODUCTION

The chapter focuses on the quantitative results of the study. It covers results obtained by quantitative data collection. The statistical analysis was carried out in Atlas Ti 7 and SPSS 23. The quantitative data were analyzed using Atlas Ti 7. Patterns and trends were then obtained with data entered in excel and analyzed using the Statistical Package of Social Sciences (SPSS) Version 22. Cronbach's Alpha was used to measure reliability and validity of the instrument. Factor analysis determined the internal consistency of the instrument. In order to get patterns on variances, descriptive statistics were used. Percentages, frequencies, means, standard deviation and histograms were used to determine patterns and skewedness.

5.2 QUANTITATIVE ANALYSIS

5.2.1 Addressing barriers to learning at work

The respondents were asked to indicate the extent to which they were addressing barriers to learning at work. They rated their experience on 14 statements on a five point Likert-type scale. The highest strongly agree had 5 points and the lowest strongly disagree was the lowest with a rating of one. Strongly agree and agree were collapsed together to give the rankings illustrated in Table 5.1.

Table 5.1: Barriers to learning

Statement	Level of agreement					Sample Size	Rank
	Strongly Agree	Agree	Unsure	Disagree	Strongly disagree		
Easy communication with deaf learners is very important.	71.7% (71)	21.2% (21)	6.1% (6)	1.0% (1)	-	99	1
Learners can communicate effectively using South African Sign Language.	52.5% (52)	38.4% (38)	6.1% (6)	3.0% (3)	-	99	2
Understanding deaf culture facilitates effectively identifying barriers to learning of hearing-impaired learners.	40.8% (40)	45.9% (45)	12.2% (12)	1.0% (1)	-	98	3
Learners with hearing impairment have a wide variety of needs.	54.1% (53)	31.6% (31)	8.2% (8)	5.1% (5)	1.0% (1)	98	4
Effective communication with learners with hearing-impairment facilitates easier addressing to barriers to learning of children with hearing impairment.	45.3% (43)	33.7 (32)	11.6% (11)	7.4% (7)	2.1% (2)	95	5
It is challenging to identify barriers to learning of learners with hearing-impairment.	17.0% (17)	39.0% (39)	14.0% (14)	21.0% (21)	9.0% (9)	100	6
Individualized Education Plan (IEP) helps learners who are hearing-impaired to learn effectively.	17.3% (17)	36.7% (36)	32.7% (32)	8.2% (8)	5.1% (5)	98	7

Hearing-impaired learners are aware of and able to use assistive devices, e.g. hearing aids to facilitate learning.	19.4% (19)	35.7% (35)	23.5% (23)	15.3% (15)	6.1% (6)	98	8
Learners with hearing impairment are motivated to learn.	13.3% (13)	39.8% (39)	24.5% (24)	15.3% (15)	7.1% (7)	98	9
Support services are available to help teachers deal with a diversity of learners with hearing impairment.	11.1% (11)	33.3% (33)	18.2% (18)	26.3% (26)	11.1% (11)	99	10
Learners with Hearing-impairment are able to access the curriculum.	9.2% (9)	26.5% (26)	19.4% (19)	29.6% (29)	15.3% (15)	98	11
Learners with hearing impairment set high goals for themselves.	7.1% (7)	19.2% (19)	28.3% (28)	29.3% (29)	16.2% (16)	99	12
Hearing-impaired learners are aware of a variety of careers available in the community.	5.2% (5)	18.6% (18)	28.9% (28)	34.0% (33)	13.4% (13)	97	13
Learners with hearing impairment are competent in reading and writing using language of teaching and learning (LOLT)	5.2% (5)	13.4% (13)	21.6% (21)	36.1% (35)	23.7% (23)	97	14

Most of the statements received positive levels of agreement from the respondents; with nine of them achieving a combined "Strongly Agree" and "Agree" of more than 50.0%. The other five were titled towards the negative levels of agreement. Statements on communication received the most favourable levels of agreement. The statement "*Easy communication with the deaf is very important*" received the highest (92.9%). The other issues that received positive levels of agreement were the importance of deaf culture, challenges of identifying barriers to learning and need for assistive devices and support. On the negative responses, issues included support services, goal setting, career awareness, and competence in reading and writing. Competence in reading and writing received the lowest, indicating challenges in learners with hearing-impairment's learning capabilities using the LOLT.

5.2.2 Dimensions of wellness

The respondents were asked to indicate the level of wellness on a five-point Likert scale on 18 questions of wellness. The questions encompassed six dimensions, which needed to be integrated in order to develop whole person wellness. Questions on physical wellness asked about learners' state of health, diet and physical fitness. Questions on emotional wellness were on understanding about their learners' feelings and how they dealt with them. Intellectual wellness was on how hearing-impaired learners utilized their minds. Questions on social wellness were about creating and maintaining healthy relationships. Questions on spiritual wellness required the teachers' rating of their learners' understanding of their existence and meaning in life. Questions on occupational wellness were on teachers' rating of their learners' awareness of careers available to them in the community. Table 5.2 illustrates the ratings.

Table 5.2: Dimensions of wellness

Statement	Level of wellness					Sample Size	Rank
	Outstandingly Well	Very Well	Well	Kind of well	Not so well		
How well do learners with hearing impairments communicate with each other?	50.0% (50)	37.0% (37)	10.0 (10)	3.0% (3)	-	100	1
To what extent does sport contribute to skill development of learners with hearing-impairment?	30.0% (30)	45.0% (45)	17.0% (17)	8.0% (8)	-	100	2
How effectively do learners with hearing-impairment manage physical fitness?	17.0% (17)	33.0% (33)	31.0% (31)	18.0% (18)	1.0% (1)	100	3
How confident are learners who have hearing-impairment learners about capabilities of their teachers to teach them effectively?	3.1% (3)	20.4% (20)	48.0% (47)	21.4% (21)	7.1% (7)	98	4
How well do learners with hearing impairments understand their daily health needs?	3.0% (3)	22.2% (22)	41.4% (41)	22.2% (22)	11.1% (11)	99	5
How well do learners with hearing impairments utilise their leisure time?	14.1% (14)	29.3% (29)	31.3% (31)	15.2% (15)	10.1% (10)	99	6
How well are the dietary needs of learners with hearing-impairment being catered for?	5.1% (5)	16.3% (16)	41.8% (41)	26.5% (26)	10.2% (10)	98	7

How well do your learners who are hearing impaired consider to be importance of deaf awareness of what they can do in the community?	11.0% (11)	21.0% (21)	31.0% (31)	29.0% (29)	8.0% (8)	100	8
How do you rate your learners' motivation to learn skills?	6.1% (6)	20.4% (20)	34.7% (34)	(28.6% (28)	10.2% (10)	98	9
To what extent does curriculum adaptation facilitate effective teaching and learning of learners with hearing impairment?	8.0% (8)	16.0% (16)	35.0% (35)	25.0% (25)	16.0% (16)	100	10
How well are your learners with hearing-impairment able to match their interests and skills they like to learn?	2.0% (2)	15.3% (15)	39.8% (39)	30.6% (30)	12.2% (12)	98	11
How well do your learners with hearing impairment appreciate the importance of values in their daily lives?	-	15.0% (15)	38.0% (38)	34.0% (34)	13.0% (13)	100	12
How well are learners with hearing-impairment of their spiritual needs?	3.1% (3)	15.3% (15)	29.6% (29)	31.6% (31)	20.4% (20)	98	13
How do learners who are hearing-impaired deal with sadness?	1.0% (1)	3.0% (3)	30.3% (30)	31.3% (31)	34.3% (34)	99	14
How well do learners who are hearing-impaired control their emotions?	-	7.1% (7)	36.4% (36)	30.3% (30)	26.3% (26)	99	15
How well are learners with hearing impairment aware of careers available in the community?	-	10.2% (10)	22.4% (22)	54.1% (53)	13.3% (13)	98	16

How well do they manage failure?	-	4.0% (4)	21.9% (21)	38.5% (37)	35.4% (34)	96	17
How effectively do learners with hearing-impairment deal with academically challenging situations?	-	5.1% (5)	17.3% (17)	35.7% (35)	41.8% (41)	100	18

The respondents indicated the importance of physical wellness, with positive responses on most of the issues on physical fitness, sport and healthy eating. Social wellness is also well catered for with the availability of sport and use of leisure time. Issues that showed lower levels were:

- ***Awareness of spiritual needs (48.0%);***
- ***Dealing with sadness (44.3%);***
- *Control of emotions (43.5%);*
- *Awareness of careers available in the community (32.7%);*
- *Managing failure (26.1%); and*
- *Dealing with academically challenging situations (22.4%).*

5.2.3 Availability of support services

Respondents were requested to respond to an open-ended question. It required them to indicate the support services they felt hearing-impaired learners needed to enhance their wellness. This would help address their barriers to learning. From the total sample,77 educators of the deaf gave their suggestions as shown in Table 5.3.

Table 5.3: Availability of support services (n=77) – Multiple response

Question			
Aspect	**Frequency**	**% of cases**	**Rank**
Availability of relevant learners materials assistive devices e.g. video, computers, TV, DVD with stories for the deaf	35	45.0%	1
Need for effective communication and training in sign language	30	39.0%	2
Availability and support of other professionals within special school e.g. Audiologist, Psychologist	25	32.0%	3
Need for well-planned curriculum adaptation with emphasis on practical skills	20	26.0%	4
Occupational wellness and making learners aware of careers available to them	19	25.0%	5
Need for curriculum planners and implementers to be knowledgeable about hearing impairment and to involve experienced educators of learners who are hearing impaired in curriculum design	14	18.0%	6
Create effective community awareness about hearing impairment and give parental support and workshops on deafness	12	15.0%	7
Need for physical support, sport training and extra-curricular activities	9	12.0%	8
Hearing impaired assistants and teachers who are hearing impaired needed to act as role models in accessing South African Sign Language (SASL) and advise them	8	10.0%	9
Learners to be taught about Deaf Culture	7	9.0%	10

A variety of support services are needed to address barriers to learning of learners with hearing impairments. The top five support service**s** were:

- ***Availability of relevant learner support materials/ assistive devices e.g. Videos, computers, TVs and DVDs with stories for the deaf (45%: n=35);***
- ***Need for effective communication and training in sign language (39.0%: n=30);***
- *Availability and support of other professionals within the special schools e.g. Audiologists, Psychologists (32.0%: n=25);*
- *Need for well-planned curriculum adaptation with emphasis on practical skills (26.0%: n=20); and*
- *Need for occupational wellness and awareness of careers available for learners with hearing impairment (25.0%: N=19).*

5.2.4 Exploratory factor analysis of the dimensions

Exploratory factor analysis was used to determine the validity of the instrument, using principal component analysis with a varimax rotation. Factor analysis is an interdependence technique used to define the underlying structure among the variables in the analysis (Hair et al., 2010). Furthermore, factor analysis is done for data reduction and data summarization (Hair et al., 2010). Factor analysis describes the covariance relationships among many variables in terms of a few underlying but unobservable random quantities called factors (Johnson & Wichern, 2007: 481).The latent root criterion was used to determine the number of factors. For factors to be considered significant, the latent root (eigenvalue is more than one). Therefore, all factors with an eigenvalue less than one were considered insignificant. This is the most commonly used method and it was applied in this research (Babbie & Mouton, 2011; Jedrek, 1985).

According to Hamilton (2006), factor loadings of ±0.50 or greater are considered practically significant. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett Test of Sphericity were used to determine the appropriateness of the factor analysis. To perform factor analysis, the Bartlett test should have a significant p-value and the KMO should have a value more

than 0.5.The Bartlett Test for Sphericity was used to measure the presence of correlations among the variables by testing for lack of sufficient correlation. A p-value of less than 0.05 would result in the null hypothesis of lack of sufficient correlation being rejected. The KMO index ranges from 0 to 1, with 0.50 considered suitable for factor analysis (Tabachnick & Fidell, 2007).

The amount of share variance between variables is their communality. Communalities should be above 0.5 or most of the variables should have communalities above 0.6 (Hair et al., 2010). For variance, a robust solution should account for at least 50% of the variance. Therefore, robustness is having a solution that has at least 50% of the variance accounted for. Exploratory factor analysis with a varimax location was done to the following dimensions:

- *Addressing barriers to learning; and*
- *Educator views on learners' wellness issues*.

5.2.4.1 Addressing barriers to learning

The factor analysis on addressing the barriers to learning dimension resulted in a KMO of 0.704; with a Bartlett Test of Sphericity, this gave a chi-square of 78.0 with a p-value of 0.000. Therefore, the KMO was above 0.5 and the Bartlett's Test of Sphericity was significant. One could conclude that the data were appropriate for a factor analysis to be performed. All communalities were above 0.5 except two. According to Hair et al. (2010), the majority of the communalities should be above 50%. The factor solution is shown in the table below:

Table 5.4: Four factor rotated structure for aspects addressing barriers to learning

Item	Factor 1	Factor 2	Factor 3	Factor 4
Q7m. Learners with hearing impairment set high goals for themselves.	**.791**			
Q7l. Learners with hearing impairment are motivated to learn.	**.728**			
Q7n. Learners with Hearing-impairment are able to access the curriculum.	**.717**			
Q7k. Learners with hearing impairment are competent in reading and writing using language of teaching and learning (LOLT).	**.656**			
Q7g. Support services are available to help teachers deal with a diversity of learners.	**.645**			
Q7i.Learners aware of and able to use assistive devices (example hearing aids) to facilitate learning.		**.745**		
Q7h. Hearing-impaired learners are aware of a variety of careers available in the community.		**.687**		
Q7j. Individualized Education Plan (IEP) helps hearing-impaired learners to learn effectively.		**.678**		
Q7d. Learners with hearing impairment have a wide variety of needs.			**.843**	
Q7e. Understanding deaf culture facilitates effectively identifying barriers to learning of learners who are hearing-impaired.			**.717**	
Q7c. It is challenging to identify barriers to learning of hearing-impaired learners.			**-.513**	
Q7f. Effective communication with hearing impaired learners facilitates easier addressed to barriers to learners to learning of children with hearing impairment.				**.816**

Q7a. Easy communication with learners with hearing impairment is very important.				**.765**
Eigen values	***3.602***	***1.761***	***1.449***	***1.342***
Percentage variance explained	***27.707***	***13.547***	***11.144***	***10.323***
KMO ***Measure of sampling adequacy***	***0.704***			
Level of significance	***0.000***			

The dimension "Addressing barriers to learning" yielded four factors with a cumulative value of 62.72%.The name "*Competence in classroom situation*" was given to the first factor. The second factor was named "*Creation of independent living*" and it embraced Individualised Education Plans and knowledge of careers in the community. The third factor was named "*Identifyin*g *barriers to learning*" and the fourth factor was named "*Accessing easier communication".*

5.2.4.2 Factor analysis of educator views on learner wellness

The principal component analysis with a varimax rotation yielded five factors. The KMO measure was 0.770 while the Bartlett test of Sphericity had a significant p-value = 0.000. Therefore, there was sufficient correlation between variables and the KMO (Kaiser-Meyer-Olkin) measure of sampling indicated that the correlations were adequate for factor analysis. All communalities were above 0.7. The factor solution is shown in the table below:

Table 5.5: Factor analysis on learner wellness

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Q8m. How well are learners who are hearing-impaired aware of their spiritual needs?	.835				
Q8n. How well are learners with hearing impairment aware of careers available in the community?	.777				
Q8l. How well are the dietary needs of learners with hearing impairment being catered for?	.681				
Q8k. How well do learners with hearing impairments understand their daily health needs?	.680				
Q8o. How well do your learners with hearing impairment appreciate the importance of values in their daily lives?	.633				
Q8r. How well do learners with hearing impairment consider to be the importance of deaf awareness of what they can do in the community?	.581				
Q8a. How well do learners with hearing-impairment learners control their emotions?		.781			
Q8b. How do learners who are hearing-impaired deal with sadness?		.768			
Q8d. How effectively do learners who are hearing impaired deal with academically challenging situations?		.707			
Q8c. How well do they manage failure?		.704			

Q8e. How confident are learners with hearing impairment about capabilities of their teachers to teach them effectively?		.599			
Q8p. How do you rate your learners' motivation to learn skills?			.898		
Q8q. How well are your learners with hearing impairment able to match their interests and skills they like to learn?			.814		
Q8i. To what extent does sport contribute to skill development of learners with hearing-impairment?				.860	
Q8j. How effectively do learners with hearing impairment manage physical fitness?				.747	
Q8g. How well do learners with hearing impairments communicate with each other?					.861
Q8h. How well do learners with hearing impairments utilise their leisure time?					.666
Eigen values	***5.799***	***2.030***	***1.556***	***1.210***	***1.098***
Percentage variance explained	***33.993***	***11.942***	***9.151***	***7.119***	**6.460**
KMO measure of sampling Adequacy	***0.770***				
Level of significance	***0.000***				

The factor solution accounted for 68.67% of the variance. The first factor was named "*Awareness of spiritual, physical and careers". T*he second factor was named "*Dealing with emotions*". The third factor was named "*Academic/ skill development".* The fourth factor was named "*Importance of physical wellness*". The fifth factor was named "*Developing social wellness*".

5.3 DESCRIPTIVE STATISTICS AND NORMALITY TESTS OF VARIABLES

Composite variables were calculated per section and subsection using averages. The sections and subsections are the dimension of addressing barriers to learning and dimension of wellness. The variables were used to determine whether differences exist by gender, age, home language, highest education qualification, teaching experience and experience in education of learners with hearing impairment. The descriptive statistics will be presented in the following sections, and the test for normality to determine whether to use parametric or non-parametric tests. The findings will be used to determine the views of the teachers.

5.3.1 Dimensions of addressing barriers to learning

The section asked the respondents general questions on how the educators were addressing barriers to learning.

The table below gives the summary statistics of the composite variable.

Table 5.6: Summary statistics on how educators were addressing barriers to learning

Summary Statistics	Value
Mean	3.4414
Median	3.4286
Mode	3.00
Standard deviation	0.54471
Skewness	-0.355
Kurtosis	-0.478
Maximum	4.86
Minimum	1.00
Range	3.86
Coefficient of variation	11.94%

The composite variable on how educators were addressing barriers to learning ranged between 1and 4. The minimum value was 1.00 whilst the maximum value was 4.86. The mean was 3.4414 with a standard deviation of 0.54471. Therefore, there was not much variability of the data as evidenced by a coefficient of variation of 11.94%. Therefore, the ratio of the standard deviation to the mean as a percentage was 7:1.The histogram and box plot of the data is given in the figure in next page: Figure 5.1

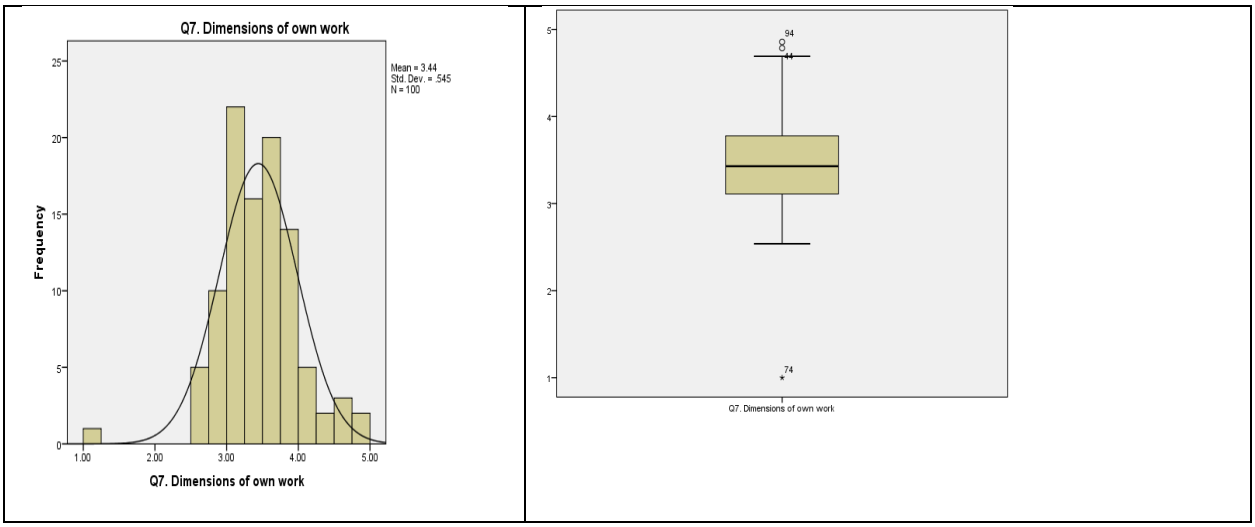

Figure: 5.1 Histogram and box plot of data

The histogram shows that data is almost symmetrical. This is also evidenced by the box plot, which had no outliers. Most of the values were between 3.5 and 4; signifying that the majority of the people agreed. A test of normality was done. The Shapiro Wilk test gave a p-value of 0.518, indicating that the data were normally distributed since the p-value is greater than 0.05 and it is highly significant.

5.3.2 Dimension of wellness

This section gives composite statistics for the dimension wellness. The dimension of wellness ranged from 4.19 to 1.33, giving a range of almost 3 as indicated in the table below:

Table 5.7: Summary statistics of dimension of wellness

Summary Statistics	Value
Mean	2.7945
Median	2.7278
Mode	2.72
Standard deviation	0.55414
Skewness	-.091
Kurtosis	-.115
Maximum	4.19
Minimum	1.33
Range	2.85
Coefficient of variation	12.40%

The average value was 2.7945 with a standard deviation of 0.05541, giving a coefficient of variation of 12.40%. The Histogram and box plot on the dimension of wellness is illustrated in the figure below.

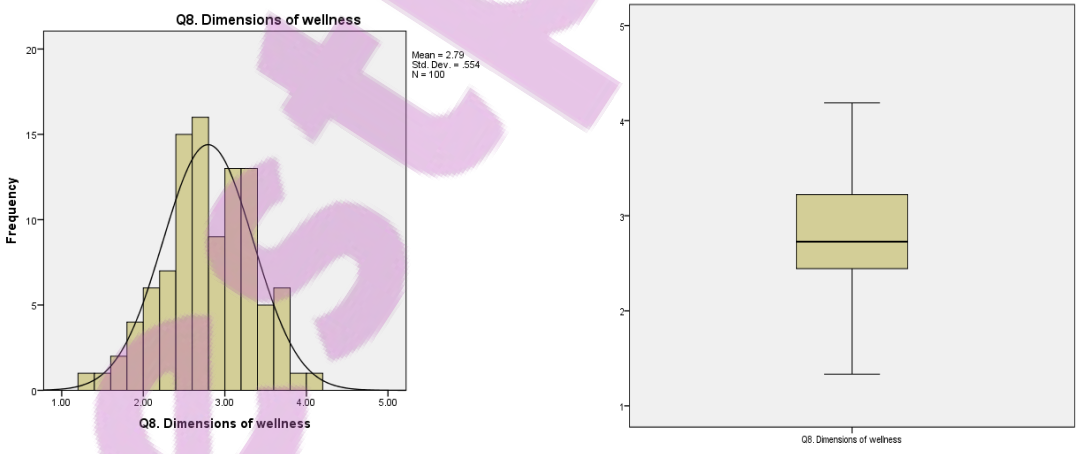

Figure 5.2: Histogram and box plot on dimensions of wellness

The histogram shows that the data is almost symmetrical. The box plot is also centrally distributed. Looking at the histogram and box plot, one can discern that data are spread between 2.5 and 3.5. The highest peak was close to 3.80. The Shapiro Wilk test was used to test whether data were normally distributed. A p-value of 0.385 was obtained. Since the p-value is more than 0.05, the null hypothesis of normality was not rejected. Therefore, data were normally distributed.

5.4 INDEPENDENT T-TESTS SHOWING DIFFERENCE OF MEANS FOR TWO GROUPS

Since the data were normally distributed, the t-tests were used to compare differences between two independent groups. The test was done to determine whether there was a difference in ratings by gender. The assumptions of the test were that data follows a normal distribution and that the observations are independent. In this case, both assumptions were satisfied. The null hypothesis to be tested is:

- *H_o: The means are equal ($\mu_1 = \mu_2$)*
- *H_1: The means differ ($\mu_1 \neq \mu_2$)*

Statistical hypothesis is used to denote expectations based on the statistical results (McMillan & Schumacher, 2010). This hypothesis is either null or alternative. Null hypothesis indicates that there is no difference between the population means of the two groups (Tuckman, 1994). This implies that the means of the two groups are the same. If there is a high probability of being correct in rejecting the null hypothesis, it means that there are no differences between the two groups (Laerd Statistics, 2014). A typical null hypothesis is $H_{o:}\ \mu_1 = \mu_2$. This denotes null hypothesis $H_{o,}\ \mu_1$ is mean of one population, and $\mu_2$is mean of second population (Naiman, Rosenfiel&Hirkell, 1977). Inferential statistics use the null hypothesis because we cannot prove that something is true. This means that if we cannot prove that two things are different, it is most probable that they are the same (McMillan & Schumacher, 2010). The alternative hypothesis $H_1$is either directional or non-directional.

A directional alternate hypothesis states that one population mean is either greater or smaller than the other (McMillan & Schumacher, 2010). The one-tailed directional alternate hypothesis is less conservative than the two-tailed alternate hypothesis because the latter doubles the probability levels and is, therefore, recommended (Anderson, 2003). The 5% level of significance was used. The null hypothesis of equal means was rejected if the p-value was less than 0.05 otherwise, it was not rejected. Only those significant tests will be presented in detail.

5.5 INDEPENDENT T-TEST TO DETERMINE DIFFERENCE BY GENDER

The data had two dimensions *"Addressing barriers to learning"* and *"Dimension of wellness".* Both dimensions had p-values more than 0.05, as shown in the table below:

Table 5.8: Independent t-tests of the difference of mean ratings by gender

Factor	Group	Mean	t-value	p-value	Decision
Dimension of own work	Male	3.2995	-1.052	0.295	Null hypothesis is not rejected
	Female	3.4645			
Dimension of wellness	Male	2.9627	1.761	0.090	Null hypothesis is not rejected
	Female	2.7672			
$^{*}P<0.05$ and ** $p<0.01$					

The null hypothesis of equal means was not rejected in all. The average for barriers to learning was 3.382 whilst that for wellness issues was 2.8650. Therefore, there was more agreement on barriers than wellness issues. The error bar is given in the figure in next page:

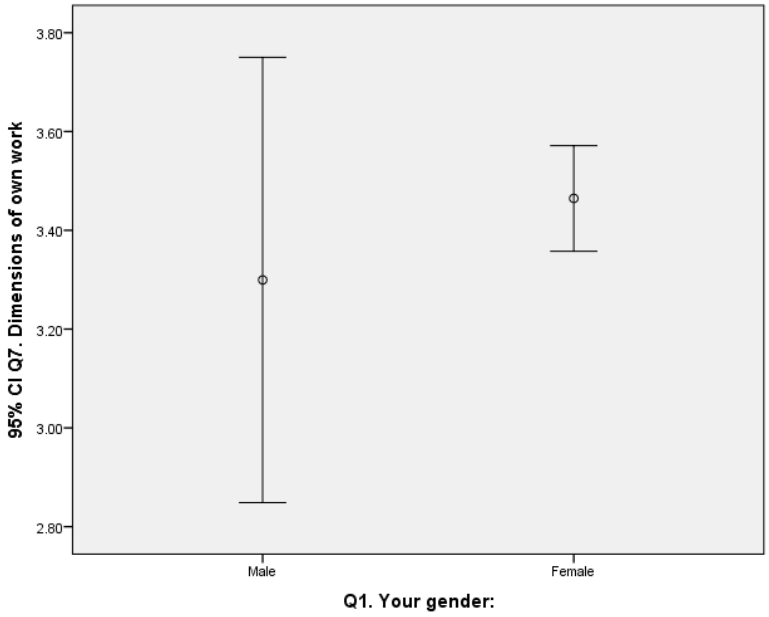

Figure 5.3: Confidence interval error bar of dimension of own work by gender

The ***t-value = -1.052*** with a ***p-value = 0.295***. Since the p-value was more than 0.05, the null hypothesis of equal means was not rejected and this is evidenced by the confidence interval of the error bars overlapping towards the males. Female genders' rankings were significantly lower than males'.

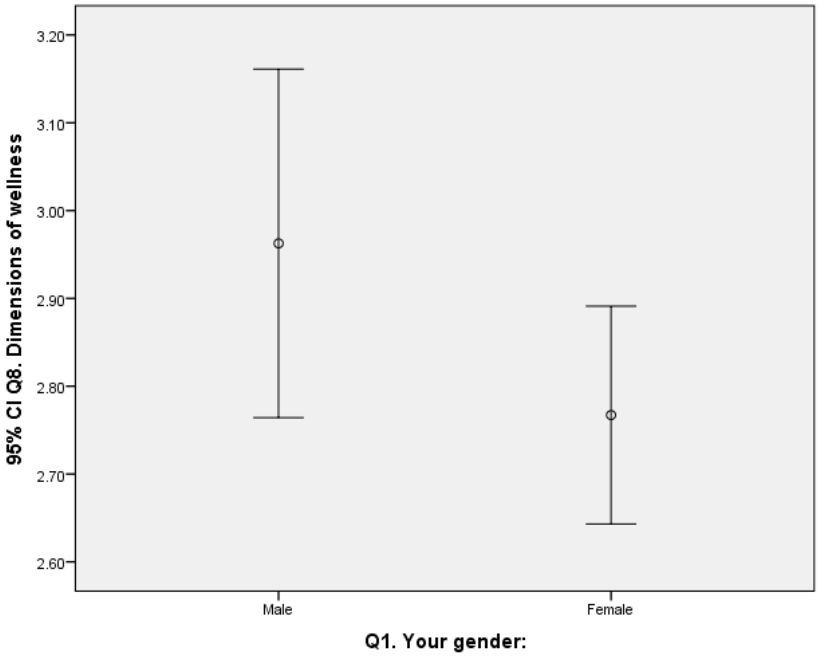

Figure 5.4: Confidence interval error bar of ratings of dimension of gender

The ***t-value = 1.761*** with a ***p-value = 0.090***. Since the p-value was more than 0.05, the null hypothesis of equal means was not rejected. This is evidenced by the confidence interval of the error bars overlapping downwards for the females and upwards for the males. Female gender rankings were significantly lower than male gender.

5.6 ANALYSIS OF VARIANCE FOR SIGNIFICANT DIFFERENCES BETWEEN SOCIO-DEMOGRAPHIC VARIABLES OF TWO GROUPS

The assumptions of independence and normality were satisfied so that one can apply the analysis of variance. What was left was to determine the homogeneity of the variances, that is, whether the groups have equal variances. In this case, ANOVA was used to determine whether dimensions differed by number of years in terms of age. The null hypothesis to be tested was

- *H_o: The means are equal.*
- *H_1: At least one of the pairs of means is different.*

The test was done at 5% level of significance. There was no rejection of the null hypothesis in both dimensions.

5.7 ANOVA TEST TO DETERMINE DIFFERENCES IN MEANS BY AGE

Ages were grouped into four groupings. The first group was 30 years and below. The second group was 31 to 40 years. The third group was 41 to 50 years. The fourth group was over 50 years. The test of homogeneity was satisfied for all dimensions. In terms of equal means, all p-values were greater than 0.05, thus the null hypothesis of equal means was not rejected. Rating of dimensions did not differ by age group. The information is shown in the table below:

Table 5.9: ANOVA tests to determine difference in mean of the factors by age group

Factor	Group	Mean	F-Value	p-value	Decision
Dimension of own work	30 years and below	3.5982	1.808	0.151	Do not reject the null hypothesis
	31 – 40 years	3.5260			
	41-50 years	3.4793			
	Over 50 years	3.2579			
Dimension of wellness	30 years and below	2.9040	0.468	0.705	Do not reject the null hypothesis
	31 – 40 years	2.7589			
	41-50 years	2.8349			
	Over 50 years	2.7194			

For the two dimensions, the p-values were 0.151and 0.705 and were more than 0.05. Therefore, the null hypothesis of equal means was not rejected.

5.8 ANOVA TEST TO DETERMINE DIFFERENCES IN MEANS BY HOME LANGUAGE

The home language was divided into four groupings. The first group was West Germanic; the second group was Nguni speakers; the third group was Sotho Speakers; and the fourth group was for speakers of other languages. The test of homogeneity was satisfied for all dimensions. In terms of equal means, all p-values were greater than 0.05, therefore the null hypothesis of equal means was not rejected. The rating of dimensions did not differ by home language. The information is shown in the table below:

Table 5.10: ANOVA tests to determine difference in mean of the factors by home Language

Factor	Group	Mean	F-Value	p-value	Decision
Dimension of own work	West Germanic	3.5145	.306	0.821	Do not reject the null hypothesis
	Nguni Speakers	3.4225			
	Sotho Speakers	3.3768			
	Other	3.4215			
Dimension of wellness	West Germanic	2.7097	1.076	0.363	Do not reject the null hypothesis
	Nguni Speakers	2.9495			
	Sotho Speakers	2.7216			
	Other	2.7901			

For the two dimensions, the p-values were 0.821 and 0.363and were more than 0.05. Therefore, the null hypothesis of equal means was not rejected.

5.9 ANOVA TEST TO DETERMINE DIFFERENCES IN MEANS BY HIGHEST PROFESSIONAL QUALIFICATION

Qualifications were grouped into six groupings. The groupings were National Teachers' Diploma, Advanced Certificate in Education, General Bachelor's Degree, Honours' Degree, Masters' Degree/ Doctoral Degree and Other qualifications. The test of homogeneity was satisfied for both dimensions. In terms of equal means, all p-values were greater than 0.05, therefore, the null hypothesis of equal means was not rejected. The rating of dimensions did not differ on qualifications. The information is shown in the table in the next page:

Table 5.11: ANOVA tests to determine difference in mean of the factors by qualification

Factor	Group	Mean	F-Value	p-value	Decision
Dimension of own work	National Teachers' Diploma	3.5982	1.468	0.208	Do not reject the null hypothesis
	Advanced Certificate in Education	3.5260			
	General Bachelors' Degree				
	Honours Degree				
	Masters'/Doctorate Degrees	3.4793			
	Other	3.2579			
Dimension of wellness	National Teachers' Diploma	2.9040	1.665	0.151	Do not reject the null hypothesis
	Advanced Certificate in Education	2.7589			
	General Bachelors' Degree				
	Honours Degree				
	Masters'/Doctorate Degrees	2.8349			
	Other	2.7194			

For the two dimensions, the p-values were 0.208 and 0.151and were more than 0.05. Therefore, the null hypothesis of equal means was not rejected

5.10 ANOVA TEST TO DETERMINE DIFFERENCES IN MEANS BY TEACHING EXPERIENCE

For both dimensions, teaching experience was grouped into five groupings. The first group was 0 to 3 years; the second group was 4 to 7 years; the third group was 8 to 11 years; the fourth group was 12 to 15 years; and the fifth group was above 15 years. The test of homogeneity was satisfied for all dimensions. In terms of equal means, all p-values were greater than 0.05, therefore, the null hypothesis of equal means was not rejected. The rating of dimensions did not differ by age group. The information is shown in the table below:

Table 5.12: ANOVA tests to determine difference in mean of the factors by teaching experience

Factor	Group	Mean	F-value	p-value	Decision
Dimension of own work	0 - 3 years	3.6835	1.904	0.116	Do not reject the null hypothesis
	4 - 7 years	3.5265			
	8 - 11 years	3.5549			
	12 - 15 years	3.5794			
	Above 15 years	3.2849			
Dimension of wellness	0 - 3 years	3.0088	0.793	0.533	Do not reject the null hypothesis
	4 - 7 years	2.8036			
	8 - 11 years	2.8376			
	12 - 15 years	2.9089			
	Above 15 years	2.7028			

For the two dimensions the p-values were 0.116 and 0.533 were more than 0.05. Therefore, the null hypothesis of equal means was not rejected.

5.11 ANOVA TEST TO DETERMINE DIFFERENCES IN MEANS BY EXPERIENCE IN TEACHING LEARNERS WITH HEARING IMPAIRMENT

Experience in teaching learners with hearing impairment was grouped into five groupings. The first group was 0 to 3 years; the second group was 4 to 7 years; the third group was 8 to 11 years; the fourth group was 12 to 15 years; and the fifth group was above 15 years. The test of homogeneity was satisfied for all dimensions. In terms of equal means, all p-values were greater than 0.05, thus the null hypothesis of equal means was not rejected. Rating of dimensions did not differ with experience in deaf education. The information is shown in the table below:

Table 5.13: ANOVA tests to determine difference in mean of the factors by experience in teaching learners with hearing impairment

Factor	Group	Mean	F-Value	p-value	Decision
Dimension of own work	0 - 3 years	3.6099	0.964	0.431	Do not reject the null hypothesis
	4 - 7 years	3.4594			
	8 - 11 years	3.5032			
	12 - 15 years	3.2987			
	Above 15 years	3.3342			
Dimension of wellness	0 - 3 years	2.7816	0.705	0.591	Do not reject the null hypothesis
	4 - 7 years	2.8157			
	8 - 11 years	2.9361			
	12 - 15 years	2.8361			
	Above 15 years	2.6515			

For the two dimensions the p-values were 0.431 and 0.591 were more than 0.05. Therefore, the null hypothesis of equal means was not rejected.

5.12 SUMMARY

This chapter discussed the quantitative findings of the study. Data from the questionnaires were analysed using frequencies and percentages, reliability analysis, factor analysis and statistical inferences by way of independent t-tests and ANOVAs. Data were analysed using the Statistical Package for Social Sciences (SPSS). Chapter six presents the qualitative results based on the interviews carried out with the educators.

CHAPTER 6
QUALITATIVE DATA ANALYSIS

6.1 INTRODUCTION

The chapter gives an analysis of the qualitative data. Eleven educators participated in the study, answering semi-structured interview questions, which lasted for 30 minutes each. Eight of the educators were females and three were males. The study developed categories from which themes were eventually established. Four themes were compacted from the data which will presented with the actual words of the participants.

6.2 DATA ANALYSIS PROCEDURES

Qualitative data analysis is any form of analysis of data collected using qualitative techniques (Babbie & Mouton, 2011). Data analysis began with the first data collected. This helped to reduce data overload (Cohen & Manion, 2007).Data analysis involved organizing, accounting for and explaining the data (Teddlie & Tshakkori, 2009). Analysis is a way of making sense of the data, understanding participants' definitions of the situation. Analysis involves decontextualization and recontextualisation of the data. Decontextualisation involved accessing data, investigating it together with data reflecting similar issues (Creswell, 2014). Recontextualisation involved ensuring that patterns that emerged during analysis were in agreement with the informants' accounts of what happened (McMillan & Schumacher, 2010). It is important to code and segment the data and label the categories in the actual language of the participants (Creswell, 2009).

Grounded theory was generated by systematically gathering data and analyzing it (Babbie & Mouton, 2010). This means that the theory emerged from the data. This explains the argument that theories are hidden in data, waiting to be discovered (Cohen, et al., 2007). Voluminous data were reduced to enable coding to be done. The study developed pre coded codes as part of utilizing research questions and organizing the data (Babbie & Mouton, 2011). Codes, therefore, were developed as the researcher was reading field notes, analyzing the interviews. Codes were carefully selected, considering the study's point of focus. Coding categorized data into concepts

and dimensions for systematic retrieval (Creswell, 2007). Coding helped to identify significant aspects of data. In coding, the researcher assigned description words to each unit of notes. Descriptive coding helped to determine what was there in the data (Cameroon, 2011). This helped to determine redundancies and categories that needed to be combined. Coding helped to understand patterns in relation to model development through theory (Babbie & Mouton, 2011). Coding involved identifying phrases and terms used repeatedly and selected them for significance to generate theory (McMillan & Schumacher, 2010). The analysis involved studying and selecting the interview with the best content first. The main question of the research was:

How can a wellness model be developed for teachers to address barriers to learning for learners with hearing impairment?

The propositions are as follows:

- Barriers to learning experienced by learners with hearing impairment are mainly communication related;
- There are negative experiences regarding the wellness of learners with hearing impairment in the learning environment;
- Support services are not widely available to address barriers to learning of learners with hearing impairments; and
- a wellness model could be designed to assist educators to address barriers to learning of deaf learners.

6.3 CATEGORIES DEVELOPED FROM THE CODING

6.3.1 Coding process

Coding is a process of disassembling and reassembling qualitative data (Cohen, et al., 2007). Data were reassembled by breaking apart into lines, into paragraphs and into sections (Creswell, 1993). The data were then rearranged by coding to explore similarities (McMillan & Schumacher, 2010).

The study employed three types of coding, namely, open, axial and selective coding (Cohen, et al., 2007). In open coding, the researcher looked at distinct concepts and categories in the data. The data were broken down into first level concepts and second level categories. Words and phrases in the text were highlighted, using different colours for common words and phrases (Bogdan & Biklen, 1998). In axial coding, the researcher took the codes, grouped them, interconnected them, and compared them with existing theory (Strauss & Corbin, 1990). Selective coding was also employed by identifying a core code and its relationship with other codes (Ivankova, et al., 2007). Categories were developed from the coding, were colour coded and grouped together because of their interconnectedness with each other (Creswell & Plano-Clark, 2007).

6.4 THEMES FROM THE QUALITATIVE DATA

The following four themes were developed from the qualitative data:

- Theme 1: Academic challenges of communication and reading are major barriers faced by learners with hearing impairment;
- Theme 2: Teachers share mixed views in different wellness dimensions of their learners with hearing-impairment;
- Theme 3: Curriculum adaptation and multidisciplinary teams are important supports needed to address barriers to learning; and
- Theme 4: More programmes should be introduced to address academic, career and spiritual wellness dimensions.

6.4.1 Theme 1: Academic challenges of communication and reading are major barriers faced by learners with hearing impairment

Most participants gave negative assessment of communication of most of the learners with other people because of varied reasons. In the home environment, learners with hearing-impairment could not communicate effectively with other family members.

Participant B noted that, "*A lot of learners with hearing impairment are not able to communicate their feelings to families*". This affected the way they communicated with other family members. Participant D commented, "*Some learners cannot communicate since they have bottled their stress at home.*"

Bottled up here implies that the hearing-impaired child would rather not communicate rather than communicate and be misunderstood.

Participant F observed that there was "*... miscommunication between learners who are hearing impaired and those who can hear".*

Participant J commended that "*Severely hearing-impaired learners who only communicate via sign language have restricted communication in the outside world because they cannot afford full time interpreters and few hearing people understand SASL.*"

In the absence of an interpreter, most hearing-impaired people do not communicate effectively because very few people understand sign language. Inappropriate teaching strategies also contributed to communication challenges involving leers with hearing-impairment.

Participants B gave a word of advice, *"Don't turn your back while talking".* This is important for easier communication with a person who has a hearing impairment.
Participant F advised teachers to, *"Make sure everyone can see you".* This strategy is also important for effective communication. Late implementation of language development also contributes to communication challenges.

Participant G noted the need for "*Early implementation of language development according to the learners' ability and need".* Early intervention programmes address early challenges such as poor communication. It is also important to ascertain that hearing-impaired learners are motivated in their communication.

Participant C felt that teachers must ascertain that "*Learners are motivated continuously because they have no idea that sign language is important as their language*".

Without motivation, it becomes difficult for the learner to communicate. The learner with a hearing impairment must appreciate that sign language is their first language and that without it communication barriers become evident. Some of the participants indicated that communication with the learners who are hearing-impaired was good.

Participant E said, "*Committee is there for awareness to communicate, with sign language classes, the community, even parents of learners and neighbouring teachers.*"

The sign language committee at the participant's school plays an important role in communication; training parents and other teachers in the local schools so that they are able to use sign language. In order to assist new learners in the schools for learners with hearing impairment, the role of adults who are hearing impaired is crucial in introducing the learner to the deaf culture and sign language.

Participant A noted a procedure that *"The presence of adult who is deaf as a role model helps them to understand and about deaf culture. For example, when there is a new learner, the adult who is deaf introduces the new learner and other learners suggest a sign name for the new learner."*

6.4.2 Theme 2 Teachers share mixed views in different wellness dimensions of their learners with hearing-impairment.

Teacher perspectives on wellness in physical, emotional, intellectual, social, career, and spiritual dimensions showed varied extents. In the academic wellness dimension, sign language plays an important role in the development of their intellectual well-being.

Participant A noted that, *"If taught sign language, can communicate well whether they are totally*

deaf or partially hearing." These words are corroborated by participants F and H who indicated as follows:

Participant F: *"Sign language has a positive impact on the learner intellectual being because they are able to express themselves through their language."*

Participant H: *"SASL contribute directly to the amount of knowledge comprehension gained by learners."*

The above comments indicate that sign language is important for communication and learning. It is possible that sign language can help learners comprehend material taught to them. This can be effective if presented in a visual manner to *"…translate visual SASL into meaning and knowledge"* (Participant H).

However, participant D felt that, *"they know SASL but they do not learn".* This suggests that knowing sign language is not enough in developing intellectual wellness. Other considerations should be made. One of the possibilities is to, according to participant K, *"they understand material that has been adapted with shorter sentences, easier words and diagrams".*

Teaching and learning materials and techniques must be carefully considered. Adaptation is crucial by using visual aids, adapting with shorter sentences and simpler vocabulary. Technology in a developing society is also appreciated.

Participant F indicated that, *"Tablets for the primary schools can be very useful in their learning". Learners who are* Hearing-impaired face challenges in their academic work because of other barriers.

Participant C suggested that, *"They have a shorter concentration span especially in academic work"* and; Participant K corroborates that, *"They have a problem. They forget easily what they have learnt."*

In addition, the written language poses further challenges. Participant G indicated that, *"Written*

*language is often too difficult for people without language (development).'"*This implies that a good language foundation makes writing easier. One of the challenges facing learners who are hearing-impaired is for them to be able to read and understand the written language. Sign language is visual not written language.

Participant F observed that, "*Reading on their own is a challenge because of limited experience with the language of learning and teaching (LOLT)*". Participant E disagrees and argues, *"Learners are able to read English."* This reflects the differences in approach, training and facilities. That is where it is possible to consider workshops and learning from each other through networking.

Participant L noted that, "*They have a hard time grasping abstract concepts".* Understanding abstract concepts is necessary for the understanding concepts. It also means that the development of language is incomplete. Participant K agrees, "*They struggle with language leading to multiple problems grasping concepts.*" According to the educator, children who have a hearing impairment "struggle" in their language development and lack knowledge of abstract concepts. One of the techniques to deal with intellectual development is having excursions.

Participant K commented, "*Having educational excursions is best way to encourage understanding by learners of what they learn through experience.*" Excursions or visits to a learning situation help learners to remember better because they have been engaged practically. Skills development is an important element of ensuring that learners get career awareness. This is reflected by comments by some of the participants as follows:

Participant B: "*They learn independent living skills such as cooking, taking personal care, learning the skill for skill development.*"

Participant D: "*They learn skills such as carpentry, woodwork, metalwork, technical drawing, and gardening.*"

Participant F: "*They learn vocational subjects, needlework, hairdressing, beauty and nail, upholstery, cooking, woodwork and arts and crafts.*"

Participant G: "*I teach them skills of their age since they are staying in the hostel. During life skills period, take them to the hostels to make beds, taking them to the garden, watering plants and trees around the school.*"

Participant K: "*I teach them about handling finances and about income tax.*"

From the above comments by the participants, it appears teachers are actively engaged in teaching their learners with hearing impairment, a variety of skills for independent living. Personal care is important for physical wellness as well. Being able to bathe, make a bed and cooking are considered skills necessary for independent living and important for career wellness. One should be able to live independently while working and skills such as cooking become handy. Hearing-impaired learners are taught different skills that can be possible future careers. Gardening, hairdressing, woodwork, upholstery, needlework, welding, hospitality, and technical drawing are some of the skills that can develop into future jobs. The Life Orientation (LO) teacher plays an active role in developing career awareness of the learners.

Participant J indicated that, *"The Life Orientation subject has a component where learners must complete a task regarding careers".* This suggests that the LO teacher plays an active role in teaching learners about careers.

Participant G corroborated that, *"We visit career expos to learn about different careers".*

It is not all interviewees who felt that career awareness were an important part of the school programme.

Participant F remarked, "*Career awareness is not a priority.*" For the young children in the foundation phase, the strategy was not to make them do the work because they were still young.

Participant L commented that, "*My learners are very young but using DVDs of different people doing different work, they become motivated*". This is done to make the learners aware that different jobs exist and they see them doing the work and can answer questions about what they see.

Spiritual awareness is an important component of most of the schools as can be noticed from the following comments by the participants.

Participant A: "*One support staff member preaches to the learners every Sunday while interpreter is there to assist.*"

Participant F: "*Spiritual awareness plays an important role in our school.*"

Participant H: "*Early morning, we start prayers for the day. When we are at assembly, we teach morals.*"

From the above extracts from interviews, there are spiritual awareness programmes in most of the schools with hearing-impaired learners. In such programmes, morals and awareness of their spiritual being are actively taken care of. However, participant K gave a different view, "*They have little knowledge of spiritual life because you may find that in the area that they live he/she is the only one deaf. People in the community don't know sign language as to interpret for them.*"

The absence of an interpreter was also mentioned as a negative development. Participant H who said, "*There are no interpreters at school assembly to teach morals".* The absence of an interpreter meant that no one could explain to them about spiritual awareness.

Interviews with the educators revealed that learners who were hearing-impaired were generally, physically healthy. This is evident in the following comments by some of the participants:

Participant B: *"They have good physical development through well planned diet."*

Participant C: *"The government, through the social development, assist learners with the National Schools Nutrition Programme (NSNP) for health needs."*

Participant F: *"Learners are generally alert and willing to learn."*

Participant I: *"Sport contributes to their physical well-being."*

The above comments by the interviewees show that the provision of meals at school ensures that learners are physically well. Involvement in sport also provides positive benefits. On the question whether regular health screening was necessary for the learners with hearing-impairment, teachers were divided; with some supporting the idea while others did not. Some of the participants who supported regular screening commented as follows:

Participant D: *"Physical condition may be identified by regular screening."*

Participant K: *"Regular screening may prevent serious health conditions."*

The above interviewee, a proponent of regular screening, felt it was important to ensure continued good health for people with hearing impairment. However, participants G and L did not see the necessity of having regular screening. Participant G commented that, *"Deafness, in fact is not sickness. If the child has been diagnosed as deaf I don't see any need for regular medical screening since it won't change the deafness of the child.*" Participant L concurred with the idea, *"Deaf learners according to my knowledge and experience are not sick".* This indicates that the educators did not see any need for medical screening just because somebody was hearing impaired. Some of the educators had some reservations about the extent of the learners' physical well-being.

Participant A commented that, *"Some of the learners underperform in what they do due to their severe physical conditions".* The participant made it clear that those who underperformed were learners with severe physical conditions. This would also imply that those, whose conditions were not severe, did not underperform. Participant J argued that, *"They are healthy but they are slow compared to the normal."* Participant E noted that physical wellness had a direct effect on

academic performance by commenting that, *"The learners' physical wellness contribute to the level of academic performance according to the learner's ability."*

The participants generally felt that hearing-impaired learners experienced several challenges in their emotional well-being. The extract below, from a conversation between the researcher and participant K indicates these challenges.

Researcher: *"How well do learners with hearing impairment deal with their emotions?"*

Participant K: "As far as I know and from my experience, it is not good".

Researcher: *"Can you please explain further."*

Participant K: (Coughs) *"At school they can get out aggressively. Some cry and others just withdraw."*

Researcher: *"Under which circumstances do the learners display such behaviour?"*

Participant K: *"When they want to express displeasure or when they are going through stressful situation."*

Researcher: *"What do you do when they display unacceptable behaviour?"*

Participant K: (Short pause) *"I try to cool them down. For example, there is a boy named James, he has serious temper tantrums. He is sometimes violent. I restrain him. After some time he cools down. He has no friends because no one wants to play with a violent person."*

The above interview indicates that some of the learners with hearing-impairment are violent and emotionally unstable. The "cough" and "pause" by the participant shows negative feelings towards some of the learners. The same feelings as reflected in the comment by participant who commented that, *"They can become negative and it is very difficult".*

Participant H indicated that, *"They just go with the flow".*

Participant H felt that it was difficult to rely on learners who are hearing-impaired. One participant did not think learners who are hearing-impaired dealt sufficiently with stress. Participant J confirmed that, *"I think they do not cope sufficiently to stressful events".* However, other participants who were more positive opposed this statement. Participant A indicated that, *"It depends on the support they receive as well as the coping skills they were taught."* Another participant supported the role of the school environment to corroborate the idea. Participant G submitted that, *"With support from teachers through SBST, some of the learners are able to accept their challenging behaviour".*

In some schools, they have a counsellor who addresses the emotional needs of the learners. The ability to identify one's strengths and weaknesses is an important aspect of one's emotional wellness. Findings were that most of the participants felt that learners with hearing impairment were aware of their strengths and were able to deal with their weaknesses. The comments from the participants below are some of the positive comments by the teachers:

Participant B: *"They are aware of their strengths and weaknesses."*

Participant D: *"They know what they can do and cannot do. This helps them in their learning."*

Participant E: *"They appreciate what they are not good at."*

Participant G: *"They are aware of their weaknesses but some are a bit impaired".*

According to the participants, learners with hearing impairment are aware of their strengths. However, some of them are unable to effectively identify their strengths and deal with their weaknesses. According to participant J, *"Learners are cautious and ask a lot of questions".* This helps them to deal with things they are not sure of. Learners with hearing impairment are able to realise their mistakes.

Participant I indicated that, "*They can feel sorry if they have done something wrong and try to correct it*". However, the home environment did not help much because of family members who could not sign. Participant G noted, "*It is difficult for them to deal with stress because in most times they live with people who do not know sign language, especially at home*". Lack of communication is a barrier to dealing with their weaknesses.

The teachers felt that the social wellness of the learners depended on their environment. Among themselves, especially in a special school environment, learners with hearing-impairment showed positive social wellness. The following are observations from some of the participants:

Participant C: *"We talk a lot in class about the current news, government laws and human relationships."*

Participant D: *"I do study duty, and they sit and make jokes".*

Participant G: *"Educational excursions give them a chance to learn and socialise."*

Participant I: *"The social well-being is taken care of through sport".*

Participant J: *"They can enjoy and concentrate watching DVD".*

From the educators' point of view, learners with hearing-impairment enjoy sharing news and making jokes. They also enjoy sport, watching DVD movies and educational trips. Sport and educational excursions give them a chance to socialise. In addition, leadership camps also give them a chance to develop a sense of responsibility.

Participant F indicated that learners *"Learn to take responsibility.*" However, one of the participants displayed a mixed reaction.

Participant K indicated that, *"Positive at school and negative at home because there is no communication".*

This shows that the school environment plays an important role in the socialisation of the child with hearing-impairment. The teachers also meet the children's social needs at school through some initiatives.

Participant H noted that, *"SBST assist learners experiencing* extreme *poverty with some of their needs such as clothing and toiletry".*

Such initiatives are social responsibilities for the teachers assisting children with hearing-impairment from poor backgrounds or orphans. The educators noted that socialisation with people who could not sign was not easy to achieve.

Participant A said, *"They cannot communicate with someone who cannot sign and have trouble understanding them."*

With difficult communication, socialisation was not easy to achieve. Participant E felt that who were hearing-impaired were not socially aware.

Participant E commented, *"They don't differentiate from good and bad."*

Most of the participants felt that having a social worker in the school would help address some of the social needs of the learners.

6.4.3 Theme 3: Curriculum adaptation and multidisciplinary team are important supports needed to address barriers to learning.

The participants indicated their perspectives on professional support on curriculum and the availability of multidisciplinary support. They reported that the current state of the curriculum adaptation in the special schools was limited. This is evident from some of the comments by participants.

Participants D commented that, *"Curriculum adaptation by the Department of Education is minimal".* Participants C and H viewed the need to adapt examinations and content in the curriculum. Participant C commented that, *"GDE (One of the regions) expect from us to offer Caps curriculum without adaptation."*

Normally, when a new curriculum was introduced, teachers were trained in the teaching of the curriculum. For the Curriculum Assessment and Policy Statement (CAPS) curriculum, this was done for all subjects and phases. Training was done for the Foundation Phase then it was extended to the Intermediate and Senior Phases. The training of teachers involved all the teachers; including teachers of learners with hearing-impairment. Comments by participant C suggest that the training did not consider disabilities such as hearing impairment. Participants E and A gave comments, which supported those given by C as can be seen below:

Participant E commented that, *"Especially subject facilitators do not understand the needs of learners who are hearing impaired".* The subject facilitators are the professionals based at regional officers; who are responsible for the training of teachers and ensuring that there is effective implementation. The comment that they did not understand the needs of learners with hearing impairment means the Curriculum Implementers (CIs) did not suggest ways of implementing the curriculum with the learner with hearing-impairment in mind. Participant A commented that, "*There is need for more support from inclusive education sector on implementation of the curriculum".*

Participant G suggested the need for deaf-friendly examinations whereby questions were adapted to exclude questions requiring knowledge of sound, "*Deaf- friendly examinations instead of expecting teachers to adapt".* This means the examiners, in this case, teachers, had to adapt the questions to suit the disability of the learner. With adequate training, teachers should be able to adapt the examinations. However, as a follow up question to the question, the participant clarified the view as seen in the following interview extract:

Researcher: "*Who do you expect to adapt deaf friendly examinations?*"

Participant G: (Looking surprised by the question) "*The Department of Education should adapt not us the teachers.*"

Researcher: "*How will that help the learner writing the examination?*"

Participant G: (Confidently) "*It helps the learner to personally read the questions in the examinations. It saves time and also ensures that the questions are interpreted in the way that they were intended by the examiner.*"

From the above extract, it is clear that participants feel the Department of Education did not have a policy to adapt examinations for people with hearing impairment before they were dispatched to schools. Support in adaptation is also viewed in terms of appropriate teaching/ learning materials. Participant E noted that, *"The Department of Education should find ways of procuring appropriate teaching and learning materials for the learners".*

This sentiment from the participant points to a need for the procurement to be a responsibility of the Department of Education. Participant G suggested the need for, *"Provision of teaching and learning materials to improve academic work".* The participants focused on one aspect of wellness; "academic", although the materials could be used to enhance wellness in career, emotional, social, physical, as well as spiritual wellness.

Participant C noted that, "*Support comes in provision of hearing aids by health personnel".* Hearing aids can enhance the hearing of some of the hard-of-hearing learners. Participant H supported, "*It is easier, more natural for deaf learners to translate the visual SASL into meaning and knowledge".* From the participant's comment, it is appropriate to deduce the importance of SASL in visual communication. According to the participant, SASL has to be translated into "meaning and knowledge". Sign language is used to make learning meaningful in relation to the LOLT.

Learning in a crowded space is not conducive for any learning experience. This also applies in the case of classroom space for hearing-impaired learners. Participant J noted that, "*More classrooms are needed for learners to learn in a free space*". The provision of sufficient learning space makes learning meaningful and appropriate. The participants felt that there is a need for a multi-disciplinary approach as part of support to teachers. The following views by Participant D, E, J and I reflect that participants expected a wide range of professionals to support teachers in the school setting.

Participant D: "*Support comes through SBST, SAPS, health personnel assist in addressing barriers to learning.*"

Participant E: "*The school does not have many health professionals for example Counsellors, Social Workers, Physiotherapists, Occupational Therapists, and Dietician.*"

*P*articipant F: *"The health promoting schools by the Department of Health by nature is a good example of support.*"

Participant I: "*The SBST invites SAPS members to speak about safety and other issues*."

Participant J: "*Multidisciplinary support is not complete*."

In order to get more information from Participant J on Multidisciplinary approach, the researcher probed for more information in the conversation below.

Researcher, *"Why do you think multidisciplinary support is incomplete?"*

Participant J: *"There are no direct service personnel in most schools to support teachers to address barriers to learning."*

Researcher: *"Which personnel do you have in mind?"*

Participant J, *"Psychologists and counsellors can go a long way in supporting teacher efforts.*

The teacher cannot do all the work of being counsellor, social worker and so on."
Researcher: *"What do you think should be done to solve the problem?"*

Participant J: *"Such personnel can be employed by the DBE because they are an essential workforce at a special school"*

Participants F and J's comments show that in some schools, support of a multidisciplinary nature was not present or was inadequate and also suggested what could be done to solve the problem. However, participants D, F and I appreciated the support given by some of the professionals from outside the school coming to support the school in a multidisciplinary approach. The schools' SBST plays an important role in facilitating the multi-disciplinary approach. This was only possible where the SBST was active. However, where the SBST were not active, it led to the opposite happening. This is evident in the comments by one of the participants:

Participant J said, *"SBST does not give support."* and *"We need interpreters".* The participant's comment about interpreters is important for educators who were not conversant with the South African sign language. The participants noted that networking was limited. With limited networking, educators were not able to learn from each other's experiences. This negatively influenced how they addressed barriers to learning.

6.4.4 Theme 4: More programmes should be introduced to address academic, career and spiritual wellness dimensions

Concerning academic wellness, participants indicated that there were limited opportunities for the training of teachers. Participants B, D, G and I concurred, suggesting that there was a need for more training and workshops as seen below:

Participant B: *"More workshops for educators on curriculum adaptation".*

Participant D*: "There is a need for training of teachers in sign language by SLED, curriculum adaptation and sexual abuse awareness."*

Participant G: *"Training and workshops should be continuous, not once after ten years".*

Participant I: *"Need for training of teachers a must".*

The participants echoed the same sentiments that training and workshops should be conducted regularly. They were also specific by mentioning sign language, curriculum adaptation and sexual abuse awareness. However, the teachers acknowledged that some training and workshops were taking place. Participants E, H and J indicated that the training and workshops were benefiting the educators in addressing barriers to learning.

Participant E: *"More workshops for educators to meet and share ideas on curriculum implementation".*

Participant H: *"Those (teachers) who have training in special needs are able to deal effectively."*

Participant J: *"There is school based training of teachers."*

Workshops are a good forum for sharing ideas on their experiences in addressing barriers to learning. It is through sharing ideas and learning from success stories that other teachers can learn from those experiences. Teachers who are trained in inclusive education are aware of the theory and practice of dealing with barriers to learning. Participant J indicated that in the school where she was teaching, there was active school based training taking place.

6.5 SUMMARY

This chapter focused on the themes developed from interviews with the eleven teachers who were interviewed. Five themes emerged from the interviews. The findings revealed that the extent of support for the teachers in addressing the barriers to learning of the learners with hearing

impairment was not sufficient. More support is needed from the department of education, other departments and support services. The findings also revealed that a number of positive initiatives are made to address some of the wellness dimensions. More needs to be done to address the academic, social, emotional, career, and spiritual dimensions.

CHAPTER 7
DISCUSSION OF THE FINDINGS

7.1 INTRODUCTION

The chapter discusses the findings; both quantitative and qualitative, to reveal how they complement each other. Literature control will be conducted using previous studies to support or refute the findings. The discussion is presented according to themes.

7.2 DISCUSSION OF FINDINGS

7.2.1 Theme 1: Academic challenges of communication and reading are major barriers faced by learners with hearing impairments

Findings from the interviews revealed that communication with other people was ineffective. Teachers indicated that learners with hearing impairment could not communicate effectively with other family members. The findings of this study are similar to a study by Szymanski, et al. (2013) conducted in the USA which discovered that most direct service personnel were not competent in the sign language. Lack of competence in the sign language led to communication challenges with learners who were hearing-impaired. On the contrary, a study by Strong and Prinz (1997) revealed that children who were hearing impaired with parents who were also hearing impaired outperformed children of parents who were hearing in English literacy. This confirms that early exposure to sign language is an advantage when learning a second language (Marshark & Hauser, 2009; Mcllroy, 2010).

Inappropriate teaching strategies also contributed to the communication challenges involving learners with hearing-impairment. This study revealed that some educators lacked effective teaching strategies, for example, making sure that all the learners can see you. Solvang and Haualand (2014) challenge teachers to use appropriate teaching techniques including facial expression to get the full motivation of the learners. Late intervention was also blamed for communication challenges. Participants in this study suggested that there was a need for early intervention. They also noted that some of the learners were not motivated and therefore concluded

that these learners were poor communicators and learners. Without motivation, it becomes difficult for the learner to communicate. Archbold and O'Donoghue (2009), and Solvang and Haualand (2014) provided evidence that learners appreciate and value being able to read and write and not merely being able to sign. A study by Thomas (2015) revealed that a learning situation that was relevant and authentic for learners motivated the learners. The findings of this study were that educators felt that tasks should be relevant to the daily lives of learners with hearing-impairment and not something abstract. Confirming the findings from this study, Marshark and Hauser (2012) discovered that learners with hearing impairment enjoyed doing personalized activities. For example, a child who enjoys drawing can be given artistic activities. However, some of the participants felt that communication with the learners with hearing-impairment was good. A study by Storbeck (2000) in South Africa gave similar findings to this study; an educator who is proficient in the sign language impresses learners with hearing impairment. The quantitative findings concur with the qualitative results, with 93% of respondents giving positive responses for its importance in the education of learners with hearing impairment. Research data support the importance of communication by supporting a strategy that uses a class teacher and an interpreter in an inclusive classroom (Shirmer, 2001).

Adults who were hearing impaired also played a positive role in introducing new learners to sign language and the deaf culture in most schools. Studies by Nikolraizi, Vekiri and Easterbrooks (2013) and Peel (2004) produced similar findings that deaf adults play an active role in educating hearing-impaired learners about the deaf culture and sign language. Findings from the qualitative data revealed that early intervention enhances communication. Early introduction of any intervention programme addresses early challenges such as poor communication. Studies by Gosjien (2001) and Szymanski, et al. (2013) confirm the findings on this study on early intervention that it gives a supportive and stimulating environment for learners with hearing impairment in their intellectual development. Evidence from a study by Kirk, Gallagher and Anastasiow (1997) also support early intervention by revealing that it has the benefits of avoiding developmental delays that usually lead to poor performance in academic wellness. Recommendations by the Department of Education (2008) are that Early Childhood Development (ECD) benefits all learners experiencing barriers to learning, including learners with hearing impairment. The availability of ECD programmes support this study.

7.2.2 Theme 2: Teachers share mixed views in different wellness dimensions of their learners with hearing-impairment

The wellness perspectives of teachers in physical, emotional, intellectual, social, career, and spiritual dimensions showed varied extents. The findings from the interviews revealed that sign language plays an important role in intellectual wellness. Participants indicated that the amount of knowledge comprehension depended on their competence in sign language. However, the educators felt that visual SASL needed to be translated into meaning and knowledge. In developing their intellectual wellness, deaf learners use the sign language to communicate. The findings are in line with studies that recommended the use of sign language as the first language and on the use of a language of teaching and learning throughout the school day (Shirmer, 2001). A classroom that uses an interpreter has two teachers from pre-school to high school. One teacher is hearing and the other deaf and both use the sign language for face-to-face communication. The hearing teacher assists in reading and writing, using the LOLT (Marshark & Hauser, 2012). The benefits of an interpreter are also explained by Thomas (2015) and Solvang and Haualand (2014). However, as in most special schools for learners with hearing impairment, only the sign language is used as a mode of communication for learners with hearing impairment and limits the use of the LOLT like English, for reading and writing only (Storbeck, 2000). It is important for both parents and educators of learners who are hearing impaired to be able to communicate in the sign language (Storbeck 2009: 354) However, few educators who can hear have the fluency to teach and help learners develop the first language. When the fluency is not achieved, teaching and learning become complicated (Storbeck, 2009: 354). This also makes the learning of the second language difficult. With support from assistants who are hearing impaired, however, learning becomes easier because the best educators of people with hearing impairment are the people who are hearing impaired themselves (Bickham, 2015; Nikoraizi, et al., 2013; Gosjean, 2001).

To develop bilingual education, educators who are fluent in signing skills and have acquired theory and practice of teaching learners with hearing impairment, can deal effectively with barriers to learning of learners who are hearing-impaired (Storbeck, 2009). Institutional support as well as additional support is needed in order for them to address the learners with hearing-impairment's barriers to learning (Dalton, et al., 2012; Marshark & Hauser, 2012; Thomas, 2015).

Educators strongly felt that most learners with hearing-impairment were unable to read on their own. The learners also lacked knowledge in abstract concepts. A study by Storbeck (2000) in South Africa, yielded similar results by revealing limited understanding of abstract concepts. Quantitative findings also support these findings, with respondents indicating competence in reading and writing with a 58% rating that it was highly inadequate. A study by van Staden (2013) confirms the findings from this study that discovered that many learners with hearing impairment lag behind their hearing peers by several years. A study by Apel and Masterson (2015) also produced similar findings with this study, by establishing that there was a low level reading ability by most children with hearing-impairment. When they entered high school, the average child with a hearing impairment was very low (Hoffman & Wang, 2012). Staden (2013) indicates that many children who are hearing impaired lag behind children who can hear in their reading ability. Studies show that learners who are hearing-impaired have problems acquiring vocabulary because of learning visually rather than linguistically (Bickham, 2015; Mich, Pianta & Mana, 2013).The vocabulary is also limited because they cannot engage easily into incidental teaching (Benedict, Rivera & Antia, 215). In order to promote reading, Cummins (2007) argues that learners can be assisted through exploiting finger spelling as an effective tool for reading.

Educators suggested that the best approach to teach learners with hearing impairment was to make learning experiences as practical as possible. Practical activities give learners with hearing impairment the skills they need (Archbold & O'Donoghue, 2009; Marshark & Hauser, 2012). Skills were necessary for career education. This could be achieved through excursions or visits to a learning venue. Participants felt that skills development was an important element of ensuring that learners got career wellness. Educators indicated that they were giving skills in woodwork, metalwork, hairdressing, cooking, and gardening. Quantitative findings revealed negative ratings on career awareness with 36%. Quantitative findings also revealed low levels of careers available for people with hearing-impairment with only 32, 7% positive. Mcllroy (2010) and Thomas (2015) supported this trend by revealing that there were fewer careers available in the community. Concerning career outcomes, several researchers reported that learners who were deaf or hard of hearing were ill prepared for the world of work (Solvang & Haualand, 2014: Marshark & Hauser, 2013; Storbeck, 2009). This supports findings of the study that career awareness was not a priority at some schools.

Qualitative findings revealed that spiritual awareness is an important component of most of the schools. However, in some cases spiritual wellness was not catered for because of a lack of an interpreter. Quantitative findings revealed that positive ratings of spiritual wellness for the hearing-impaired learners were 48% of the respondents. Briesterhuizen (2005) reports that spirituality is remote from experiences of people who are hearing impaired. This is attributed to the use of the spoken language when spiritual information is being taught. Scripture stories were given in the spoken language, using symbols and cultural backgrounds that deaf people could not relate to. However, some people who are hearing impaired regarded their disability as a special gift from God (Burke, Kushalnagar, Mathur, Napoli, Rathman & Vangilder, 2011).

The interviews revealed that learners with a hearing-impairment were generally physically healthy. This was attributed to the provision of meals at school. These findings were supported by other research studies that revealed that physical wellness leads to positive health in an individual and is manifest by quality of life and well-being (Dunn, 1959; Florence, et al., 2008; Marshark, 1998). Involvement in sports also provided positive benefits for physical fitness. Health promotion provided access to a range of health-care and wellness systems, including diet and exercise (Fore, Jaen & Barker, 2008).

Findings from the interviewed teachers revealed that learners with hearing-impairment experienced challenges in their emotional wellness. The quantitative research findings supported the trend that revealed that 24% the respondents were positive. Greenberg (2003: 78) argues that some people who are hearing impaired have poor vocabulary associated with emotion. The same author adds that they act impulsively and that they have reduced emotional control. John (2009: 70) reports that some deaf children are impulsive and are likely to struggle with self-concept in dealing with challenging situations. This becomes more severe in the absence of a role model (Hauser et al., 2010). The qualitative research findings revealed that learners who are hearing-impaired experienced emotional challenges by showing signs of being violent and emotionally unstable. Kirk, et al. (1997: 280) revealed that personality inventories point out that children who have a hearing impairment are not well adjusted. Some of them exhibited rigid, egocentric and impulsive character (Kirk, et al. 1997: 380).

The quantitative research further findings revealed that 26, 1% of teachers rated learners with hearing impairment were capable of dealing positively with failure. Gascon-Ramos (2008) and Kauppinen and Jokinen (2013) concur that most learners with hearing-impairment act impulsively when faced with difficult situations. Some of the participants in the qualitative study were more positive where they admitted that with support, learners were able to deal with challenges. Support from the school is therefore necessary. A study by Hindley (2000) in the United Kingdom revealed similar findings with this study that barriers within an environment that is not deaf friendly may create negativity in a learner with hearing-impairment. A better and healthier self-concept is attributable to a supportive school and home environment. A study by Mcllroy and Storbeck (2011) in South Africa, confirmed the findings of the current study where participants with a hearing-impairment appreciated their families for empowering them with the oral home language as a foundation for later development of sign language. A study by Hauser, et al. (2010) in the United Kingdom yielded the results that with little support, learners with hearing-impairment experience frustration and pain of isolation. Other studies also support learning environments that meet the needs of learners with hearing-impairment (Grosjean, 2001; Unesco, 2012; Szymanski, et al., 2013).

The ability to identify strengths and weaknesses are important in dealing with social and emotional wellness. Qualitative analysis revealed that learners with hearing impairments were aware of their strengths and were able to deal with their weaknesses. Positive opportunities that meet the learners' emotional, social and academic needs sufficiently enable learners with hearing-impairment to be able to develop positive identities (Mcllroy & Storbeck, 2011). In special schools, they socialize and learn from others about deaf culture (Gascon-Ramos, 2008). Some of them were unable to effectively identify their strengths and deal with their weaknesses. Learners with hearing impairment are able to realise their mistakes.

A lack of communication is a barrier to dealing with their weaknesses. To enhance communication, the role of parents and other family members communicate visually provides accessible relationships and other family members (Marshark & Hauser, 2012). Peer socialisation and the efforts and influence of the adults who are hearing impaired at school play an important role in the development of language and social wellness (Gascon-Ramos, 2008).

The teachers felt that social wellness of learners depended on the environment in which they were. Several studies highlight the benefits of a suitable environment that promotes positive learning for persons with hearing impairment (Archbold & O'Doghue, 2009; Marshark & Hauser, 2012; Mcllroy, 2010; Storbeck, 2009). Learners with hearing-impairment showed positive social wellness among themselves, especially in a special school environment. They enjoyed doing sport, watching DVD movies and going on educational trips. Sport and educational excursions give them a chance to socialise. In addition, leadership camps also give them a chance to learn to take responsibility. According to John (2009: 70), maladaptive behaviour among some children with hearing impairment leads to social isolation. This was particularly true in inclusive settings where communication was not well enough (Dalton, et al., 2012). In order to ensure that socialisation is enhanced, the Wheel of Wellness model is an important model; focusing on work, friendship and love (Solvang & Haualand, 2014).

The participants noted that social wellness was hampered by communication difficulties between the hearing and the hearing-impaired. A study by Storbeck (2000) in South Africa gave similar results that communication plays an important role in relationships with people who can hear. Storbeck (2000) noted that relationships with people with hearing impairment were more positive where the person who can hear signed rather than used oral communication. Some participants therefore, felt that with difficult communication, socialisation was not easy to achieve. However, a study in South Africa, conducted by Mcllroy and Storbeck (2011) was at odds with the findings of this study in that it discovered that people with hearing impairment were eager to forge positive relations with their hearing families and their teachers.

7.2.3 Theme 3: Curriculum adaptation and multidisciplinary team are important supports needed to address barriers to learning.

Both quantitative and qualitative findings revealed the importance of curriculum adaptation and multidisciplinary team supports in addressing barriers to learning. Quantitative findings revealed that 37% of the respondents felt that support services were not readily available for learners who are hearing-impaired. A number of support services lack in provision. Conversely, findings from

the qualitative study revealed that the current state of curriculum adaptation in special schools was limited. A study by Storbeck (2000) in South Africa discovered that the majority of teachers of learners with hearing impairment failed to adapt because they were not trained in deaf education. This lack of training also manifests itself when the educators could not identify barriers to learning. Most of the participants indicated that curriculum adaptation by the department of education was minimal and uncoordinated.

The California Department of Education (1999) in the USA found that uncoordinated programmes in schools and in regional set ups were a hindrance to curriculum adaptation. They also commented that monitoring by subject facilitators (CIs) was not effective because they were not aware of the needs of learners with hearing-impairment. The subject facilitators are the professionals based at regional officers who are responsible for training of teachers and ensuring that there is effective implementation. Quantitative findings also revealed that access to the curriculum was not positive, with 44% of the respondents rating that there was negative access. A study by Haualand and Allen (2009) in Sweden revealed that the level of education of the children with hearing-impairment was poor, low and unacceptable. The DoE (2014) in South Africa supported the findings by acknowledging that there were low levels of support to address the barriers of learners with hearing impairment. More psychosocial support to manage behavioural challenges associated with the child's disability was also necessary (DoE, 2013). The DoE (2014: 16) suggests that there should be specialist support staff. The level of support in South Africa is generally low (Dalton, et al., 2012: Storbeck, 2009)

The qualitative studies revealed that children with hearing-impairment acquire limited use of language (Benedict, et al., 2015; Hoffman & Wang, 2010; Kelly & Berent, 2011). Learners with hearing impairment face several challenges mastering content subject material and engaging in independent study (DBE, 2013; Donald, Lazarus & Solvang, 2010; Storbeck, 2009). Limited language interferes with the ability to understand and comprehend concepts. Their vocabulary is also very limited because they cannot engage easily into incidental learning. In a classroom situation, the children with hearing-impairment exhibit difficulty in spelling and vocabulary. They also demonstrate difficulty interpreting information and appear to tire or give up easily.

The participants also spoke negatively about the lack of deaf-friendly examinations suitable for people with hearing impairment. They were placed in the hands of the teachers who were expected to adapt the examinations so that the learners with hearing-impairment could access them. Assessment for learners with hearing impairment is not well provided for. This makes it challenging, consider the findings of the Virginia Department of Education (2012) in the United States that a third of learners with hearing-impairment had additional disabilities. It is the responsibility of the specialist teacher to differentiate and adapt common examinations. Low levels of support in assessment on examinations are a concern for many researchers and educators in education of people with hearing impairment (DBE, 2014; Gascon-Ramos, 2008; Storbeck, 2009).

Both quantitative and qualitative findings revealed the lack of appropriate teaching and learning materials. According to the findings from the quantitative research, 44% of the respondents felt teaching and learning materials were urgently needed in schools because they were not readily available. This includes DVDs as well as other visual materials. Appropriate teaching and learning materials are not only necessary for group learning but also for Individualized Education Plans (Dalton, et al., 2012; Marshark & Hauser, 2012; Storbeck, 2009).

In some schools, the learning space was not sufficient. Learning was conducted in a crowded space. With insufficient learning space, IEPs are not easy to implement. A study by the Virginia Department of Education (2012) in the USA, found that while small classes yielded better results for deaf learners in academic work, large classes were blamed for the poor performance of the learners with hearing impairment.

The participants felt strongly about the need for a multi-disciplinary approach to support teachers. Several studies emphasized the importance of the multi-disciplinary team (Dalton, McKenzie & Kahonde, 2012; Reagen, 2008; Strasburg, et al., 2010). Professional support included physiotherapists, occupational therapists, speech therapists, nurses, audiologists, counsellors, dieticians, and social workers. The SBST played an active role in providing support and addressing some of the barriers. However, some of the SBSTs were not active enough. The DBE (2011) identified the special role of SBSTs in providing support for the education of learners

experiencing barriers to learning; including the learners with hearing-impairment.

The participants noted that networking was limited, leading to educators not learning from each other's experiences. Studies by Schirmer (2001) in the USA and Gosjien (2001) in Switzerland discovered that the lack of networking led to teachers falling behind in developments in education of people with hearing impairment. This has negatively influenced how they addressed barriers to learning.

7.2.4 Theme 4: More programmes should be introduced to address academic, career and spiritual wellness

In addressing academic wellness, the qualitative findings revealed that there were limited opportunities for the training of teachers. A study by Storbeck (2000) revealed that opportunities for training in sign language were limited prior to 2000 but were starting to emerge. A study by Reagen (2008) in South Africa reveals that training opportunities in sign language and curriculum adaptation were limited. This confirms the findings from this study. This includes opportunities for workshops in sign language and curriculum adaptation.

The qualitative findings revealed that most teachers did not have the required training that would enable them to cope with the diversity of learners now entering schools. A study by Swart and Petipher (2000) in South Africa found that teachers were not trained with a focus to make them competent in addressing barriers to learning. A study by Chimedza (2001) in Zimbabwe produced similar findings that teachers in pre-service training were not taught to identify barriers to learning.

Workshops provide opportunities to share ideas about educators' experiences in addressing barriers to learning. It is through sharing ideas and learning from success stories of others that teachers can learn from those experiences. Workshops also provide opportunities for networking. The qualitative study revealed that networking was limited. With limited networking, educators were not able to learn from each other's experiences. This negatively influenced how they addressed barriers to learning. Sing (2013) observed that hearing teachers of children who are hearing impaired lack basic theoretical knowledge and practical skills to identify barriers to

learning**.** Most of the teachers therefore, lacked training in deaf education. A study by Storbeck (2011) in South Africa maintains that teachers face challenges of fluency in signing skills. Several studies point out that lack of pre-service and in-service training of the teachers of learners with hearing impairment led to the inability to address barriers to learning (Bauman & Murray, 2010; Burke, Kushalnagar, Mathur, Rathmann & Vangilder, 2011; Leigh, 2008; Storbeck, 2009).

7.3 SUMMARY

The discussion was presented in line with the themes that emerged from the mixed method study. The chapter focused on some of the important wellness issues that needed to be dealt with to enable successful addressing of barriers to learning. Academic wellness issues included language acquisition and learning styles such as bicultural education. Literature support confirmed some of the findings. However, some findings were at odds with the literature. For example both quantitative and qualitative findings revealed negative emotional wellness among hearing-impaired learners. However, new trends in education of people with hearing impairment suggested more positive emotional wellness (Mcllroy & Storbeck, 2011).The other focus of academic wellness issues was on learner challenges in reading while the other focus of the discussion was on the provision of support for teachers, with the literature reinforcing the general lack of support.

CHAPTER 8
OVERVIEW OF THE STUDY, MODEL DEVELOPMENT, CONCLUSIONS, AND RECOMMENDATIONS

8.1 INTRODUCTION

The findings established that teachers of the learners with hearing-impairment are aware of some of the barriers that affect their daily work in educating their learners. This chapter focuses on the overview of the study; outlines the Wellness Model to assist teachers address barriers to learning, gives conclusions, and recommendations for future study.

8.2 OVERVIEW OF THE STUDY

The study focused on how a wellness model could be developed to assist teachers to address barriers to learning affecting learners with hearing impairment. Both quantitative and qualitative findings established that learners with hearing-impairment communicated effectively among themselves using the South African sign language. Challenges in communication were evident when communicating with people who were not conversant with the sign language. Interviews revealed that learners had limited understanding of concepts emanating from inappropriate teaching strategies. The study also revealed that learners with hearing-impairment used assistive devices procured for them. Learners with hearing impairment showed great motivation to learn when effective strategies were used such as Individualized Education Programmes and the use of specialised visual materials.

Both quantitative and qualitative findings revealed that access to the curriculum for learners with hearing impairment was limited. Curriculum adaptation and availability of multidisciplinary teams were important support services needed to assist in addressing barriers to learning of learners with hearing impairment. Learners faced challenges in reading on their own. This emanated from lack of proper concordance in the Linguistic Interdependence between sign LOLT. More programmes were needed to address spiritual wellness and career wellness. The findings of the study revealed

that negative emotions by learners were a result of inappropriate teaching strategies. Findings revealed the need for more academic wellness programmes which gave educators opportunities for specialised training.

8.3 INTEGRATED WELLNESS MODEL IN ADDRESSING BARRIERS TO LEARNING

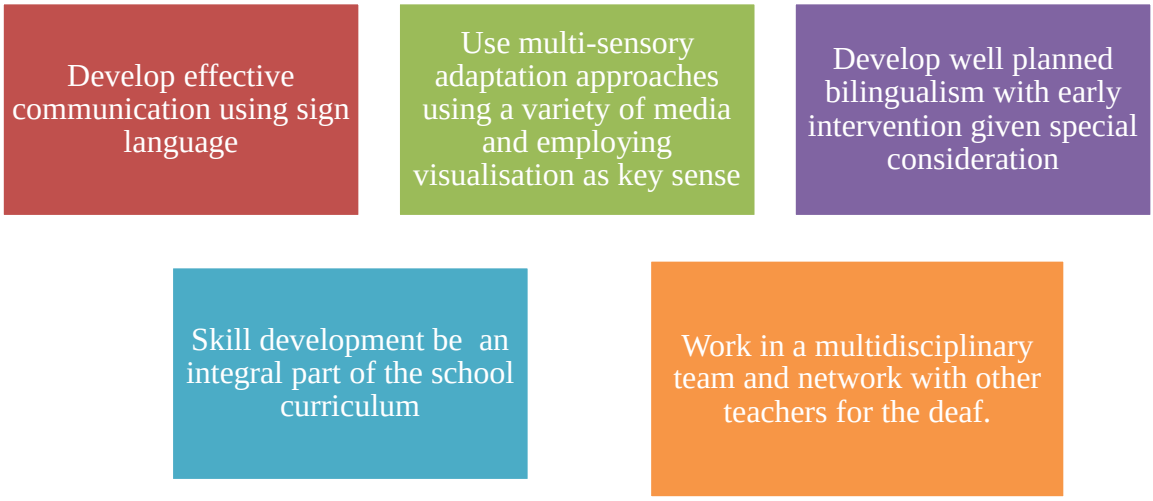

Figure 8.1: Integrated Wellness Model to assist teachers address barriers to learning

8.3.1 Develop effective communication using sign language

SASL is an important communication tool for people who have hearing impairment. The Wellness Model recommends that all educators of learners with hearing impairment should be properly trained in SASL. Knowledgeable teachers are able to teach the learners effectively in their home language. Properly trained teachers should be able to show evidence of their training through certificates. Pre-service and in service training in deaf education is encouraged so that educators gain the necessary knowledge to be effective educators of learners with hearing impairment. Pre service training is done to induct teachers in deaf education. In-service training in sign language

training should be done regularly so that educators remain relevant and effective. This helps to enhance academic wellness of learners with hearing impairment. The study acknowledges that turning the sign language into a reading and written form is not easy. The model proposes that the most effective way to teach reading in the second language, especially at the foundation phase level is finger spelling. The model hopes if English and Afrikaans are initially taught using finger spelling, it helps the learners to develop quickly how to sign the LOLT. Finger spelling allows the child to develop knowledge of specific words that they can be asked to write to show that they have grasped the word. Once a substantial vocabulary has been achieved, the child can develop competencies in reading phrases and short sentences. This can then develop into paragraphs, as the child grows older. The competency of teachers in the sign language is important for them to be effective teachers of learners who are hearing-impaired.

8.3.2 Use multi-sensory approaches with a variety of media and employing visualisation as the key sense

The study suggests a multi-sensory and multi-media approach of teaching learners with hearing impairments. Learners with hearing impairment lack the audition sense hence the need to utilise the remaining senses. Visualisation is the most important sense and in addition, tactile, olfactory, gustatory, and residual auditions are some of the senses that can be utilised. The visual sense plays an important role in the development of proper concepts. Concrete objects within the environment can be brought to class so that the learner can associate the object with its name. Where actual objects are not readily available, pictures and illustrations can be used. However, pictures are sometimes not enough to build ‘real’ concepts. Models can be used where possible to give a better idea of the real object. A multi-sensory approach makes it possible to feel, smell, taste, and see objects. Practical activities that involve the utilisation of the senses are recommended. The model lays emphasis to the need for harnessing eclectic approaches of the UDL of using different teaching and learning approaches. Focus is on using visual media such as pictures, diagrams and illustrations. The classroom itself must have a visual outlook that appeals to the learner with hearing impairment. The study also suggests that the teacher should be easily visible to all the learners, possibly seated in a semi-circle. Other media such as DVDs, movies, and for schools that can afford, the use of computers and tablets can assist in gaining more information in the learning

situation. Multimedia is used in different teaching and learning strategies such as experiments, projects, field trips and exploring the environment in various strategies.

The development of abstract concepts is a challenge to most learners with hearing-impairment. Empirical studies confirm the qualitative and quantitative findings. The researcher suggests that a good foundation of concrete concepts can be a useful basis for the development of abstract concepts. Explanation of new words using related concrete examples can be explained and demonstrated. For example, dramatization can be used to demonstrate the abstract concept 'sympathy' in which one child is sad. The dialogue develops with the other child, feeling sorry for the other's saddening situation.

8.3.3 Develop well planned bilingualism with consideration of early intervention

The model engages the Linguistic Interdependence Theory lens to develop bilingualism among hearing-impaired learners. In order for bilingualism to be effective, early detection and intervention are also recommended. For early intervention to be effective, the health personnel should play a role in making early referrals to relevant personnel in the department of education so that the deaf child can be screened and assessed for educational purposes. A child with a hearing-impairment, gaining access to pre-school education at a suitable institution such as a special school, benefits immensely in gaining the necessary foundation in all wellness areas; intellectual, social, emotional, social, physical, career and spiritual wellness. Bilingualism becomes easier to implement because of early intervention. The child who is hearing impaired develops sign language skills early. The child has an added advantage of developing the language of teaching and learning as a second language, for example, English or Afrikaans.

8.3.4 Make skills development an integral part of the school curriculum

Skills development as a prerequisite for career development is an important part of the school curriculum for learners who are hearing-impaired. Skills training should be a timetabled, weekly programme that encourages learners to engage in skills of their interest and ability. In addition, successful adults with a hearing impairment can assist learners who are hearing-impaired in their

career wellness by motivating them and advising them on possible careers for persons with hearing-impairment. Pre vocational skills can be effectively taught to learners from Grades 4 to Grade 7 in the primary school. Visits and trips to various places of work can be done as deaf awareness. Deaf awareness can involve not only seeing what is happening at places of work, but also participating in the actual work situation. Learners with hearing impairment are encouraged to make visits to career expos so that they learn about careers that are available in the community. Wherever possible, educators can organise their senior grade learners for job placements as part of their learning experience. The multi-method can be an effective approach in skills development and raising career wellness. However, for the individual to be employable, use of appropriate language and communication is necessary.

8.3.5 Work in a multidisciplinary team and network with other teachers of learners with hearing impairment

The availability of a multidisciplinary team in the school provides a suitable environment for intellectual, physical, emotional, social, spiritual and career wellness. School based counsellors, social workers, nurses, police officers and psychologists provide the necessary socio-emotional support needed by every learner. Remedial teachers, if available, give support on intellectual wellness. Visits by spiritual people such as a pastor in the school can help develop spiritual wellness of learners with hearing impairment as a separate programme of the official SBST support to the learners. The study suggests that schools should engage in weekly programmes in which learners are taught about morals and values. This can be in a school programme such as morning assembly. The study believes that weekly or regular repetition to the child with a hearing-impairment of the importance of morals helps to build a spiritually aware child. The learner should be given a chance to define their purpose in life, and what they can do; the natural gifts they got from creation. Wherever possible, spiritual sessions can be organised for the learners where spiritual leaders can teach them about spirituality. A competent interpreter should be available to ensure that career wellness is facilitated by involving employment agencies in the multidisciplinary team. Health promotion is important for physical wellness. Health promotion encourages schoolchildren to take care of their physical aspects from a young age. It also encourages learners to ascertain that their environment is clean, and free from disease. It also

encourages children not to engage in habits that do not promote good health such as eating unhealthy foods, unhealthy drinks, and avoiding sex and be clean from drugs. The promotion of sport in every school also goes a long way in promoting physical wellness. Sport promotes physical fitness. It therefore has immense benefits for the child with a hearing-impairment.

Engaging learners in drama and story-telling can develop emotional wellness in which they could practice control emotions and empathy for other people. They should also be conversations in which they look at different scenarios and solve those situations that create positive emotions. Learners with hearing impairment can be involved in dance as a way of developing positive emotions. Social wellness can be developed by encouraging friendships with visiting other schools for social events. Sporting activities can be a driver for positive social wellness with learners with hearing impairment playing sporting activities with other schools for the deaf and neighbouring schools for hearing learners.

8.3.6 Provide training in deaf education for all teachers of deaf learners

The model highlights the importance of properly trained teachers to effectively educate learners with hearing impairment:

- ***Pre service training should have a component of inclusive education, including deaf education.***
- ***In-service training should include not only training in SASL but also training in adapting the curriculum.***
- ***In-service workshops can also be conducted regularly to provide educators with latest strategies and developments in deaf education. Workshop can help educators to share ideas with other educators. University doctors and professors can be invited at such in-service workshops to train the educators on current research developments.***
- ***An important development in deaf education is that educators who are properly qualified in deaf education provide the best education to deaf learners. Attending degree programmes in deaf education provides the educators in understanding about***

hearing impairment, the sociological, psychological and philosophical aspects of people who are deaf. The Department can also provide certificated short-term courses in deaf education supported by South African Qualifications Authority (SAQA).

8.4 IMPLEMENTING THE INTEGRATED WELLNESS MODEL

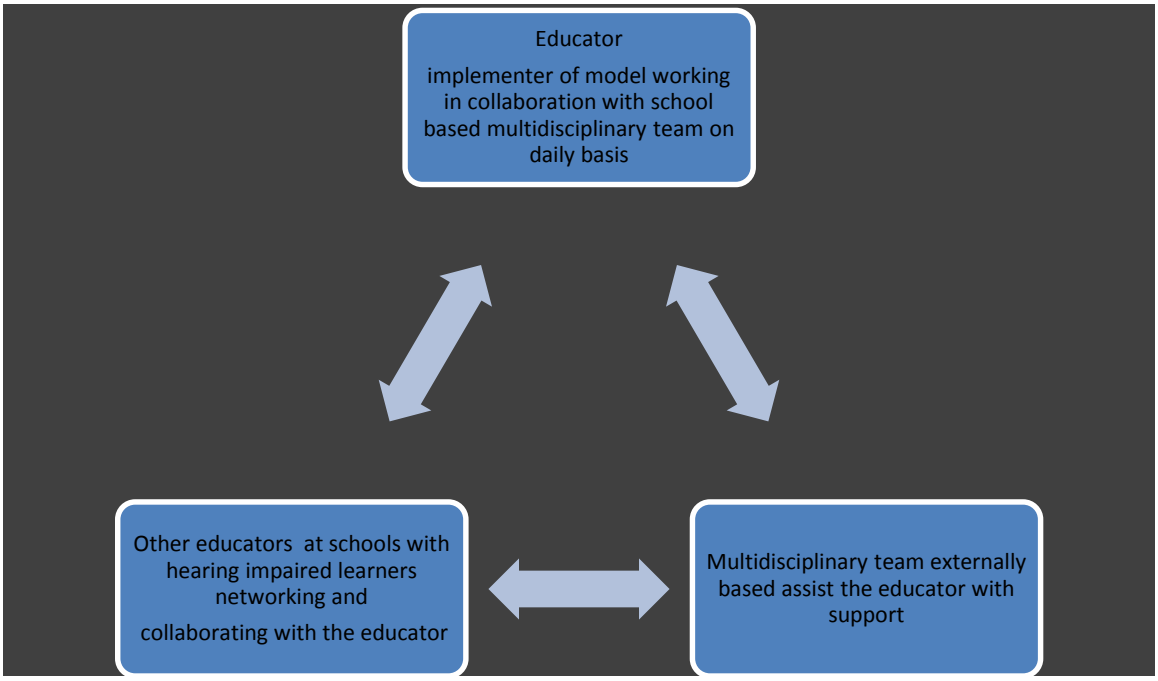

Figure 8.2: Implementing the model

8.4.1 The role of the teacher in implementing the model

The teacher is the focus person in the implementation of the model. The teacher is responsible for the classroom based addressing of barriers to learning in the classroom. The teacher's responsibility is to ensure that the academic, emotional, physical, career, social, and spiritual needs of the hearing-impaired learner are met. However, the teacher works with other teachers in the phase, for example, foundation, intermediate and senior phases. The teacher is also involved with other teachers and collaborates with them within the school. The parents of the children must be actively involved in partnership with the educator to address the learners' learning barriers holistically. The educator also networks with other teachers in other schools who are teaching

children with hearing-impairment. Within the school, the teacher is actively involved with other professionals. A number of professionals make up the school based multidisciplinary team, for example: nurses, audiologists, psychologists, social workers, speech and language therapists, remedial teachers, occupational therapists, dieticians, ophthalmologists, and physical therapists. Each of these professionals plays a specific role in the school to ensure that the various wellness dimensions are addressed. The audiologist ensures that regular tests for hearing loss are carried out on some of the learners. The school nurse ensures that all the health needs of the learners are taken care of. The occupational therapist assists in ensuring that learners are able to develop self-help and independent living skills. The physical therapist ascertains that hearing-impaired learners develop well-coordinated motor skills. The social worker plays the role of ensuring that social services are available for the learners with hearing impairment. The speech and language therapist provides therapies in the development of language for the learners. The ophthalmologist ensures that for learners with vision loss, their needs are attended. The teacher also collaborates with other non-teaching staff in the school. These include the cleaners in the school hostels, grounds staff, and nurse aides.

8.4.2 Role of the multidisciplinary team in implementing the model

The multidisciplinary team includes school based, externally based professionals, and other stakeholders. These professionals include Department of Education officials such as curriculum implementers. The CIs monitor the implementation of the curriculum in the schools and are key players; ensuring that the model is implemented. The Social Development Department provides the necessary social support in the school. The police are an active, externally based participant, educating the learners on issues of drugs and educating them to be drug free, crime free, and about their safety. The Department of Health provides the necessary support in health and health promotion. This study exposed the fact that the multidisciplinary team is incomplete in most schools in South Africa. This translates to the need for more active involvement of the externally based professionals.

8.5 STRENGTH OF THE STUDY

8.5.1 Contribution of the Three Lens Theoretical Framework to the study

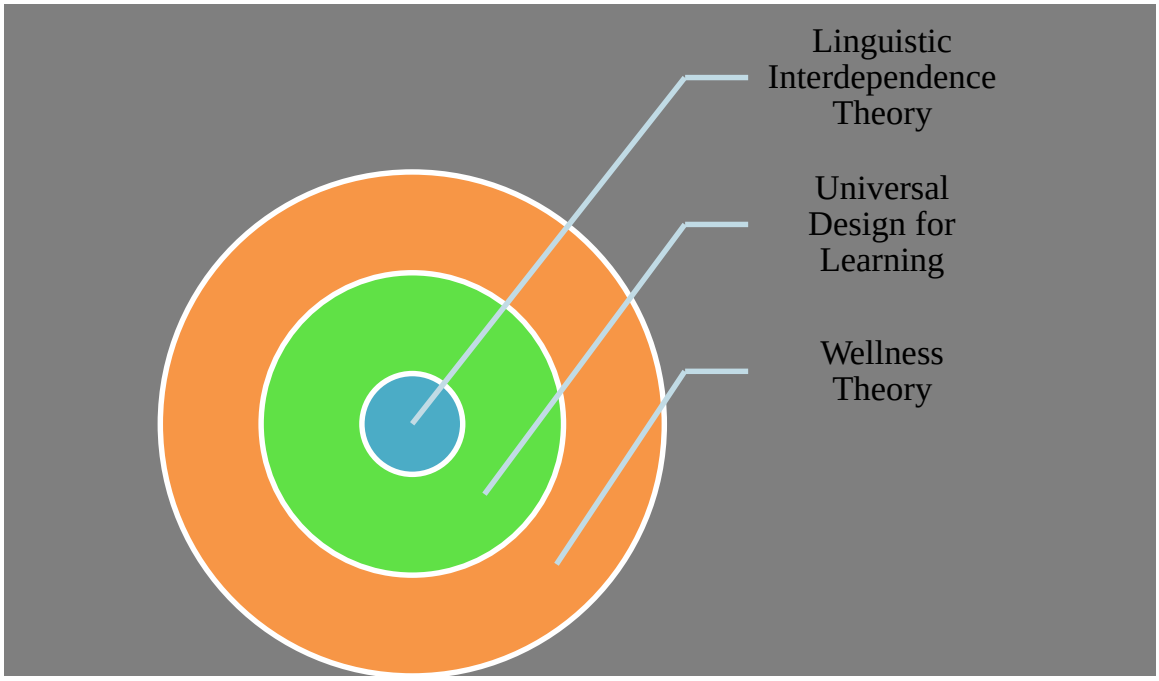

Figure 8.3: The Three Lenses Theoretical Framework

The study used an integrative three lenses perspective, namely, Cummins' Linguistic Interdependence Theory, the Universal Design for Learning and Wellness Theory. The use of the three theories as lenses enabled the researcher to unearth the roles of a variety of perspectives on how to address barriers to learning of learners with hearing-impairment. At the core of the three lens theories, is the Linguistic Interdependence Theory, proposed by Cummins. Either theory helped to understand the role of the sign language in the development of competence in the language of learning and teaching; either English or Afrikaans in the South African context. Most schools for the deaf use English as LOLT. However, the interdependence of English and SASL is not very successful in most cases because of a number of factors. Early intervention is the best way to develop both languages and this is not the case in most schools. The development of the second language for people with hearing-impairment is generally inadequate. However, with early detection and intervention, it gives the child a chance to develop both sign language and the second

language concurrently. This also ensures that the child grows to be bilingual at a young age. The researcher recommends a bilingual education programme in which from pre-school to the third grade, sign language is the language of instruction whilst English is used only for reading and writing. This gives a proper foundation for sign language development. It also gives a chance for the young child to be bilingual and develop knowledge in the second language.

The Universal Design for Learning helped this study to understand how using a variety of methods and media assisted teachers to address some of the barriers to learning of learners with hearing-impairment. A multi-method approach was unearthed in this study as benefiting learners. Teachers' use of visualisation is particularly beneficial to learners with hearing-impairment. The multisensory approach is also beneficial, making sure that the learners use all available senses to address their barriers to learning.

The Wellness Theory enabled the study to gain knowledge on how the educators felt about the learners' wellness in intellectual, physical, social, emotional, career, and spiritual dimensions. Intellectual wellness was lacking in terms of communication for non-signers. The educators also felt that learners were unable to read on their own. They also lacked proper concept development. Abstract concept formation was particularly lacking. Although some of the participants noted that hearing-impaired learners were emotionally unstable, many respondents felt that if well communicated with, hearing impaired learners showed emotional stability. If given support, the learners also showed well-developed social and spiritual wellness. A lot was being done to provide skills development for the learners with hearing-impairment. However, little understanding was unearthed on the benefits of the skills. For example, the study did not discover whether the skills would lead to employment after school. Physical wellness is catered for in most schools with the health promotion. Sport also played a crucial role in physical as well as social wellness.

8.6 CONTRIBUTIONS OF THE STUDY

The study contributes to the existing body of knowledge in terms of policy, theory and practice as outlined below. `

8.6.1 Policy

The study contributes in this regard by identifying a number of gaps in policy. The Department of Education's White Paper 6 seeks to address barriers to learning for learners with a variety of special needs. However, none of the policies uses a wellness model in dealing with addressing barriers to learning. The researcher proposed an Integrated Model that looks at a wide variety of policies that could be outlined to address the barriers. Theoretical models used are the Wellness Model, the Universal Design for Learning and the Linguistic Interdependence Theory. The researcher hopes the model and recommendations will assist policy makers to adopt some of the recommendations.

8.6.2 Theory

The study contributes towards formulating an integrated theory. At the core of the theory is the Linguistic Interdependence Theory that focuses on the development of sign language for the hearing-impaired learner from an early age. The theory further reinforces the need for bilingual education for the benefit of the child with hearing-impairment. The Universal Design for Learning gives emphasis to the need for a multi-method approach that lays emphasis to practical activities such as projects, experiments and trips in which learners learn by first-hand experience. In addition, the theory also focuses on the multisensory approach that utilises all the senses with special emphasis on visualisation. The Wellness Theory sensitises about the need to take care of the intellectual, physical, emotional, social, career and spiritual wellness dimensions in creating a whole person wellness.

8.6.3 Practice

The study contributes to practice in the following ways:

- The recommendations of the study will be shared with the schools teaching learners with hearing-impairment;
- It is hoped that the model and recommendations will assist teachers and give guidance

on what could be possible to do to identify and address the barriers of their learners;

- It is also hoped that the DBE will use the recommendations to follow up on schools during school monitoring by departmental officials; and
- It is hoped that the study will influence practice in terms of useful techniques in addressing wellness issues.

8.7 LIMITATION OF THE STUDY

The study unearthed a number of unanticipated developments that would be useful in further studies:

- Focus was on multiple dimensions of wellness and therefore not focused on one dimension. This opened up more possibilities for future research to be focused on one dimension of wellness such as intellectual wellness; and
- The study did not dig deeper into the effectiveness of skills development for future careers. This could also be a focus area for future research by the researcher.

8.8 CONCLUSIONS

The study concludes that educators are making frantic efforts to identify and address barriers to learning for learners with hearing-impairment. However, there are gaps in terms of policy, theory and practice on how they can effectively address the barriers. The major impediment is that educators lack the skill and theoretical background to be able to carry out their mandate. The DBE is not effectively providing support to schools on issues of curriculum adaptation, training in sign language and making assessments that take into consideration learners with a hearing impairment.

The DBE and provincial Departments of Education are not giving enough support to educators at special schools by making available trained support staff such as physiotherapists and psychologists to work with educators in addressing some of the issues. This study realised that the multi-disciplinary team is an important part of the education of learners with hearing-impairment.

Learners at special schools are better off in terms of sign language and understanding the deaf culture than those in inclusive settings. This calls for more efforts to be put in place for deaf awareness of hearing teachers are pre-service and in service to be trained in different aspects of education of people with hearing impairment. The Integrated Wellness Model proposes an approach to address wellness dimensions in the teaching and learning situation through the active learning of the learners**.**

8.9 RECOMMENDATIONS

The study makes the following recommendations:

- Through the voices of the educators, the study recommends that policy makers and education officials give the necessary support to schools; especially in terms of curriculum adaptation and the provision of the equipment they need.
- The study recommends that educators be trained on how to identify and address barriers to learning. This can be done through training courses, workshops, visits and staff development programmes in which they invite people with knowledge and expertise in hearing impairment.
- The multidisciplinary team approach is critical in ensuring effective wellness programmes. It is important for trained support staff, for example, sign language interpreters and counsellors to assist the educators in addressing some of the barriers while addressing different wellness dimensions.
- The study recommends that schools should focus on Whole School Intervention and Learner focused Intervention strategies in dealing with barriers to learning.
- The study recommends that in order for learners with hearing-impairment to be effective, they must be actively involved in the learning situation; mostly using the visual sense. Emphasis should be placed on translating the visual observations to facilitate effective reading, writing and concept formation.
- The study further recommends that the sign language should be used as an effective first language. For this to be possible, early intervention must be prioritized so that no child

with a hearing-impairment is left behind.

- It is important to develop the implementation of sign language as a language-in-education. This gives access to hearing children to learn the sign language as one of the official languages that they can learn as a second or additional language, even at tertiary level.
- The study recommends that early intervention should be implemented to ensure learners who have a hearing impairment develop pre-vocational skills early. It also gives learners the opportunity to develop SASL and the LOLT early for effective bilingualism.

8.10 RECOMMENDATIONS FOR FUTURE RESEARCH

The study provides a framework for further study on addressing barriers for learners with hearing-impairment. In this study, it was the voice of the educator on their knowledge of challenges they encounter while addressing barriers for their learners.

- Future studies must focus on the voice of participants who are hearing impaired, how they feel and their proposals on the usage of wellness models to deal with their barriers to learning.
- Emphasis on future studies must also focus on the evaluation of the wellness model formulated in this study. This would help to evaluate whether the model is effective and how it could be improved further.
- Future studies must also focus on evaluating sign language as a language-in-education to see how effective it is being implemented in South Africa.

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APPENDIX 1

QUESTIONNAIRE FOR EDUCATORS OF THE DEAF

The purpose of this questionnaire is to find out your perspectives on addressing barriers to learning for learners with hearing impairments. Kindly answer all questions. Do not write your name. Results are for educational purposes only. Thank you in advance for responding to the questionnaire. The questionnaire will take about 10 to 15 minutes of your time.

SECTION A: Please circle (O) the correct answer that applies to you.

1. Your gender:

Male	***1***
Female	***2***

2. Age range:

Under 20 Years	1
21- 30 Years	***2***
31- 40 Years	***3***
41- 50 Years	***4***
51- 60 Years	***5***
Over 60 Years	6

3. Home Language:

English	***1***
Afrikaans	***2***
Ndebele	***3***
Northern Sotho	***4***
Southern Sotho	***5***
SiSwati	***6***
Tsonga	***7***
Tswana	***8***
Venda	***9***
Xhosa	***10***
Zulu	***11***
South African Sign language	12
Other (Specify)	***13***

4. 1Highest professional qualification:.

National Teachers' Diploma	***1***
Advanced Certificate in Education	2
General Bachelors' Degree	***3***
Honours Degree	***4***
Masters' Degree	***5***
Doctorate	***6***
Other (Specify)	***7***

5. Teaching experience:

0-1 Years	1
2-3 Years	2
4- 5 Years	***3***
6- 7 Years	***4***
8- 9 Years	***5***
10- 11 Years	***6***
12- 13 Years	***7***
14- 15 Years	***8***
16- 17 Years	***9***
18- 19 Years	***10***
20+ Years	***11***

6. Experience in deaf education:

0-1 Years	1
2-3 Years	***2***
4- 5 Years	***3***
6- 7 Years	***4***
8- 9 Years	***5***
10- 11 Years	***6***
12- 13 Years	***7***
14- 15 Years	***8***
16- 17 Years	***9***
18- 19 Years	***10***
20+ Years	***11***

SECTION B:

Kindly complete the following statements by choosing the most appropriate selection to what applies to you by circling (O) where appropriate. Use the following key to make your selection.

5= Strongly Agree

4= Agree

3= Unsure

2= Disagree

1= Strongly disagree

	STATEMENT TO CHOOSE FROM ABOUT YOUR WORK	**R**	**A**	**T**	**E**	
1.	Easy communication with deaf learners is very important	5	4	3	2	1
2.	Learners can communicate effectively using South African sign language	5	4	3	2	1
3.	It is challenging to identify barriers to learning of hearing-impaired learners	5	4	3	2	1
4.	Learners with hearing impairment have a wide variety of needs	5	4	3	2	1
5.	Understanding deaf culture facilitates effectively identifying barriers to learning of hearing-impaired learners.	5	4	3	2	1
6.	Effective communication with hearing-impaired learners facilitates easier addressing to barriers to learning of hearing-impaired children.	5	4	3	2	1
7.	Support services are available to help teachers deal with a diversity of deaf learners	5	4	3	2	1
8.	Hearing-impaired learners are aware of a variety of careers available in the community.	5	4	3	2	1

9.	Hearing-impaired learners are aware of and able to use assistive devices (example hearing aids) to facilitate learning.	5	4	3	2	1
10.	Individualized Education Plan (IEP) helps hearing-impaired learners to learn effectively.	5	4	3	2	1
11.	Learners with hearing impairment are competent in reading and writing using language of teaching and learning (LOLT)	5	4	3	2	1
12.	Learners with hearing impairment are motivated to learn.	5	4	3	2	1
13.	Learners with hearing impairment set high goals for themselves.	5	4	3	2	1
14.	Hearing-impaired learners are able to access the curriculum.	5	4	3	2	1

SECTION C:

Wellness is a person's overall well being. It encompasses six dimensions which need to be integrated in order to develop whole person wellness. Physical wellness is about healthy lifestyle, healthy eating and exercising. Emotional wellness is about understanding and expressing feelings. Intellectual wellness is about utilising the mind. Social wellness is about creating and maintaining healthy relationships. Occupational wellness is about making a contribution to society through a chosen career. Spiritual wellness seeks to find meaning in life and appreciating own existence. Rate the wellness of your hearing-impaired learners in each of the dimensions below by placing a circle mark (O) to the corresponding to each dimension. Use the following key to select your preferred selection.

5= Outstandingly well

4= Very well

3= Well

2= Somewhat well

1= Not so well

	DIMENSIONS OF WELLNESS	R	A	T	E	
1.	How well do hearing-impaired learners control their emotions?	5	4	3	2	1
2.	How do hearing-impaired learners deal with sadness?	5	4	3	2	1
3.	How well do they manage failure?	5	4	3	2	1
4.	How effectively do hearing-impaired learners deal with academically challenging situations?	5	4	3	2	1
5.	How confident are hearing-impaired learners about capabilities of their teachers to teach them effectively?	5	4	3	2	1
6.	To what extent does curriculum adaptation facilitate effective teaching andlearning of hearing-impaired learners?	5	4	3	2	1
7.	How well do learners with hearing impairments communicate with each other?	5	4	3	2	1
8.	How well do learners with hearing impairment utilise their leisure time?	5	4	3	2	1
9.	To what extent does sport contribute to skill development of hearing impaired learners?	5	4	3	2	1
10.	How effectively do hearing-impaired learners manage physical fitness?	5	4	3	2	1
11.	How well do learners with hearing impairments understand their daily health needs?	5	4	3	2	1
12.	How well are the dietary needs of hearing-impaired learners being catered for?	5	4	3	2	1
13.	How well are hearing-impaired learners aware of their spiritual needs?	5	4	3	2	1

14.	How well are learners with hearing impairment aware of careers available in the community?	5	4	3	2	1
15.	How well do your learners with hearing impairment appreciate the importance of values in their daily lives?	5	4	3	2	1
16.	How do you rate your learners' motivation to learn skills?	5	4	3	2	1
17'	How well are your hearing-impaired learners able to match their interests and skills they like to learn?	5	4	3	2	1
18.	How well do your hearing-impaired learners consider to be the importance of deaf awareness of what they can do in the community?	5	4	3	2	1

SECTION D:

Which support services do you feel hearing-impaired learners need to enhance their wellness in order to have their barriers to learning effectively addressed?

1._____
_____
_____

2._____
_____
_____

3._____
_____
_____

4._____
____

5._____
_____

_____THANK YOU FOR PARTICIPATING IN THIS QUESTIONNAIRE

APPENDIX 2

INTERVIEW SCHEDULE FOR TEACHERS OF DEAF LEARNERS

The purpose of this interview is to find out how the various dimensions of wellness affect your learners. How your knowledge and understanding help you to identify and deal with deaf learners' barriers to learning. Participation in this interview is voluntary. Your name will not be mentioned in the report. You are also free to withdraw from the interview any time without fear of reprisals. The interview will take about 30 minutes.

SECTION A:

Please indicate your choices for the following biographical data.

1. Your gender:

Male	1
Female	2

2. Age range:

Under 20 Years	1
21- 25 Years	2
26- 30 Years	3
31- 35 Years	4
36- 40 Years	5
41- 45 Years	6
46- 50 Years	7
51- 55 Years	8
56- 60 Years	9
61+ Years	10

3. Experience in deaf education:

0- 1 Years	1
2-3 Years	2
4- 5 Years	3
6- 7 Years	4
8- 9 Years	5
10- 11 Years	6
12- 13 Years	7
14- 15 Years	8
16- 17 Years	9
18- 19 Years	10
20+	11

4. Home language:

English	***1***
Afrikaans	***2***
Northern Sotho	***3***
Southern Sotho	***4***
South African Sign language	5 ***6***
SiSwati	***7***
Tsonga	***8***
Tswana	***9***
Venda	***10***
Xhosa	***11***
Zulu	***12***
Ndebele	***13***
Other (Specify)	***14***

SECTION B:

Kindly respond to the following questions by completing the blank spaces.

2.1 How do you feel about your work?

2.2 How does learners' competence in South African Sign language (SASL) contribute to their intellectual well being?

2.3 How does the nature of their hearing impairment affect hearing-impaired learners' communication?

2.4 What academic challenges do learners with hearing impairment experience that make it difficult to address their barriers to learning?

2.5 What are your major academic successes in dealing with learners with hearing impairment's barriers to learning?

2.6.1 What are your views on the following questions on dimensions of wellness of learners who are hearing-impaired?

2.6.1.1 How do you relate learners' state of health to doing academic tasks?

2.6.1.2 How well do you feel regular medical screening helps in physical well being of hearing-impaired learners?

2.6.2.1 How well do hearing-impaired learners deal with stressful events in their lives?

2.6.2.2 How are learners with hearing impairment' awareness of their strengths and weaknesses contributing to how you address their barriers to learning

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2.6.2.3 How well aware are hearing-impaired learners of their weaknesses and how do they deal with them?

2.6.3 How well do your hearing-impaired learners communicate with you?

2.6.3.1 How well do learners with hearing impairments' awareness of deaf culture facilitate easier addressing of their barriers to learning?

2.6.3.2 How well does networking with other teachers of the deaf assist you effectively address barriers of your learners?

2.6.4.0: How do you equip your learners with career awareness?

2.6.4.1 What role does deaf awareness help to educate the community on what hearing-impaired people can do?

2.6.5.0 How well aware are the hearing-impaired learners about spiritual awareness?

2.6.6.0 What are you doing to equip your learners gain skills and competence necessary for independent living?

2.7 What support services are available to assist you in addressing deaf learners' barriers to learning?

2.8 Which aspects of hearing-impaired learners' wellness need to be addressed urgently to effectively address their barriers to learning?

2.9 ***How effectively does curriculum adaptation contribute to address barriers to learning of deaf learners?***

2.10 Kindly state one programme you feel encourages wellness of learners with hearing impairment?

SECTION C: Kindly suggest a maximum of five measures you feel need to be taken to facilitate the effectiveness of teachers to address hearing-impaired learners' barriers to learning..

1.....

.....

2.....

.....

3.....

.....

4.....

.....

5.....

.....

THANK YOU FOR PARTICIPATING IN THE INTERVIEW

APPENDIX 3.1

The Head of Department

Limpopo Provincial Department of Education

Private Bag X9489 Polokwane 0700

Date:…….

P.O Box 1397

Kwalugedlane 1341

Dear Sir/Madam**: REFERENCE: REQUEST FOR PERMISSION TO CARRY OUT RESEARCH IN SPECIAL SCHOOLS**

I am a doctorate student of the University of South Africa in the area of Inclusive Education**. My topic is 'Developing a wellness model for teachers in addressing barriers to learning for learners with hearing impairments'.** The study will recommend a model for wellness of teachers in various aspects of life. It will address wellness holistically considering the physical, intellectual, emotional, social, occupational and spiritual aspects of life.

The study will be carried out in three provinces in 11 special schools with learners with hearing impairments/ Deafness. Only Primary school teachers of Grades One to Seven will participate in the study. About (N= 100) participants in the three provinces will complete a questionnaire for 30 minutes. Others (N= 15) will be interviewed for about 30 minutes each interview. Participation is voluntary, only educators who volunteer will participate in the study. The identity of the participants will not be revealed and remain confidential. Participants will not be expected to write their names. Participants are also free to withdraw from the study at any time without fear of reprisals. The identify of participating schools will not be revealed. It is hoped that the study will be beneficial to the educators on the wellness **of** their learners with hearing impairment. It also seeks to determine their effectiveness to address barriers to learning of the learners. The findings of the study will be emailed to the Provincial Heads of Department and Principals of participating special schools.

Thanking you in advance.

Yours Faithfully

---------- Date:_____

P. Mapepa Cell: 0824890299**Email: pmapepa@gmail.com**

APPENDIX 3.2

The Head of Department

Gauteng Provincial Department of Education

P.O. Box 7710 Johannesburg 2000 Date:……

P.O Box 1397

Kwalugedlane 1341

Dear Sir/Madam**: REFERENCE: REQUEST FOR PERMISSION TO CARRY OUT RESEARCH IN SPECIAL SCHOOLS**

I am a doctorate student of the University of South Africa in the area of Inclusive Education**. My topic is 'Developing a wellness model for teachers in addressing barriers to learning for learners with hearing impairments'.** The study will recommend a model for wellness of teachers in various aspects of life. It will address wellness holistically considering the physical, intellectual, emotional, social, occupational and spiritual aspects of life.

The study will be carried out in three provinces in 11 special schools with learners with hearing impairments/ Deafness. Only Primary school teachers of Grades One to Seven will participate in the study. About (N= 100) participants in the three provinces will complete a questionnaire for 30 minutes. Others (N= 15) will be interviewed for about 30 minutes each interview. Participation is voluntary, only educators who volunteer will participate in the study. The identity of the participants will not be revealed and remain confidential. Participants will not be expected to write their names. Participants are also free to withdraw from the study at any time without fear of reprisals. The identify of participating schools will not be revealed.

It is hoped that the study will be beneficial to the educators on the wellness **of** their learners with hearing impairment. It also seeks to determine the effectiveness to address barriers to learning of the learners. The findings of the study will be emailed to the Provincial Heads of Department and Principals of participating special schools.

Thanking you in advance.

Yours Faithfully

---------- Date:_____

P. Mapepa Cell: 0824890299**Email: pmapepa@gmail.com**

APPENDIX 3.3

The Head of Department

Mpumalanga Department of Education

Private Bag X11341, Nelspruit 1200

Date:……..

P.O Box 1397

Kwalugedlane 1341

Dear Si/Madam**: REFERENCE: REQUEST FOR PERMISSION TO CARRY OUT RESEARCH IN SPECIAL SCHOOLS**

I am a doctorate student of the University of South Africa in the area of Inclusive Education**. My topic is 'Developing a wellness model for teachers in addressing barriers to learning for learners with hearing impairments'.** The study will recommend a model for wellness of teachers in various aspects of life. It will address wellness holistically considering the physical, intellectual, emotional, social, occupational and spiritual aspects of life.

The study will be carried out in three provinces in 11 special schools with learners with hearing impairments/ Deafness. Only Primary school teachers of Grades One to Seven will participate in the study. About (N= 100) participants in the three provinces will complete a questionnaire for 30 minutes. Others (N= 15) will be interviewed for about 30 minutes each interview. Participation is voluntary, only educators who volunteer will participate in the study. The identity of the participants will not be revealed and remain confidential. Participants will not be expected to write their names. Participants are also free to withdraw from the study at any time without fear of reprisals. The identify of participating schools will not be revealed.

It is hoped that the study will be beneficial to the educators on thewellness**of** their learners with hearing impairment. It also seeks to determine the effectiveness to address barriers to learning of learners. The findings of the study will be emailed to the Provincial Heads of Department and Principals of participating special schools.

Thanking you in advance.

Yours Faithfully

---------- Date:_____

P. Mapepa Cell: 0824890299 **Email: pmapepa@gmail.com**

APPENDIX 4: REQUEST FOR PERMISSION TO CARRYOUT RESEARCH: PRINCIPALS

PO Box 1397

KWALUGEDLANE 1341

Dear Principal

REFERENCE: REQUEST FOR PERMISSION TO CARRYOUT RESEARCH – PRINCIPALS OF SPECIAL SCHOOLS.

I am humbly requesting for your permission to carry out a research study at your school.

I am a University of South Africa doctorate student in Inclusive Education. My topic is "**Developing a wellness model for teachers in addressing barriers to learning for learners with hearing impairments".** Wellness determines how we live and all the activities we do on a day to day basis. In addressing barriers to learning, the educator needs to have an understanding of the physical, emotional, social, occupational, intellectual and spiritual aspects of hearing-impaired learners. **I** am kindly requesting for the participation of your teachers of the deaf from Grade R to Seven (7). The teachers will complete a questionnaire. It is anticipated that N= 100 teachers of the deaf will complete the questionnaire. Some of the participants (N= 15) will be interviewed individually for about 30 minutes.

Participation in the study is voluntary and only educators who are willing will participate in the study. The identity of the participants will not be revealed ensuring confidentiality. Anonymity is also ensured since participants will not write their names on the questionnaires. The names of those interviewed will also not be identified. Participants are also free to withdraw from participating at any time without fear of reprisals. The name of your school will also remain anonymous and not be identified. The results of the study will be for educational purposes only. It is hoped that the researcher will email to you the results and recommendations. I hope that the results will be of benefit to the schools.

Yours Faithfully

_____ Date:_____

P.Mapepa P O Box 1397 KWALUGEDLANE1341CELL: 0824890299 Email: pmapepa@gmail.com

I …… the Principal of ……Give Mr. P. Mapepa permission to conduct his study in my school.

Signature:……. Date:……

School stamp

PO BOX 1397

APPENDIX 5: REQUEST FOR PARTICIPATION

KWALUGEDLANE 1341

SOUTH AFRICA

The Educator

Dear Sir/ Madam

REFERENCE: REQUEST FOR PARTICIPATION OF TEACHERS OF THE DEAF IN THE STUDY

I am kindly requesting for your participation in the study titled "**Developing a wellness model for teachers in addressing barriers to learning for learners with hearing impairment".**The term wellness encompasses six dimensions which need to be integrated in order to develop a WHOLE PERSON WELLNESS. Physical wellness denotes healthy lifestyle, healthy eating and exercising. Emotional wellness is about understanding and expressing feelings. Intellectual wellness is about utilizing the mind to perform tasks. Social wellness is about creating and maintaining healthy relationships. Occupational wellness is about contribution to society through a chosen career. Spiritual wellness seeks to find meaning in life and appreciating own experiences. The study is for educational purposes for the D**octor of Education (Inclusive Education) at the University of South Africa.**: Participants will be drawn from school teachers educating hearing-impaired learners in special schools. Primary school teachers in the Foundation, Intermediate and Senior phases Grades One to Seven will participate in the study. About N= 100 teachers will be purposively selected to participate in the study with N=100 completing a questionnaire for about 15 minutes. Of that number N= 15 will participate in the interview. Participation in the interview is voluntary.

Participation in the study is voluntary. You are also free to withdraw from the study at any time without fear of reprisals. You are free to ask any questions you might have on the study .You can call P. Mapepa on cell phone number 0824890299.or email pmapepa@gmail.com. The results of the study are for educational purposes only with the purpose of developing a wellness model for teachers teaching hearing-impaired learners. The findings of the study and recommendations will be emailed to the schools' email addresses. It is hoped the study will be of benefit to schools and

in particular to teachers of the hearing-impaired. Feel free to participate in the study. Your name will not be revealed in the study. You are also free to withdraw if .there is any information you do not wish to disclose **to the study.**Thank you in advance.

Yours Sincerely

P. Mapepa

Kindly indicate your willingness to participate in the study by cancelling what does not apply to you, signing and dating in the space below.I wish to/do not wish to participate in the study.Signature:…….

Date:……

APPENDIX 6: LIST OF PARTIIPATING SCHOOLS, ADDRESSES AND CONTACT PERSONS

NAME OF SCHOOL	ADDRESS	TELEPHONE/ FAX	EMAIL	CONTACT PERSON
1. SILINDOKUHLE	PO BOX 1397 KWALUGEDLANE 1341	0137820245	info@silindokuhle specschool.co.za	G.T. Shabangu Principal Cell: 0723230967
2. Kamagugu	P.O Box 26096 Nelspruit 1200	0137480016	kamagugu@myconnection.co.za	M.Erasmus Principal 0836255884
3. Bosele School for the Deaf and Blind	P. Bag X128 Nebo 1059	+27132631002	boseleinsti@mweb.co.za	Principal 0829214763
4. Transoranje	P.O. Box 19036 Pretoria West 0117	+27123866072	transoranje2@gmail.com tohoof@lantic.net	Principal A.W. Dill
5. St. Vincent	P. Bag X15 Saxonworld 2132	+27117885430 +27117885433	principal@stvincentschool. co.za stvincent@cyber trade.co.za	Mrs Ingrid Parkin Principal
6. Tshilidzini	P. Bag X910 Denzeni Street Shayandima 0945	+27159643197 Fax 27159641843	tshilidzinin@absamail.co.za	Principal Mr M.F. Maluma 0835767590

7. Sizwile	3976 Jonas Moabi Street Dobsonville, Soweto 1863	+27119881017	madilongaluvhimbi@gmail.com	Principal M. Luvhimbi 0732501074
8. Dominican	P.O. Box 33 Hammanskraal 0400 Tshwane North	+27127110032	dominicansa@telkomsa.net	Principal Mrs Mathibe 0828712561
9. Sendiberg	P.O. Box 6816 Onverwacht Lephalale 0557	+27147636130	sedibenschool@lantic.net	Principal Mr.Minaar 0788425082
10. McKharbal	8345 Alpha Street, LENASIA, Johannesburg	+27118527827	rbatchelor@absamail.co.za	Mrs M. Bachelor Principal 0836744195
11. Yingisani	P.O. Box 128 LETABA 0870	0153031670	janemakhubela@gmail.com	Principal J. Nkuna 0833088824

APPENDIX 7: UNISA Ethics Clearance Certificate

UNISA | college of education

Research Ethics Clearance Certificate

This is to certify that the application for ethical clearance submitted by

P Mapepa [06849962]

for a DEd study entitled

Developing a wellness model for teachers in addressing barriers to learning for learners with hearing impairments

has met the ethical requirements as specified by the University of South Africa College of Education Research Ethics Committee. This certificate is valid for two years from the date of issue.

Prof VI McKay
Acting Executive Dean: CEDU

UNISA
COLLEGE OF EDUCATION
2014 -11- 21
Office of the Deputy Executive Dean

Dr M Claassens
CEDU REC (Chairperson)
mcdtc@netactive.co.za

Reference number: 2014 NOVEMBER /06849962/MC

17 NOVEMBER 2014

APPENDIX 8: GDE Research approval

GAUTENG PROVINCE
Department: Education
REPUBLIC OF SOUTH AFRICA

For administrative use:
Reference no: D2015/382

GDE RESEARCH APPROVAL LETTER

Date:	**21 January 2015**
Validity of Research Approval:	**9 February 2015 to 2 October 2015**
Name of Researcher:	**Mapepa P.**
Address of Researcher:	**P.O. Box 1397; Kwalugedlane; 1341**
Telephone / Fax Number/s:	**082 489 0299; 083 726 8050**
Email address:	**pmapepa@gmail.com**
Research Topic:	**Developing a wellness model for teachers in addressing barriers to learning for learners with hearing impairments**
Number and type of schools:	**FIVE LSEN Schools**
District/s/HO	**Gauteng North; Johannesburg Central; Johannesburg South and Tshwane West**

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved. A separate copy of this letter must be presented to the Principal, SGB and the relevant District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted. However participation is VOLUNTARY.

The following conditions apply to GDE research. The researcher has agreed to and may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

CONDITIONS FOR CONDUCTING RESEARCH IN GDE

1. The District/Head Office Senior Manager/s concerned must be presented with a copy of this letter;

2015/01/21

Office of the Director: Knowledge Management and Research
9th Floor, 111 Commissioner Street, Johannesburg, 2001
P.O. Box 7710, Johannesburg, 2000 Tel: (011) 355 0506
Email: David.Makhado@gauteng.gov.za
Website: www.education.gpg.gov.za

2. A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB.)
3. A letter / document that outlines the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs and District/Head Office Senior Managers of the schools and districts/offices concerned;.
4. The Researcher will make every effort obtain the goodwill and co-operation of all the GDE officials, principals, SGBs, teachers and learners involved. Participation is voluntary and additional remuneration will not be paid;
5. Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal and/or Director must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.
6. Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.
7. Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.
8. It is the researcher's responsibility to obtain written parental consent and learner;
9. The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
10. The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.
11. On completion of the study the researcher must supply the Director: Education Research and Knowledge Management with one Hard Cover, an electronic copy and a Research Summary of the completed Research Report;
12. The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned;
13. Should the researcher have been involved with research at a school and/or a district/head office level, the Director and school concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

.....

Dr David Makhado

Director: Education Research and Knowledge Management

DATE: 2015/01/21

Making education a societal priority

Office of the Director: Knowledge Management and Research
9th Floor, 111 Commissioner Street, Johannesburg, 2001
P.O. Box 7710, Johannesburg, 2000 Tel: (011) 355 0506
Email: David.Makhado@gauteng.gov.za
Website: www.education.gpg.gov.za

APPENDIX 9: Approval letter Limpopo

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

Enquiries: MC Makola PhD, *Tel No: 015 290 9448 .E-mail:* MakolaMC@edu.limpopo.gov.za

SILINDOKUHLE SPECIAL SCHOOL
PO BOX 1397
KWALUNGEDLANE
1341

MAPEPA P

RE: Request for permission to Conduct Research

1. The above bears reference.
2. The Department wishes to inform you that your request to conduct research has been approved. Topic of the research proposal: **"DEVLOPING A WELLNESS MODEL FOR TEACHERS IN ADDRESSING BARRIERS TO LEARNING FOR LEARNERS WITH HEARING IMPAIRMENTS"**
3. The following conditions should be considered:

   3.1 The research should not have any financial implications for Limpopo Department of Education.

   3.2 Arrangements should be made with the Circuit Office and the schools concerned.

   3.3 The conduct of research should not anyhow disrupt the academic programs at the schools.

   3.4 The research should not be conducted during the time of Examinations especially the fourth term.

   3.5 During the study, applicable research ethics should be adhered to; in particular the principle of voluntary participation (the people involved should be respected).

   3.6 Upon completion of research study, the researcher shall share the final product of the research with the Department.

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

Enquiries: MC Makola PhD, *Tel No: 015 290 9448 .E-mail:* MakolaMC@edu.limpopo.gov.za

SILINDOKUHLE SPECIAL SCHOOL
PO BOX 1397
KWALUNGEDLANE
1341

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3. The following conditions should be considered:

   3.1 The research should not have any financial implications for Limpopo Department of Education.

   3.2 Arrangements should be made with the Circuit Office and the schools concerned.

   3.3 The conduct of research should not anyhow disrupt the academic programs at the schools.

   3.4 The research should not be conducted during the time of Examinations especially the fourth term.

   3.5 During the study, applicable research ethics should be adhered to; in particular the principle of voluntary participation (the people involved should be respected).

   3.6 Upon completion of research study, the researcher shall share the final product of the research with the Department.

APPENDIX 10: Approval letter Tshwane North District Office

GAUTENG PROVINCE
REPUBLIC OF SOUTH AFRICA

Enquiries: A JOOSTE
Directorate: EOS
Tel: +27 (0)12 5431203
Fax: +27 (0)86 585 0044
Ref: 15/2/6

TO : THE PRINCIPAL
DOMINICAN SCHOOL

FROM : MS SHIRLEY MOLOBI
DISTRICT DIRECTOR

DATE : 6 MAY 2015

SUBJECT : APPROVAL TO CONDUCT RESEARCH

District Tshwane North gives Mr. P Mapepa permission to do research at the above mentioned Secondary Schools. The research topic is "Developing a wellness model for teachers in addressing barriers to learning for learners with hearing impairments".

Please grant him permission to do research after contact time so that the normal programme is not interrupted. The principals must be consulted about an appropriate time when the research may be conducted.

The researcher is responsible for supplying and utilizing his own research resources.

No names may appear in the research report.

Kindly assist him by giving the necessary cooperation.

Regards

MS SHIRLEY MOLOBI
DISTRICT DIRECTOR

DISTRICT: TSHWANE NORTH
Tel: (012) 543 1479, Cell: 083 389 2868, Fax: 086 771 8195 | Email: Shirley.Molobi@gauteng.gov.za
Wonderboom Junction Mall, 1st Floor, Corner Lavender & Lavender West Road,
Wonderboom, 0066, Private Bag X945, Pretoria, 0001
www.education.gpg.gov.za | Call Centre: 0800 005 175

Appendix 11: Research approval letter Mpumalanga Department of Education

APPENDIX 12

COLOUR CODED INTERVIEW FINDINGS- ACTUAL WORDS OF THE PARTICIPANTS. N=11 PARTICIPANTS A-K

QUESTION	PART A	PART B	PART C	PART D	PART E	PART f	PART G	PART H	PART I	PART J	PART K
How does learners' competence in SASL contribute their intellectual well being?	Able to communicate with other deaf people	Very much. Its a first language.	Helps them communicate easily.	Can communicate with other deaf people.	Learners have differed background. Some do not understand sign language. No SL at home.	Communicate well and contribute directly to amount of comprehension learnt.	Suffer at work places.	Not good. Not only sign language but they do not learn. I do study duty and they sit and make jokes.	Difficulty with language leading to multiple problems learning concepts.	There is still much to learn. Curriculum must be adapted.	Help learners communicate easily.
How does the nature of their hearing impairment affect hearing-impaired learners' communication?	Partially deaf lip read. Totally deaf don't	Allow all children to communicate.	Partially deaf can lip read and communicate better.	Challenges communicating with hearing people.	Problems communicating with the hearing.	Learners with severe hearing impairment face a lot of communication challenges than the partially hearing.	Language barrier.	They communicate with friend.	Deaf learners have a problem communicating with someone who cannot sign.	Communicate using SASL.	Affects their communication and self esteem.
What academic challenges do learners with hearing impairment experience that make it difficult to	Inability to remember info. Forget easily.	Communication challenge with people who cannot sign to them.	They cannot communicate with	-	Reading comprehension skills and written	Written language too complex to	Subject vocabulary too difficult for them.	Reading challenges.	Hard time grasping abstract concepts.	Difficult because I am still learning the language.	

address their barriers to learning?		**Reading on their own limited experience in LOLT.**	**their families. They cannot develop their first language at home. They forget easily.**		**language difficul-ties.**	**under-stand. Learners under-stand shorter sentences.**					
What are your major academic successes in dealing with learners' barriers to learning?	Ability to read English and progress to next grade.	Teaching learners to communicate and understand subjects I am teaching them.	The use of English helps them to understand. I use adaptation to help them understand.	I read and sign while learners are watching and they also sign.	Enabling learner to progress to next grade.	Adapting the curriculum. Use of easier words and diagrams.	Adapting the lesson to their level.	I am at skills group.		Am still learning sign language.	Understandin g their behaviour and attitude. Knowing their work need to be adapted. Bridging home language and SASL.
How do you rate learners' state of health to doing academic tasks?	Yes they can do them they are fit.	Physical needs are well met. Well planned diet.	Some learners are lazy and perform poorly due to their state of health.	They are generally healthy enough to sign.	Well Underperfo rms because of physical condition.e xcept when sick.		Good health.	I am at skills group.	Health is generally good.	They are healthy.	Good state of health.

How well do you feel regular medical screening helps in physical we-being of hearing-impaired learners>	Occupatioanal therapist takes them for tests	Necessary for them to keep fit.	It does help but at some schools there is no audiologist. It also helps to have a nurse available at a school.	Helps to deal with any health issue.	Helps to find physical conditions.	May help to identify physical conditions.	Good.	-		Important. There is an audiologist at our school.	Deal learners to my knowledge and experience are not sick.
How well do hearing-impaired learners deal with stressful events in their lives>	Deal with situation through effective communication.	Through effective communication.	With support from the SBST learners are able to accept their situation.	Deal well if there is good communication.	At school they get aggressive, cry a lot Cannot deal positivEly with stressful events.	Depends on support and services they receive.	Not well. Can't express what's inside.	Not so stress-ful.		They can become negative and its difficult.	They do not deal effectively. Cannot express themselves. At school it is good because they can talk to teachers.
How are learners with hearing impairment awareness of their strengths and weaknesses contributing to how you address their barriers to learning?	Able to deal if communicated well	Knowing what they can do and cannot do helps them in their learning.	Awareness of their strengths and weak-nesses. Enjoy a variety of sports, cooking and crotchet-ing.	Their physical cared through sport. They have short concentration span.	Cautious and ask a lot of questions.	Aware of strengths and weak-nesses.	Just go with the flow.	-		Some are aware. Those with low self esteem are not aware.	-

How well aware are hearing-impaired learners of their weaknesses and how do they deal with them?	**Able to understand their weaknesses.**	**Able to understand their weaknesses. Feel sorry if they have done something wrong.**	**They are lazy and cannot concentrate a long time.**	**Weakness of concen-tration. They enjoy watching DVD to concen-trate.**	**Practice reading skills.**	**Have the ability depends on support they get.**	**Well enough by being silly. Not trying individual attention.**	**-**		**They are aware of their strengths and weaknesses. Someare a bit impaired.**	They are aware.
How well do your hearing-impaired learners communicate with you?	**We communicate using SASL.**	**Communication is good.**	**Good commu-nication using SASL. Enjoy doing practical subjects.**	**Good commu-nication using SASL.**	**Good commu-nication.**	**Good communication using SASL.**	**Good, they must just sign slowly.**	**Just with sign language.**		**Good using SASL. There is school based training of teachers.**	They are free to communicate with me. They do not differentiate from good and bad.
How well do learners with hearing impairments' awareness of deaf culture facilitate easier addressing of their barriers to learning?	**Too young to know their culture (Foundation phase)**	**Learners at intermediate and senior phase understand deaf culture. They learn from deaf adults around them.**	**They learn from deaf adults around them.**	**They go in the commu-nity to do work egcleaning to show they can do like others.**	**Only experience deaf culture at school**	**Helps a lot.**	**Languag e is better. Word recogniti on is better.**	**Helps**		**Aware of their culture. Committee is there to teach about SASL.**	Important because life starts at school.
How well does networking with other teachers of the deaf assist you effectively	**Workshop and telephone communication.**	**Networking is very limited.**	**We learn from each other at**	**Assistant teachers inform learners of**	**Networkin g very limited.**	**Limited networkin g.**	**We try new ideas and**	**Limited networkin g.**		**We network through workshops.**	**Networking helps in approaching problems.**

address barriers of your learners?			**school level.**	**sporting activities.after getting information from deaf organisa-tion**			**communicate closely.**				
How do you equip your learners with career awareness?	Career awareness not a priority.	Learn skills such as carpentry, gardening nail and woodwork.	We train learners in a variety of skills eg car wash, crotcheting, beadwork.	Learn skills such as carpentry, woodwork, nail, gardening	Through LO Subject they learn about careers.	LO and career expos.	LO has a compo-nent where learners complete a task.	We give them skills and help them get work.		Learn skills such as hospitality, carpentry, nail. Teachers must be in serviced.	Skill through use of DVD about people doing different work (foundation phase class).
What role does deaf awareness help to educate the community on what hearing-impaired people can do?	Community learns about fitness of deaf. Outage once a month.	Help people understand ability of deaf people. Helping at local hospital.	Learners participate in sport with other schools.	They visit the community to do work eg cleaning	Community not involved with the school.	Helps but more can be done.	Take them on sight touring.	Make people aware of problems of communica-tion between them and society.		Community come to school and educated talk to them about deafness. (Outreach programmes).	Community learns about what deaf learners can do. People are amazed that they can read and write and do skills.
How well aware are hearing-impaired learners about spiritual awareness?	No interpreters at school assembly to teach morals.	Daily assembly helps them understand.	One staff member preach to learners while an interpreters	Morals taught at assembly.	Spiritual life important. We start with prayers for the day.	Good with religious programmes in hostels and at school.	Elementary knowledge of spiritual life.	Elementary knowledge of spiritual life.		Assembly once a week.	Very little knowledge about spiritual wellness.

			there to assist.								
What are you doing to equip your learners gain skills and competence necessary for independent living?	**Able to gain skills.**	**Skills of cooking, personal care and life skills. SBST helps poor children.**	**They learn daily living skills eg cleaning and washing clothes.**	**Self care, bathing, brushing teeth.**	**I teach them about finances, income tax.**	LO and vocational skills such as carpentry, upholtery, cooking	Life skills.	Teaching life skills.		Imparting skills such as hairdressing, cooking, welding.	I teach skills such as welding, hairdressing, cooking and cleaning.
What support services are available to assist you in addressing deaf learners' barriers to learning?	**Donations, spiritual preachers and SBST for welfare of learners.**	**SBST, SAPs, social services and health personnel. Health promoting school helpful.**	**SAPs, Health and social services are involved.**	**SBST, social workers and police**	**Hearing aids , white board and tablets.**	Therapist, social worker, psychologist	Not much.	We need interpreters.		Through SBST.	Workshops and training from the department.
Which aspects of hearing-impaired learners' wellness need to be addressed urgently to effectively address their barriers to learning?	**Deaf friendly exams not expect teachers to adapt.**	**Addressing career needs. Helping learners enter the world of work.**	**Provision fomulti disciplinary team eg dietician, social worker, counsellor**	**Provision of suitable teaching and learning materials**	**Department of Education must be informed about the challenges faced by deaf learner to access Caps**	Occupational Therapist. Preventative programmes, social skills, conflict management.	Their attitude toward learning and the world outside	We need interpreters.		Curriculum adaptation by the department of education.	Curriculum adaptation.
How effectively does curriculum adaptation contribute to address	Help learners understand curriculum. More books needed.	No need to write a lot of notes but to	Helps learners understand material	Helps learners understand	Only exam papers and tasks are adapted.	Limited	Can't do all the work.	Not good.		It is not enough especially for support.	Contributes positively.

barriers to learning of deaf learners?		understand the topic.	they are taught. Helps in assessment.	subject matter	GDE expect us to offer Caps without adaptation. Subject facilitators not aware of Deaf learner.		Language too high. Work at lower level. Very frustratin g.				
Kindly state one programme you feel encourages wellness of learners with hearing impairment?	Be fluent in sign language. Assist the foundation phase learners.	RRR programme helps learners do poetry dance and drama.	Having educational excursions	Sign language as a subject help learners understand in their home language.	Deaf leadership camp.	Life skills.	-	Skills.		Working with computers.	Continuous motivation to use sign language.
Measures to facilitate the effectiveness of teachers to address hearing-impaired learners' barriers to learning	Be fluent in sign language. Have teacher assistants.	More workshops for teachers to share ideas. Need for more support from inclusive section of the dept of education.	Training trs in sign language. In service training of teachers. Procuring of material for teachingby dept of education. Opport-	Training in SASL. Provision of teaching and learning materials.	Sign language and lip reading skills. Adaptation of exams and curriculum.	Early intervention . Early language learning programme. Staff training and parental guidance.	Always be at eye level. Make sure everyone sees you. Don't turn your back while talking.	-		Training of teachers is a must. Multi disciplinaryte am needed. Making available teacher assistants. Training in deaf education.	Teachers to learn about deaf education. Teachers should be competent in sign language. Need for regular workshops and training

			unities for learners to learn in a free space.				Use sign and speech Don't use chalkboard, use projector.				not ones every ten years.