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CHAPTER 1

INTRODUCTION AND ORIENTATION

*“...because of the invisible nature of the (hearing) impairment, and the general lack of understanding regarding the full impact of hearing impairment upon learning, there is always a need for individuals to work **for** the child, to ensure that his or her needs as a learner with hearing impairment are not marginalized or overlooked.”* (English, 1995:12).

1.1 INTRODUCTION

Education of the child with hearing loss does not merely translate into regular education practices imposed on children with hearing loss. Some unique pedagogic methods feature in the education of children with hearing loss in order to accommodate the child’s unique barrier to learning due to his/her sensory impairment (Bess & McConnell, 1981; Bunch, 1987; English, 1995; Lynas, 1994; Moores, 1996; Sanders, 1988; White, 1981).

Children, except children exclusively immersed in signing environments, learn language primarily through the auditory pathways (English, 1995; Lynas, 1994). If the child’s input is distorted or inconsistent, as a result of the hearing loss, the child may experience a variety of linguistic difficulties such as articulation deficits, vocabulary deficits, delayed syntax development, and inappropriate use of abstract language. These linguistic deficits may have a direct effect upon the child’s cognitive development, as well as on the development of his/her social skills (Bench, 1992; Bess & McConnell, 1981; English, 1995; Johnson, Benson & Seaton, 1997 and Tucker & Nolan, 1984). Therefore, the linguistic, cognitive and social challenges have to be addressed in the classroom, in order for the child to maximally benefit from educational

efforts. These obstacles have to be addressed by educational practices most suitable for children with hearing loss.

The following features distinguish the **educational practices** most suitable for a child with hearing loss from the education practices for a hearing child and were identified and compiled from various literature sources (Bunch, 1987; English, 1995; Lynas, 1994; Moores, 1996; White, 1981). These features are listed below:

- * There is a far greater emphasis on the mastery of **language**. A language deficit is one of the main barriers caused by hearing loss, and negatively interferes with all acquisition and processing of academic knowledge. Three basic methods of language instruction exist, and depending on the schools language policy, primarily one of these methods may usually be adopted. Although a heated debate exists among professionals and non-professionals on the best method for language and communication instruction, each method has its rightful place in the education of children with hearing loss. The three basic methods of language and communication instruction identified from literature are: the oral method (also known as the oral-aural method); the total communication method; and the bilingual-bicultural method.
- * Attention is given to the improvement of the child's **speech intelligibility** through instruction in areas such as articulation, respiration, phonation and intonation. Not all schools include the improvement of speech intelligibility in the classroom; for example schools that only rely on the teaching of signs will not give attention to this skill.
- * Focus is placed on the maximum utilisation of the child's **residual hearing**. The maximum utilisation of residual hearing is achieved, inter alia, by: early identification of hearing loss, fitting with hearing aids and other assistive devices, intensive auditory training and parent guidance. Although schools vary in their dedication towards the utilisation of the child's residual hearing, most schools at the least do provide learners with hearing aids.

- * At some schools, such as those that rely on visual teaching, learners are trained in the skill of **speech reading**, previously known as lip-reading. Learners are taught how to employ situational and motivational variables to visually decipher the speaker's spoken message.
- * Much more time and effort is spend on learners' acquisition of **literacy** skills. The reduced amount of information obtainable through the child's hearing necessitates that the child with hearing loss have access to knowledge, general and academic, in written format.

The above-mentioned differences in education practices testify that, although the objectives of education prescribe that children with hearing loss be the same as those desired by society for all children, hearing loss presents unique challenges that require unique educational practices (Lynas, 1994). Nevertheless, education of children with hearing loss should be of the highest standard and teachers must be committed to excellence and help children to achieve their highest academic potential (Moores, 1996).

Education should always be viewed within context and therefore the question arises whether the development of education of children with hearing loss in South Africa compares with the development in other countries. Reviewing literature on the international evolvement of the education of children with hearing loss (Clark, 1997; Lynas, 1994; Moores, 1996), close parallels can be drawn to the education of children with hearing loss in South Africa. South Africa has mainly followed the same course of development as the United States of America and European countries. To understand the present-day situation in the education of the child with hearing loss, it is necessary to consider developments in the past. A distinct difference in the development of South African schools for children with hearing loss is that it was entrenched in apartheid ideology since 1934 until the early nineties. The apartheid educational policies separated schools for the White population from schools for other races. One of the consequences of the separation was that the schools for White learners with hearing loss enjoyed much more governmental assistance such as financial, resources, educational support, et cetera, than schools for other races.

A summary of the historical development of education of children with hearing loss in South Africa follows after a brief outline in Table 1.1.

Table 1.1: Outline of the historical development of education of children with hearing loss in South Africa [compiled from: Department of Education and Training (1992); Mocke (1971); Penn (1993) and Van der Merwe (1995)].	
1863	Initially, schools were started and funded by churches First school founded by Roman Catholic nuns in Cape Town, they adhered to a manual approach with little emphasis on oral instruction Nuns founded another school in Worcester with the same instructional approach
1881	School for children with hearing loss (later named De la Bat School) was founded by Dutch Reformed Church in Worcester, they relied on a manual approach (finger spelling)
1913	Schools were acknowledged as separate from regular schools and could apply for minimal subsidies from the government
1920	Strict oral instruction was followed as the only means of education in schools after an international conference
1928	First governmental legislation for schools requested persons to apply for approval to establish a school and subsequently apply for subsidy
1934	Apartheid government divided schools into schools for Whites and other races Schools for other races used manual instruction together with oral instruction, while schools for Whites were only allowed strict oral instruction and thus could use signs informally only
1937	Education of White children with hearing loss was declared compulsory
1944	First school exclusively for Black children with hearing loss was founded by Anglican Church in Roodepoort

Table 1.1 continued

1945	Education department introduced first diploma in the education of children with hearing loss for all races at a school
1948	Education of races other than White fell under separate management of: the Department of Education, Arts and Science
1961	Education department of Black children with hearing loss was transferred to: the Department of Bantu Education
1965	UNISA introduced a post-graduate diploma in the education of children with hearing loss for all races Black teachers do not have qualifications to enrol and instead continued with in-service training at schools, whilst White teachers enrolled for the UNISA diploma
1970	Education department initiated a diploma in the education of children with hearing loss exclusively for Black teachers
1978	University of Stellenbosch introduced a post-graduate diploma in the education of children with hearing loss for the training of teachers at Karel du Toit Center for children with hearing loss
1986	“The year of Disabled Persons” commemorated, causing changes in perceptions held of children with hearing loss, and subsequently the first discussions began on including children with hearing loss in regular schools
± 1990	Sign Language instruction re-emerged especially in White schools, due to Gallaudet revolution and subsequent empowerment of Deaf culture Parallel to this, oral instruction was reinforced among all races, due to enhancements in early identification and intervention, hearing aid technology, and cochlear implants
1993	The first attempt was made to place children with hearing loss (fitted with hearing aids) in a regular school

Table 1.1 continued

<p>1994</p>	<p>New democratic government addresses inequalities between the education of children with hearing loss of White and other races</p> <p>Education of children of all races with hearing loss declared compulsory</p> <p>Management of education of children with hearing loss falls under: Education Support Services, and education departments merge into one department for all races</p> <p>Some schools are under sole control of Education Department, others jointly controlled by Education Department and churches</p>
<p>1995</p>	<p>University of Pretoria introduces a post-graduate diploma for teachers of children with hearing loss</p>
<p>2000's</p>	<p>Debate continues on best instructional approaches in schools, however schools remain free to choose their approach</p> <p>No compulsory training for teachers of children with hearing loss to date</p> <p>All schools fall under one education department and some are still jointly controlled and subsidised by government and churches</p>

The formal history on the education of children with hearing loss in South Africa is scantily documented and the following information was mainly compiled from the course material of the Diploma in Special Education of the Department of Education and Training (1992), an article by Penn (1993), and unpublished theses from Mocke (1971), and Van der Merwe (1995). The following developments in the history of education of children with hearing loss provide relevant highlights in South Africa and by no means provide a detailed account of events that occurred between the 19th and 21st century.

Education of children with hearing loss only commenced 200 years after the first school for regular education was founded in **1663** in South Africa (Biesenbach, 1945 in Van der Merwe, 1995). Initially, schools for children with hearing loss in South Africa were started and funded by churches (Department of Education and Training, 1992).

The first school for children with hearing loss in South Africa was founded in Cape Town by five Roman Catholic nuns in **1863**, later known as the Grimley

Institute for the Deaf (Mocke, 1971; Penn, 1993). The nuns introduced the then popular manual approach, with little emphasis on oral communication, to South Africa (Mocke, 1971). Shortly thereafter, in the same year, another school for children with hearing loss was founded by the nuns in Worcester, South Africa following the same instructional approach as their first school in Cape Town (Penn, 1993).

In **1881**, the Dutch Reformed Church in Worcester, South Africa started a school for children with hearing loss, at the time, they too relied on a manual approach (finger spelling) for instruction (Mocke, 1971). This school, later named the De La Bat School, today still remains one of the leading schools providing for children with hearing loss in South Africa.

In **1913** the government acknowledged schools for children with hearing loss as separate from regular schools, and schools for children with hearing loss could apply for minimal subsidies from the government (Department of Education and Training, 1992).

Meanwhile, educational policy universally changed to strict oral instruction after the first major international conference on education of children with hearing loss, held in Milan in **1880** (Lynas, 1994, Moores, 1996). Subsequently, oral instruction was exclusively adopted in all schools for children with hearing loss in South Africa in **1920** (Penn, 1993).

The first legislation for schools of children with hearing loss came into existence in **1928**, and requested all persons interested in establishing a school for children with hearing loss to apply for approval and subsequently to apply for a subsidy from the government (Department of Education and Training, 1992).

A few years later, the apartheid government divided schools for children with hearing loss into schools for the White population and schools for other races in **1934** (Penn, 1993). Schools for other races were introduced to manual instruction together with oral instruction as opposed to schools for the White

population that only followed strict oral instructional approaches. White children with hearing loss only used signing informally on the playground and outside the school context (Penn, 1993).

Shortly thereafter, in **1937**, the government introduced compulsory education for all White children with hearing loss (Department of Education and Training, 1992).

In accordance with newfound apartheid policy, the first school exclusively for Black children with hearing loss was opened by the Anglican Church in Roodepoort, South Africa in **1944** (Mocke, 19971; Van der Merwe, 1995).

In **1945** more serious consideration was given to the training of teachers and the first diploma in the education of children with hearing loss was introduced by the Education Department to teachers of all races at the school for children with hearing loss at Worcester, South Africa (Mocke, 1971).

As apartheid ideology continued to grow stronger, the education of races other than White came under the separate management of the Department of Education, Arts and Science in **1948** (Mocke, 1971). In the same year, the government took the initiative in the establishment of schools for children with hearing loss and existing schools for children with hearing loss were transferred when they applied for acknowledgement and met the government's requirements. However, the government was not always eager to take control of schools for children with hearing loss, and especially not schools of races other than White (Department of Education and Training, 1992; Mocke, 1971).

The education of Black children with hearing loss was transferred to a new Education Department, namely the Department of Bantu Education, in **1961** (Mocke, 1971). The Department of Bantu Education assumed responsibility for the control and subsidising of the majority of schools for Black children with hearing loss, whilst a number of schools continued under joint control of the

Education Department and churches (Department of Education and Training, 1992).

In **1965** the need for teacher training was raised again, and the University of South Africa (UNISA) introduced a diploma in the education of children with hearing loss for teachers of all races. Unfortunately for teachers of other races than White, the entrance level of the diploma required a post-matric regular teaching diploma, which the majority of Black teachers did not possess (Mocke, 1971). Therefore teachers of races other than White, continued with their own in-service training programmes at their schools, whilst the majority of White teachers enrolled for the diploma (Mocke, 1971).

The predicament of Black teachers who required more formal training was solved in **1970** when a diploma in the education of children with hearing loss was started by the teaching department exclusively for Black teachers. Enrolling for the diploma did not require any previous qualifications from the Black teachers, and all Black teachers could partake (Department of Education and Training, 1992).

In **1978**, the University of Stellenbosch introduced a post-graduate diploma in the education of children with hearing loss. The diploma was aimed at the training of teachers employed at the Karel du Toit Center for children with hearing loss at the Tygerberg Hospital near Stellenbosch, South Africa (University of Stellenbosch, 1978).

“The Year of Disabled Persons” that was commemorated in **1986** in South Africa, made the authorities and the community aware of the plight of persons with hearing loss, and that such persons were to be respected, accepted and integrated into society. Subsequently, the first discussions dawned on the possibility of including children with hearing loss in regular schools (Van der Merwe, 1995).

The revolution in **1988** at the Gallaudet University for students with hearing loss in the United States of America, where students had protests and insisted

on the appointment of a president with hearing loss, had a distinct impact on especially the education of White children with hearing loss in South Africa (Penn, 1993). The revolution caused universal awareness and recognition of Deaf culture and their right to the use of, and instruction in, Sign Language (Lynas, 1994; Moores, 1996). As a result, instruction in Sign Language in all schools in South Africa re-emerged in the **early nineties**, alongside existing oral approaches (Penn, 1993). Parallel to the strengthening of manual instruction in the early nineties, oral instruction was reinforced for all races by the advances made in early identification and intervention, hearing aid technology as well as the introduction of cochlear implants in South Africa (Penn, 1993).

In **1993** in Ellisras, South Africa, the first attempt was made to place children with hearing loss (fitted with hearing aids) in a regular school (Van der Merwe, 1995).

In **1994**, a new democratic government was elected in South Africa. The new government introduced the Restructuring and Development Programme (RDP) to address, inter alia, the inequalities between education of White children with hearing loss and Black and Coloured children with hearing loss. For the first time, education of children with hearing loss was compulsory for all races. Education of all children with hearing loss came under the management of the Education Support Services which included all educational related services, such as: health, social, child guidance, and paramedical (e.g. speech-language and hearing therapy) services (Van der Merwe, 1995). All schools for children with hearing loss were incorporated under one education department, but a large number of schools were still jointly controlled and subsidised by the government and churches (Van der Merwe, 1995).

In **1995**, the University of Pretoria introduced a post-graduate diploma for teachers in the education of children with hearing loss (University of Pretoria, 1995).

In the **new millennium**, the debate continues on the best instruction practice for children with hearing loss. At present, government policy allows schools in South Africa the freedom to choose their method of instruction for learners with hearing loss (DEAFSA, 2001b). To date, no compulsory training courses exist for teachers of children with hearing loss. Schools for children of all races with hearing loss continue to fall under one education department, and a large number of schools are still jointly controlled and subsidised by the government and churches. The education of children with hearing loss in South Africa (as internationally) has evolved into a more dedicated and specialised field, and today the child with hearing loss has far brighter prospects for educational growth and a successful life, than during earlier times.

The education of all learners in South Africa, including children with hearing loss, has undergone profound changes since the end of the apartheid era in 1994. The educational system changed from a racially segregated system to a non-racial inclusive system. Prior to 1994, specialised education was inadequate and was characterised by the following:

- * education and support were predominantly provided for a small percentage of learners with disabilities within special schools or classes;
- * where provided, specialised education and support were rendered on a racial basis, with the best human, physical and material resources reserved for the White population;
- * most learners with disabilities were either excluded from the system or were mainstreamed by default;
- * the curriculum and educational system as a whole generally failed to respond to the diverse needs of the learner population with disabilities and this resulted in massive numbers of academic failures; and
- * although attention was given to the schooling phase with regard to “special needs and support”, the other levels or bands of education were seriously neglected (Education White Paper no 6, 2001).

The post-apartheid government is in the process of rectifying the above-mentioned past injustices to learners with disabilities in the past and proposes

an inclusive educational system which aims to “... *promote education for all and foster the development of inclusive and supportive centres of learning that would enable all learners to participate actively in the education process so that they could develop and extend their potential and participate as equal members of society*” (Education White Paper no 6, 2001:5).

In recognition of the above, this chapter aims to present the rationale and problem statement for the present study, to give an outline of the chapters, and to clarify terms and acronyms used during the study.

1.2 RATIONALE

It is hypothesised that the inclusive educational system will benefit the previously disadvantaged learner with hearing loss by eradicating the segregation of learners on the basis of their disability and/or race (Education White Paper no 6, 2001). Therefore, children with hearing loss will have greater access to quality educational opportunities and support systems. Furthermore, the provision of education for learners will be based on the intensity of support required to overcome the debilitating impact of their hearing loss (Education White Paper no 6, 2001).

In South Africa, the movement toward inclusion of children with hearing loss in the educational system is likely to have far-reaching ramifications for teachers, parents and learners (Keith & Ross, 1998). International literature highlights obstacles during inclusion practices, such as an increase in unfavourable acoustics and inexperienced teachers who lack the knowledge to adapt the classroom environment and curriculum to meet the needs of children with hearing loss (Brackett, 1997). In addition to this, Johnson, Benson and Seaton (1997) testify that increased inclusion practices in the United States of America caused an extended prevalence of learning problems among children with hearing loss due to more unfavourable classroom noise, less time for individual attention from the teacher, and the use of classroom language and communication that is above the child’s level of functioning.

It is speculated that the transition from the past educational system in South Africa to the current inclusive system will no doubt also present challenges to our teachers, and especially to those teachers with no prior experience in the teaching of children with hearing loss. These challenges will arise from, inter alia, the fact that teachers in regular schools, as well as teachers providing for children with hearing loss in South Africa, lack knowledge and skills in areas pertaining to the audiological and educational management of children with hearing loss (Pottas, 1998). A survey amongst regular teachers in South Africa found that the majority of teachers rated their competence in teaching children with hearing loss as low for knowledge and only medium for skill. Findings further revealed that the majority of teachers did not feel that they possessed adequate knowledge and skills for managing children with hearing loss in an inclusive system in South Africa. Furthermore, the transition to the inclusive educational system may present challenges to teachers due to the fact that compulsory specialised teacher training to date is not expected from teachers providing for children with hearing loss (Pottas, 1998). Thus, unskilled teachers are employed and will probably continue to fill their teaching posts in the inclusive educational system. In another South African survey, the majority of teachers declared a need for specialised training in teaching children with hearing loss (Keith & Ross, 1998). It can be deduced that needs will arise from teachers during the transition, especially in the areas pertaining to audiological and educational management of the child. Knowledge and skill in audiological and educational management is indispensable when educating children with hearing loss (Bess & McConnell, 1981; Bunch, 1987; English, 1995; Lynas, 1994; Moores, 1996; Sanders, 1988; White, 1981). For this reason, teachers' needs regarding audiological and educational management will have to be addressed in order for teachers to provide quality education to children with hearing loss.

The needs of teachers of children with hearing loss with regard to their learners' audiological and educational management have largely been neglected in South Africa to date. First World audiological service delivery models such as the Parent Referral Model, are mostly applied, and these are not entirely suitable for the unique demands of a developing country such as

South Africa. As for their needs being met with regard to educational management, teachers do not receive compulsory training for managing children with hearing loss and teachers tend to deal with educational challenges without proper training (Pottas, 1998). The Department of Education's proposal for building an inclusive educational system in South Africa (Education White Paper no 6, 2001), also necessitates the revision of past educational practices for teachers providing for children with hearing loss. According to the South African Education White Paper no 6 (2001:17), the inclusive educational system is about "*supporting all learners, **educators** and the system as a whole...with the emphasis on the development of good teaching strategies that will be of benefit to all learners.*" This statement emphasises the need for teacher support and training by specialists in the field of audiological and educational management of the child with hearing loss, such as an educational audiologist. In a South African survey among regular teachers, the majority of teachers agreed that with the help of professionals, such as an educational audiologist, they were confident that they could manage a child with hearing loss in an inclusive classroom (Keith & Ross, 1998). An investigation into the teachers' specific needs for the inclusive educational system is essential in providing a basis for effective audiological service rendering. This information is important, not only because it provides an indication of the current audiological service delivery process in South Africa, but also because it seeks to propose an educational audiology model for service delivery to address the unique service rendering challenges in the South African schools system. An educational audiology service delivery model should incorporate aspects from the relevant literature as well as accommodate the needs of the teachers, and, above all, the service delivery model must be tailor-made to be amenable to the previously disadvantaged children with hearing loss in the South African context. The service delivery model will also have the challenge of attempting to bridge the gap between special schools/resource centres, full-service schools, and ordinary schools.

1.2.1 Children with hearing loss in South Africa and their educational placement

The Constitution of South Africa (Act no 108, 1996) clearly states that all children have the right to a basic education. Basic education is one of the pillars of a civilised society, and provides an individual with access to literacy, life skills, further education, vocational opportunities, and various other social possibilities. The child with hearing loss shares the right to basic education, but due to his/her sensory impairment has to overcome certain obstacles, in order to benefit from education.

Unfortunately, educational obstacles place additional burdens on the child with hearing loss, and one of these are the past placement practices in South Africa.

1.2.1.1 Special schools versus mainstream schools in South Africa

The controversy surrounding the placement of children with hearing loss in mainstream schools versus special schools, is an extensive unresolved debate without clear-cut solutions. The following discussion aims to describe the argument surrounding special schools versus mainstream schools and the challenges these placement options may present to the child with hearing loss.

Special schools are schools that exclusively provide in the specialised educational needs of learners with disabilities (Pugach & Warger, 1996). *“Special education is about conceptualizing (disability) and then responding to disability.”* (Corbett, 1998:33).

According to Corbett (1998) and Pugach & Warger (1996), the special school system has its rightful place in the future inclusive educational system and therefore we have to consider its relevant application in the twenty-first century. It is acknowledged that, in many areas of the world, it is the establishment of special schools that serves as the marker of progress, rather

than the impetus for inclusive education (Corbett, 1998). Corbett (1998) argues that special education is bound up with value judgements, and agrees with Mazurek and Winzer (1994:3) that “...*looming social concerns such as solving structural economic problems, providing universal elementary education, and establishing basic health services overshadow the pressing needs of a small and by definition politically and socially disadvantaged special-needs minority.*”

The opposite of *special school placement* is the concept of *inclusion*. The term *inclusion* refers to the concept of *mainstreaming* stemming from the 1970's and the principle of *integration across a continuum* used during the 1980's when discussing academic placements for children with disabilities (English, 1995 and Johnson, Benson & Seaton, 1997). Currently, inclusion implies that children are no longer mainstreamed only for classes where it is thought they could benefit from. Rather, children with disabilities are considered to be equal members of the regular classroom and curriculum adaptations are made and support services are offered to suit the educational needs and challenges of every child (Johnson, Benson & Seaton, 1997). This implies that children with hearing loss are no longer “dumped” into regular schools without the relevant adaptations and support, but that children with hearing loss receive the necessary curriculum adaptations and support to become fully participating members in the classroom and can benefit from educational attempts.

Tucker and Nolan (1984) suggest that when mainstreamed, the educational achievement of the child with hearing loss is encouraged and enhanced through the demands of “fitting-in” and integrating with his/her hearing peers. According to Johnson, Benson and Seaton (1997), the importance of including children in academic and social activities cannot be overlooked, but the effect of communication (or the lack thereof) on true participation also needs to be recognised. An example of this is the fact that education of children with hearing loss has been significantly impacted by the increased inclusion of children with other disabilities such as auditory, language, and learning problems in regular classrooms, causing children with hearing loss to

have a higher prevalence of learning problems due to increased noise and faulty language models from their peers (Johnson, Benson & Seaton, 1997). In addition to this, Brackett (1997) stated that inclusion practices may cause an increase in unfavourable acoustics, and that inexperienced teachers may have a lack in knowledge in adapting the classroom environment and curriculum to meet the auditory needs of the child with hearing loss.

1.2.1.2 Special schools for children with hearing loss in South Africa

In South Africa there are currently 35 special schools providing for children with hearing loss (DEAFSA, 2001a). While government policy stresses the need for more inclusion practices, the South African Education White Paper no 6 (2001) made it clear that special schools will have their place in the inclusive educational system and that special schools will be strengthened rather than abolished. Non-governmental organisations such as the prominent Deaf Federation of South Africa (DEAFSA), strongly shares the government's view on reserving a place for special schools. According to DEAFSA (2001b:3), *"The right to mainstream education does not exclude the right to schools for the Deaf people in areas where the Deaf people can be educated more effectively in order to give them equal intellectual and vocational opportunities in all areas of their lives. This right to schools for the Deaf people should be entrenched as a separate right to the right to mainstream education as the Deaf people are a linguistic minority with their own cultural values and it is important that their cultural identity is nurtured."* DEAFSA (2001b) believes that children with hearing loss should receive education within their first language, namely Sign Language as well as within their own "Deaf-Culture". Because Deaf Culture is unique to the child with hearing loss, the child must have access to education within this special environment. DEAFSA (2001b) furthermore believes that the mainstreaming of some children with hearing loss may negatively influence the child's development of Sign Language, and cultural identity and belonging.

Although the educational philosophies of organisations for persons with hearing loss have sound origins, one should not generalise the needs of *all* children with hearing loss. Some children do not necessarily feel they belong to the Deaf Culture, due to various reasons, such as the home-environment in which they were brought up, or their access to devices such as cochlear implants, et cetera., and may therefore feel more at one with the hearing community in mainstream schools.

1.2.1.3 The inclusive educational system in South Africa

In an attempt to address the shortcomings of past placement practices in South Africa, the government proposes an inclusive educational system that will positively benefit the child with hearing loss by addressing the child's barriers to learning. According to international inclusion philosophy, an inclusive educational system seeks to establish collaborative, supportive, and nurturing communities of learners based on providing *all* learners with services and accommodations they need to learn, as well as respecting and learning from each other's individual differences (Salend, 2001). In accordance with the aforementioned, the South African Education White Paper no 6 (2001) states that the inclusive educational system will include a range of different placements ranging from ordinary schools to special schools/resource centres with the goal of uncovering and addressing barriers to learning, and recognising and accommodating the diverse range of learning needs among learners. The inclusive educational system will have a wider spread of educational support services that will be created in line with what learners with their specific disabilities require. Schools will be divided into three categories: ordinary schools, full-service schools and special schools/resource centres. However, these three categories of placement are by no means an attempt to revert back to the previous educational system of separation of children with disabilities from other regular children. Instead, learners are classified according to their need for support and not according to their physical limitations. The following predictions can be made concerning the placement of children with hearing loss in the inclusive educational system:

- * Ordinary schools will exist for learners who require low-intensive educational support (Education White Paper no 6, 2001). It can be assumed that children who as a whole function with minimal support such as children that have had time to completely adapt to their cochlear implants, will be placed in these schools. Children with hearing loss who, with amplification, can independently participate in class may also be placed in ordinary schools.
- * Full-service schools will serve learners requiring moderate support (Education White Paper no 6, 2001). It can be deduced that children with recent cochlear implants and who are still learning their new auditory skills may be placed here, because they require moderate support. Children who, with amplification, are unable to fully participate in an ordinary school will also benefit from the level of support at full-service schools. These schools will accommodate the majority of learners with hearing loss.
- * Special schools/resource centres will enrol learners who require high-intensive educational support (Education White Paper no 6, 2001). It can be concluded that children who, with amplification, present with severe to profound hearing loss or children with hearing loss with an additional disability will be placed here. Children with hearing loss who do not function maximally in the other two categories, will also be placed in these special schools/resource centres.

To the relief of many persons advocating the preservation of special schools, the special school will still have its rightful place in the inclusive educational system. According to the South African Education White Paper no 6 (2001), special schools/resource centres will continue to provide critical education services to learners who require intense levels of support, and in addition to this role, these schools will have to provide expertise and support to full-service and ordinary schools, thereby serving as resource centres in the districts. The teachers at a special school/resource centre may, for example, use their specialised skills and specialised learning material to train teachers of full-service schools how to educate children with hearing loss. Teachers at special schools/resource centres will have access to pre-service and in-service training, and will receive professional support services, so that they, in

turn, can provide specialised support in curriculum, assessment and instruction to other schools. The government's acknowledgement of the need for, and encouragement of, teacher training and teacher professional support services is a further motivation for the development of an educational audiology service delivery model to support teachers that have to educate children with hearing loss. The South African Education White Paper no 6 (2001:41) further stresses that: "*Particular attention will be given to optimising the expertise of specialist support personnel, such as therapists ... and health professionals...*", in order to support and train teachers in the inclusive educational system. Furthermore, the Department of Education foresees the future expansion of special schools/resource centres to reach the target of 380 special schools/resource centres. The expansion of special schools/resource centres is an exciting prospect, because this indicates that specialised knowledge about the education of children with hearing loss will be shared among teachers, and reach a greater number of teachers than previously and this will directly benefit the child with hearing loss. The expansion of special schools/resource centres will also provide educational opportunities to the child with hearing loss who requires high-intensive educational support and whose unique educational needs were not previously addressed, due to lack of support services.

Finally, the ultimate choice will reside with the parents (in consultation with educational authorities) on whether they want their child with hearing loss placed in an ordinary school, a full-service school, or a special school. Parents will no doubt base their decisions for their child's placement, inter alia, on: whether they themselves were brought up in a Deaf culture, their exposure to anecdotes of successes and failures of different placements, their perception of the severity of their child's hearing loss, and the influence of professional opinions they have consulted. No matter where the child with hearing loss is placed, the child should receive a quality education that will equip him with knowledge and skills that will enrich his life throughout.

1.2.2 Unique challenges facing teachers of children with hearing loss in South Africa

Apart from having to adapt to the inclusive educational system and its different placement options, teachers of children with hearing loss in South Africa already face some unique challenges. These challenges may prevent teachers from rendering quality education to children with hearing loss and must therefore be identified and addressed. The most prominent challenges for teachers in South Africa pertaining to audiological and educational management of children with hearing loss can be identified from available literature on regular teachers as well as teachers of children with hearing loss. These challenges are discussed forthwith.

- * According to the national census in 1996 (Statistics SA, 2001a), approximately 1% of the total South African population is hearing-impaired. This percentage does not correlate with the much higher international findings which estimate that 10% of the total world population is hearing-impaired (World Health Organisation, 2002a). The much lower percentage regarding the presence of hearing loss obtained in the South African census can best be explained by their failure to identify all the candidates with hearing loss. Nevertheless, using the underestimated percentages of the South African census (Statistics SA, 2001b), it can roughly be inferred that 44% of the total population that have hearing loss are school-aged children, therefore it can be estimated that there are approximately 169 550 children with hearing loss in South Africa and only 35 schools (DEAFSA, 2001a) for children with hearing loss. It is clear that schools for children with hearing loss face **overcrowding** and have limited staff resources. Regular schools also face continued overcrowding (Department of Education, 1996; De Villiers, 1997; Theron, 1996) mainly due to factors such as population growth. Generally, class sizes in developing countries, such as South Africa, are at least two to three times larger than equivalent classes in developed countries (Harber, 1999). The merging of many children with hearing loss together with their hearing peers in state schools in accordance with the government's proposal

(Education White Paper no 6, 2001), will add to the problem of overcrowding. In conjunction with overcrowding, an unfavourable teacher/learner ratio exists (Reeves, 1994; Steyn, 2000). This places enormous stress and time limits on the teacher and prevents the accomplishment of educational goals. Furthermore, the managing of audiological aspects of children with hearing loss will also be negatively influenced by overcrowded classrooms, such as less time for troubleshooting of their hearing aids and added classroom noise that makes the signal-to-noise ratio unfavourable for teaching. It is clear that teachers require support in order to deal with audiological and educational aspects amidst the dilemma of overcrowding.

- * The **geographical location** of schools (regular schools and schools for children with hearing loss) in South Africa create some unique challenges. Firstly, vast physical distances between some neighbouring schools exist (Reeves, 1994). These distances make it difficult for teachers to network and offer support to each other. Secondly, some schools are difficult to access due to inferior or sometimes non-existent roads and public transport. For these reasons, support personnel often do not visit these schools. Lastly, unfavourable differences between urban and rural schools still exist, due to their geographical locations. The location of schools for the Black population within rural communities (due to apartheid policy), contributed to inflexible catchment areas, isolation, and inequality in resource allocation (Smit & Hennessey, 1995). Although currently in the process of change, some rural schools still have limited access to electricity, clean water, toilets, adequate buildings, or basic facilities such as desks and chairs (Harber, 1999). The lack of professional support services offered to urban schools leave teachers without the proper assistance in audiological and educational management of children with hearing loss. The cumulative effect of these geographical challenges result in teachers having to work in isolation, and they often struggle to manage the audiological and educational demands of the child with hearing loss within these hostile circumstances.
- * The lack of **parental involvement** is a universal challenge that face teachers of children with hearing loss globally (English, 1995; Johnson,

Benson & Seaton, 1997; Lynas, 1994; Moores, 1996). Unfortunately, South African parents' lack of involvement is aggravated by some exceptional conditions. The residential placement of children with hearing loss on grounds of not only their disability, but also their race and home language (Penn & Reagan, 1995), excluded parents from day-to-day involvement with their child and his/her school. Furthermore, parents in rural areas are not readily accessible to the school, and have to travel long distances from home to school. This implies that parents have to face the extra burden of travelling when liaising with teachers (Van der Westhuizen & Mosoge, 2001). The high incidence of urbanisation in South Africa causes some children to grow up in the care of their extended family in rural areas, whilst their parents, working elsewhere in cities, can only offer limited support with their schooling (Paterson & Kruss, 1998). Indirectly, the HIV/AIDS pandemic is resulting in changes in the child's family structure, and can result in a lack of parental involvement, because many children's parents pass away due to HIV/AIDS. Additionally, teachers of children with hearing loss receive no formal training in parent guidance (Pottas, 1998), and therefore seldom have the competence to involve parents in programmes to help their children optimally develop their language and academic skills outside the school context. Teachers require specialist support in order to address the issue of inadequate parental involvement.

- * The lack of legislation for compulsory specialised **teacher-training** courses for teachers of children with hearing loss presents yet another challenge. Teachers with regular educational qualifications are also employed in special schools for children with hearing loss (Pottas, 1998). Although the inclusive educational system proposes new training programmes for all teachers (Education White Paper no 6, 2001) the content of these programmes should be carefully scrutinised, considering the findings of a recent study among South African teachers of children with hearing loss (Pottas, 1998), which indicated a definite lack of knowledge of the teachers with regard to audiological aspects in spite of their in-service training. Even teachers with specialised formal training exhibited specific needs with regard to their knowledge of audiological

aspects (Pottas, 1998). Another study in South Africa involving regular teachers found that they deemed it necessary to receive specialised training in order to manage the child with hearing loss in an inclusive classroom (Keith & Ross, 1998). Without training and assistance teachers in South Africa lack the relevant knowledge, skills and support, and are unable to provide the best learning opportunities for these children (Pottas, 1998).

- * The absence of adequate **financial resources** at all schools is another challenge that teachers have to confront. Government expenditure is constrained, whilst the demand for education and training is constantly growing (Department of Education 1997; Hall & Engelbrecht, 1999; Steyn, 2000). The absence of adequate financial resources results in numerous hardships for schools of children with hearing loss, such as understaffed schools, limited teaching materials, restricted amplification opportunities for learners, and the declining of teaching standards (Penn & Reagan, 1995). Posts for support personnel, such as educational audiologists, are not common at all schools for children with hearing loss (Pottas, 1998). Lack of funding for assistive devices, hearing aids and therapy, negatively impacts on the performance of the child with hearing loss in class. Teachers require assistance to provide alternative ways of audiological and educational management with less financial resources available.
- * **Poverty** is an indisputable reality in South Africa. It can be deduced from the national census in 1996 (Statistics SA, 2001c) that at least 45% of the population live in poverty. Children with hearing loss not only have to face the challenges of their sensory impairment, but also have to confront everyday conditions of poverty such as hunger, malnutrition, homelessness, disease, disintegration of their families and other unfortunate social predicaments (Kamper, 2001). The challenge that teachers of children with hearing loss face, is to contribute, in their small but tangible way, towards the alleviation of the child's poverty. According to Kamper (2001), the alleviation of poverty in South African classrooms can be achieved, inter alia, by providing learner-centred education as described by the American authors Knapp, Shields and Turnbull (1995). Learner-centred education will result in the development of the child's

values and perspectives and will help the child to focus on his/her potential rather than his/her shortcomings (Knapp, Shields & Turnbull, 1995). Teachers may require support when providing learner-centred education to children with hearing loss, since to date teachers have received limited training in this aspect of teaching (Pottas, 1998).

- * Another challenge for teachers of children with hearing loss is the ever-present and fast growing **HIV/AIDS** pandemic in South Africa. According to international research, the number of children with HIV/AIDS will continue to rise in future (Matkin, Diefendorf & Erenberg, 1998). The HIV/AIDS pandemic is bringing about changes in the South African population that also affects the child with a hearing loss. Children are often orphaned or have ill parents which causes an unstable home environment and parental involvement in the child's schooling is disrupted. According to statistics there were 750 000 Aids orphans reported in South Africa during 2002 (Ngwenya, 2002). The pandemic creates an environment for children that is ridden with the danger of contracting infectious diseases from persons with HIV/AIDS. Audiological changes may occur either as a direct or indirect result of the HIV/AIDS infection (Bankaitis, 1996). Persons with HIV/AIDS may either develop sensorineural or conductive hearing loss due to opportunistic infections damaging the hearing mechanism (Bankaitis & Schountz, 1998). Indirectly, the pharmacological interventions used to treat persons with HIV/AIDS can be ototoxic to the hearing mechanism (Bankaitis & Schountz, 1998; Matkin, Diefendorf & Erenberg, 1998) resulting in further damage of the residual hearing of the child with hearing loss. Ototoxic medications taken by pregnant mothers may be transferred to their unborn babies resulting in the increase of children with congenital hearing loss (Bankaitis & Schountz, 1998). Learner enrolment and dropout rates will also be affected by the HIV/AIDS pandemic in South Africa (Education White Paper no 6, 2001). Teachers of children with hearing loss in South Africa require support in order to anticipate the effects that HIV/AIDS has on the child with hearing loss, with regard to their audiological and educational management.

* South Africa is characterised by its diverse cultures and languages. A teacher has to overcome all the educational challenges associated with **multi-culturalism** and **multi-linguism**. The heterogeneous population of South Africa brings together in the classroom children from a variety of different cultural backgrounds (Viljoen & Molefe, 2001). The teacher has the challenge to incorporate the child's unique culture into the curriculum. Research indicates that, despite constant research in this field, learners with diverse cultural backgrounds are still not being properly accommodated in South African schools (Viljoen & Molefe, 2001). Furthermore, teachers have to be sensitive to the existence of the Deaf culture among certain individuals with hearing loss (DEAFSA, 2001b). Within the South African Deaf culture there are aspects such as art, poetry, theatre, sport, et cetera, that distinguish the unique status of this culture from others (Penn, 1993). With regard to the issue of multi-linguism, the child with hearing loss has added demands on the development of his/her language because, not only is the child burdened with a language deficit resulting from the hearing loss (English, 1995; Johnson, Benson & Seaton, 1997; Lynas, 1994; Moores, 1996), but South African classrooms simultaneously accommodate many different languages (Viljoen & Molefe, 2001). In South Africa, there is currently a trend for many non-English speaking parents to enrol their children in English-medium schools, despite the fact that they speak different home languages and do not reinforce English at home (Viljoen & Molefe, 2001). Children with hearing loss do not cope well with the simultaneous exposure to more than one spoken language (English, 1995; Johnson, Benson & Seaton, 1997; Lynas, 1994; Moores, 1996; Sanders, 1988). Another challenge facing the teacher during language tuition is the different approaches that exist in language instruction, which range from strictly oral methods to signing approaches (Penn, 1993; Penn & Reagan, 1995). To complicate matters even more for teachers, different sign systems exist for different schools (Penn, 1993; Penn & Reagan, 1995). Teachers in South Africa require the expertise of support personnel in order to overcome cultural and linguistic aspects that influence the audiological and educational management of children with hearing loss.

Whilst many of these challenges are either caused or exacerbated by previous policies, and although the present-day government continues to eradicate these obstacles, most will have repercussions that will remain challenges for South African teachers of children with hearing loss in the inclusive educational system.

All the above-mentioned factors pose challenges to teachers of children with hearing loss, and can occur simultaneously and compound to create a situation where teachers are overwhelmed and unable to render quality education. Based on this rationale, a statement of the problem can be formulated.

1.3 STATEMENT OF PROBLEM AND FINDING A SOLUTION

Children with hearing loss share the right to basic education whether it be through the medium of ordinary-, full-service- or special school education. As discussed previously, teachers of children with hearing loss are faced with the challenges of educational placement in the current inclusive educational system as well as a variety of unique challenges within the South African context. Challenges in South Africa were identified, such as: overcrowding in classrooms; geographical disadvantages for especially rural communities; lack of parental involvement; lack of specialised teacher training; lack of financial resources at schools; poverty in the community; multi-culturalism and multi-linguism among learners; as well as the growing HIV/AIDS pandemic. These challenges impact negatively on the teacher's audiological and educational management of children with hearing loss. Although many of these challenges are directly and indirectly addressed by the government, some important challenges will not be eradicated in the near future and will continue to have an impact on the teachers' ability to provide quality education for the child with hearing loss.

The above scenario testifies that: teachers of children with hearing loss are in need of support in order to address audiological and educational challenges

related to the child in the classroom and in turn to enable them to provide children with maximal learning opportunities. One of the possible solutions for addressing the teacher's need for audiological and educational support may be through the assistance of a professional who specialises in the audiological and educational management of children with hearing loss, such as the educational audiologist. The educational audiologist has expertise in the field of: audiological identification and assessment; amplification; hearing conservation; rehabilitation; educational planning and management; parent and family-centred support; as well as expertise in the assistance of teachers in identifying their needs for educating children with hearing loss and addressing their needs as best possible (English, 1995; Johnson, Benson & Seaton, 1997). An educational audiologist is trained unlike any other professional involved with children with hearing loss, because not only does the educational audiologist specialise in knowledge of the normal hearing mechanism and hearing, but also in hearing loss and the impact thereof on various aspects of childhood development (Johnson, Benson & Seaton, 1997). The educational audiologist may support the teacher in modifying or adapting his/her teaching approaches and/or classroom environment in order to maximise the learning environment of the child with hearing loss (English, 1995; Johnson, Benson & Seaton, 1997). In order to determine whether an educational audiologist will provide the support required by teachers in the inclusive educational system, the following question should be explored: *What are the needs of teachers of children with hearing loss regarding an educational audiology service delivery model within the inclusive educational system?*

In an attempt to answer the research question, the study will consist of two parts, namely:

Firstly, a critical review of the existing literature on the education of children with hearing loss, including the aspects that influence the education of the child with hearing loss, and the clarification of the role of the teacher and need for support. Furthermore, a review of literature will follow on the roles and responsibilities of the educational audiologist as a support system, with

regards to audiological and educational management of the child with hearing loss, as well as the application of various audiological service delivery systems in the South African context.

Secondly, based on theoretical findings, an empirical research study will follow to investigate the needs of teachers in the inclusive educational system with regards to the audiological and educational management of children with hearing loss.

This study aims to determine the needs of teachers of children with hearing loss and subsequently to develop an educational audiology service delivery model that strives to address these needs and provide support for teachers in the inclusive educational system.

1.4 OUTLINE OF CHAPTERS

A brief description of each of the chapters of the study follows.

Chapter 1: The first chapter provides the rationale and statement of the problem of the study, the outline of the chapters, and the clarification of terms and acronyms used in the study.

Chapter 2: In Chapter two, the effects and consequences of the hearing loss on the child's ability to be educated are discussed; the role of the teacher in addressing these effects and consequences is provided; as well as the teacher's need for support in addressing these effects and consequences is reviewed.

Chapter 3: Chapter three focuses on the outline of educational audiology service delivery systems, as well as the roles and responsibilities of the educational audiologist.

Chapter 4: In this chapter the methodology of the study is described. This includes the description of the aims and objectives, the research design, the selection and description of the participants, data collection instruments and equipment used in the study, the pilot study, data collection procedures, data recording procedures, and, finally, the data analysis and statistical procedures.

Chapter 5: Chapter five presents an overview of the results obtained according to the aim and objectives formulated for the study. Subsequently, the integration and discussion of the results follow.

Chapter 6: In the final chapter, the conclusions and implications of the study are presented; an educational audiology model for use within the inclusive educational system is presented; together with a critical evaluation of the study and recommendations for future research.

1.5 DEFINITION OF TERMS

The following terms as used in the present study need clarification, and are:

Apartheid

This term refers to “a political system, in the past in South Africa, in which people of different races were separated”. (Cambridge International Dictionary of English, 1995:53).

Child(ren) with hearing Loss

The term “child(ren) with hearing loss” was used for the purposes of this study as opposed to “learner(s) with hearing loss”. This was done to place the individual with hearing loss within a human, social, family, as well as educational context throughout the study. The term “learner(s) with hearing loss” was employed in limited instances where special reference had to be made to school-going children within a purely educational context.

Deaf culture

This is a subculture formed among persons with hearing loss. The South African Deaf culture has its own language, namely South African Sign Language (SASL). Deaf culture has its own history, shared values, social norms, customs and technology that are transferred from generation to generation (DEAFSA, 2001c).

Disability

According to the World Health Organisation (2002b), this term refers to any restriction or lack of ability (resulting from an impairment) to perform an activity in the manner, or within the range, considered normal for a human being.

Educational audiologist

International literature (Bess & McConnell, 1981; English, 1995; Johnson, Benson & Seaton, 1997; Tucker & Nolan, 1984) defines an educational audiologist as a professional specifically trained to operate as an audiologist in school settings and their scope of practice expands beyond traditional clinical audiology to include responsibilities such as full participation in the educational process of the child. Currently in South Africa, no formal academic distinction is made between clinical audiologists and educational audiologists and a regular qualification allows audiologists to practice across different work settings. Nevertheless, the term “educational audiologist” will be used to describe an audiologist working in South African school settings, because these audiologists fulfil the same roles and functions than those of qualified educational audiologists internationally.

Full-service school

According to the South African Education White Paper no 6 (2001), a full-service school serves learners requiring moderate educational support.

Generalizable

This term is used to describe the drawing of conclusions from a population sample to the total population (Leedy & Ormrod, 2001).

Hearing loss

This umbrella term includes all degrees of hearing loss. It refers to the condition that results from the impairment of the sense of hearing to such an extent that it interferes with communication and affects the social, emotional, educational and/or vocational aspects of an individual.

Inclusive educational system

The inclusive educational system is currently being phased in the South African educational system. Previously, scattered attempts were made to include some individuals with disabilities, but the educational system was segregated, separating races from each other as well as dividing children with disabilities from other children (Education White Paper no 6, 2001). In literature associated terminology include “mainstreaming” and “integration” (Salend, 2001).

Junior phase

This refers to the categorisation of teaching phases according the educational department. The Junior phase usually includes learners from pre-school up to Grade 6. The Junior phase is further divided into categories which include: pre-school; foundation phase (Gr R to Gr 3); and the intermediate phase (Gr 4 to Gr 6).

Learner(s) with hearing loss

In some cases, the term “learner(s) with hearing loss” was applied for the purposes of this study as opposed to the term “child(ren) with hearing loss” where special reference had to be made to school-going children within a purely educational context. The term “child(ren) with hearing loss” was mostly employed in order to place the individual with hearing loss within a human; social; family; as well as educational context throughout the study.

Ordinary school

The South African Education White Paper no 6 (2001) defines an ordinary school as a school that exists for learners who require low-intensive

educational support, these schools are comparable to the traditional “regular schools”.

Reliability

Reliability is a term used during research and means that the information provided by indicators does not vary as a result of characteristics of the indicator, instrument or measurement device itself (Neuman, 1997). It is the extent to which a measurement procedure yields the same answer however and whenever it is carried out (Kirk & Miller, 1986).

Regular school

For the purpose of this study, this term shall refer to schools in South Africa in the past that did not provide for children with disabilities and educated only children without any physical, sensory and/or cognitive impairments.

Senior phase

This refers to a specific category within the classification of teaching phases used by the Educational Department. The Senior phase usually includes learners from Grade 7 up to Gr 12 and may also include Vocational or Technical phases.

Trouble-shooting (of a hearing aid)

This term is used to describe the process of inspecting a hearing aid in order to determine whether it is functioning properly. Trouble-shooting includes, inter alia, testing the battery voltage and listening to the sound quality through a stetoclip.

Special school/Resource centre

A special school/resource centre serves learners who require high-intensive educational support, and in addition to this role, these schools have to provide expertise and support to full-service and ordinary schools, thereby serving as resource centres in the districts (Education White Paper no 6, 2001).

Validity

Validity is a term employed during research and used to determine whether a type of measurement actually measures what it is presumed to measure (Mouton & Marais, 1996).

1.6 ACRONYMS

The following acronyms are frequently used throughout the study and therefore require clarification:

	ASHA:	American Speech-Language and Hearing Association
	DEAFSA:	Deaf Federation of South Africa
	EAA:	Educational Audiology Association
	HIV/AIDS:	Human Immune Virus/Acquired Immune Deficiency Syndrome
	IEP:	Individualised Educational Plan
	PHC:	Primary Health Care
	SASL:	South African Sign Language
	SASLHA:	South African Speech-Language and Hearing Association
	WHO:	World Health Organisation

1.7 CONCLUSION

In reviewing literature, the unique role of the educational audiologist in supporting the teacher of the child with hearing loss is clarified. Teachers in South Africa face unique challenges and therefore require audiological and educational support to fulfil their role as providers of quality education to children with hearing loss. A possible solution for this need for support may be the provision of assistance by an educational audiologist. A need for research thus becomes evident in order to determine to what extent an educational audiologist can provide support to teachers of children with hearing loss. This study will aim to determine the needs of teachers when

educating children with hearing loss in the inclusive educational system and to subsequently develop an educational audiology service delivery model for use within the inclusive system.

1.8 SUMMARY

In the introductory chapter, differences in the educational practises for children with hearing loss as opposed to educational practises for hearing children, were confirmed. An outline of the historical development of education of children with hearing loss in South Africa, from the 19th to the 21st century, was given as a backdrop to the present situation in education. The unfavourable characteristics of specialised education in the past were briefly mentioned. The rationale explored educational placement practices of the past as well as the current inclusive educational system in South Africa. An overview was given of the unique challenges that face teachers of children with hearing loss in South Africa. The problem statement of the research study was discussed with recommendations for finding a solution to the problem statement. A brief description of the chapters was presented and terms and acronyms were clarified to the reader. A conclusion and summary were provided at the end of the chapter.

CHAPTER 2
ROLE OF THE TEACHER OF THE CHILD WITH HEARING LOSS

“Teaching deaf children is one of the most complex, demanding, yet satisfying experiences within the teaching profession.” (Sanders, 1988:69).

2.1 INTRODUCTION

Children with hearing loss have certain audiological and educational needs that have to be addressed by their teachers during their school-going years (Bess & McConnell, 1981; Bunch, 1987; English, 1995; Sanders, 1988). The child with hearing loss has barriers to learning, due to his/her sensory disability that may result in a variety of language, speech, and communication deficits and in turn bring about difficulties in literacy skills, academic achievement, and psychosocial development (ASHA, 1993; Bess & McConnell, 1981; Bunch, 1987; English, 1995; Ferguson, Hicks & Pfau, 1988; Froehlinger & Bryant, 1981; Jamieson, 1994; Johnson, Benson, & Seaton, 1997; McAnally, Rose & Quigley, 1987; Moores, 1996; Sanders, 1988; and other authors). In view of the current transition to the inclusive educational system in South African schools, the needs of the teacher of children with hearing loss has to be determined in order to seek solutions to support teachers in their new role. Supporting the teacher will enhance the quality of education for children with hearing loss (English, 1995; Johnson, Benson, & Seaton, 1997; Webster & Wood, 1989).

From the literature reviewed, the following were identified as fundamental in order to determine the needs of teachers in the inclusive educational system and are as follows:

- * the effects and consequences of the hearing loss on the child's ability to be educated;
- * the role of the teacher in addressing these effects and consequences; and
- * the teacher's need for support in addressing these effects and consequences.

The aim of this chapter is to review the seven most prominent aspects of hearing loss that influence the education of the child and accordingly to clarify the role of the teacher when educating the child with hearing loss, and to attempt to identify some areas of support required by the teacher. When areas of support required by the teacher have been identified, the role of the educational audiologist can be superimposed on these areas.

2.2 UNIQUE EDUCATIONAL CONSIDERATIONS FOR EACH CHILD

The importance of learning is an indisputable truth for the human race. "The ability to learn, individually, in groups, in organisations and as a country, is a critical factor in the progress and development of society as a whole." (Leaf, Louw & Uys, 1997:53). Children may have varying degrees of hearing loss and they may each adapt to their hearing disability in a different manner, which in turn will effect their ability to learn in their own unique way.

Regardless of the degree of the hearing loss, the educational effect of the disability may be significant due to the interaction of numerous variables (English, 1995; Flexer, 1993; Jamieson, 1994; Webster & Wood, 1989). The variables include type of hearing loss, age of onset of hearing loss, lingual competency at onset of hearing loss, promptness of receiving intervention, age at which intervention was commenced, the child's response to amplification, the presence of additional educational disabilities, the child's

psychosocial profile, family support structures available, et cetera. These variables act interchangeably and influence the development of children with hearing loss, which in turn influence their ability to learn and to achieve academically. It becomes apparent that each child is unique, and therefore each child should have unique educational considerations. Furthermore, it must be accepted that when children with hearing loss experience educational difficulties, that these difficulties may not necessarily be the result of the hearing loss per se, but that other factors such as intelligence, motivation, social and economic circumstances may influence the child's performance (Webster & Wood, 1989).

Because of the complex and variable nature of hearing loss and its effects, children with hearing loss are a heterogeneous group and should be treated as such. Individualised Educational Programmes (IEP) for all children, and most certainly children with hearing loss, are imperative throughout their school careers (ASHA, 1993). The rationale behind an IEP is that each person is an individual with unique educational needs, who should therefore receive an individualised intervention programme to address these needs (Johnson, Benson, & Seaton, 1997). An individualised educational plan comprises of a document compiled by the teachers, support personnel (such as educational audiologists) and parents of the child. It entails a child's present level of educational performance, updated progress reports of the child's educational performance, a layout of long-term and short-term goals for the child, together with expected dates of completion and their measurable outcomes, a statement of the child's specific educational needs and related services, the extent to which the child will be able to participate in the educational programme, the anticipated dates of initiation and duration of services for the child, and appropriate objective criteria and evaluation procedures for determining whether the child's educational objectives and goals have been achieved (Johnson, Benson, & Seaton, 1997). In addition, the IEP must include the monitoring of the child's access to and participation in extracurricular and non-academic activities with other learners (Salend, 2001). The discussion that follows will centre on the effects of the hearing

loss on the child's ability to be educated, but the unique variances that exist among children should be kept in mind throughout.

2.3 THE ROLE OF THE TEACHER REGARDING THE EDUCATION OF THE CHILD WITH HEARING LOSS

The critical role of the teacher in the inclusive educational system has been stressed by Education White Paper no 6 (2001:18): *“Classroom educators will be our primary resource for achieving our goal of an inclusive education and training system...and (they will) focus on ... the development of learners' strengths and competencies rather than focus on their shortcomings”*. This statement is particularly true for teachers of children with hearing loss, where according to Lynas (1994), success in the classroom for the child with hearing loss is, to a large extent, dependent upon the skill of the teacher. The child with hearing loss shares the same main objectives of education as his/her hearing peers, namely the achievement of literacy skills, self-realization, human relationships, economic efficiency, and civic responsibility in order for the individual to live as successfully as possible within society (Sanders, 1988). In order for the teacher to render quality education and accomplish the above-mentioned objectives, the teacher should consider and address the consequences which the hearing loss has on the child's ability to be educated. A literature study was conducted to identify the most prominent effects and consequences of hearing loss on the child in the classroom and subsequently to define the role of the teacher when addressing the impact of hearing loss on the child's ability to be educated. Seven areas of impact were identified from international literature and a correlation was made to the unique role of the South African teacher in the inclusive education system. A significant part of the teacher's role in educating the child with hearing loss is the establishment of parental involvement (Froehlinger & Bryant, 1981). A discussion on parental involvement will not be part of this chapter, but will receive attention in the successive chapter when service delivery by the educational audiologist will be discussed.

In the following discussion the seven effects of the hearing loss and its impact on education will be emphasised, and each effect will be discussed in terms of the teacher's role and areas of support required by the teacher. The seven areas, namely the child's hearing ability, language skills, speech production skills, communication skills, literacy skills, academic achievement, and psychosocial development and their impact on the child's ability to be educated, as well as the teacher's role, were conceptualised from various literature sources (ASHA, 1993; Bess & McConnell, 1981; Bunch, 1987; English, 1995; Ferguson, Hicks & Pfau, 1988; Froehlinger & Bryant, 1981; Jamieson, 1994; Johnson, Benson, & Seaton, 1997; McAnally, Rose & Quigley, 1987; Moores, 1996; Sanders, 1988). Once again, these effects and their impact cannot be universally applied to all children with hearing loss and the child's unique educational considerations should not be overlooked.

Based on a literature review, a framework was conceptualised to approach the role of the teacher of the child with hearing loss. Figure 2.1 illustrates the role of the teacher.

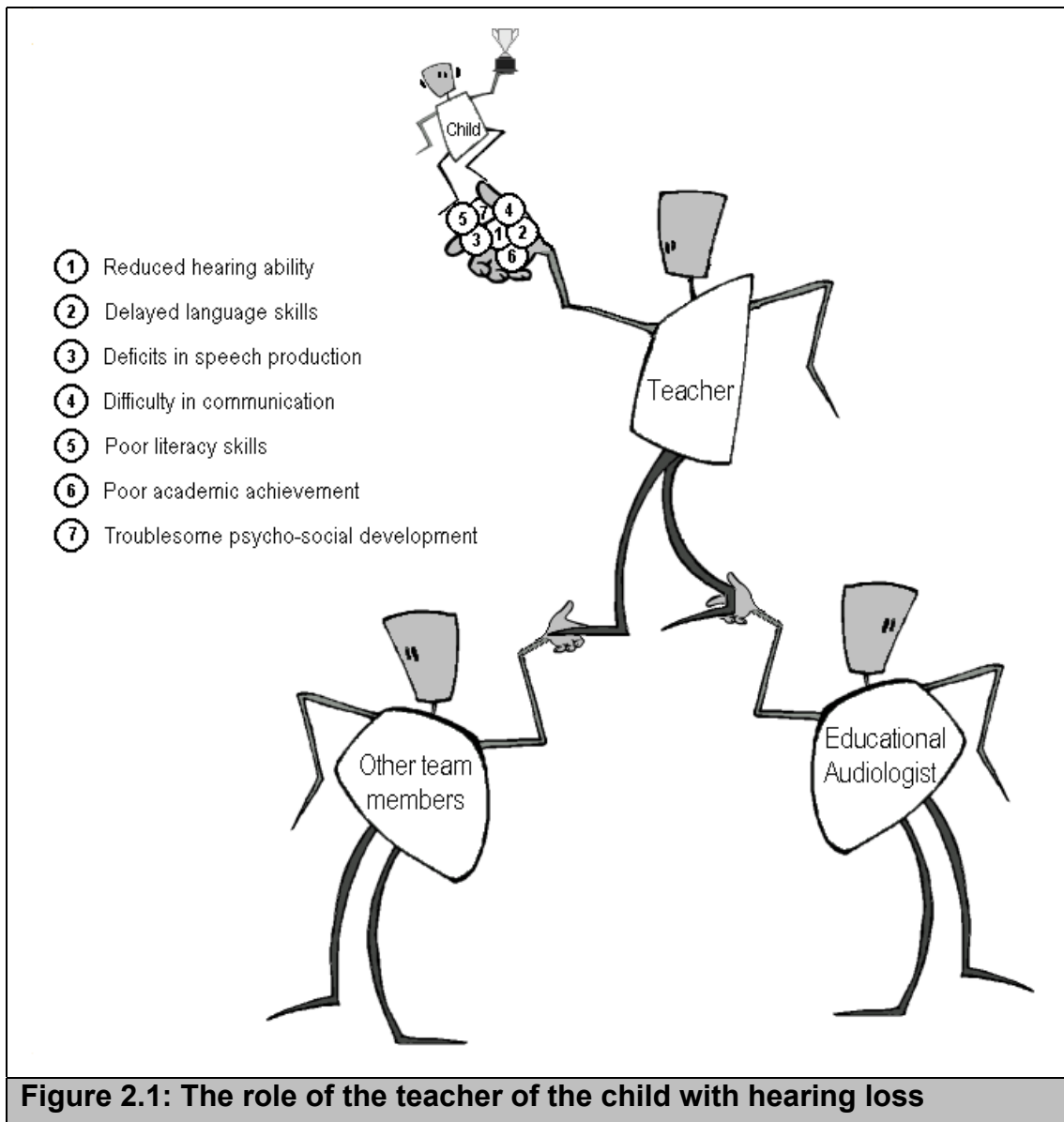


Figure 2.1: The role of the teacher of the child with hearing loss

The above figure metaphorically illustrates the role of the teacher in educating the child with a hearing loss. Educating the child with hearing loss should be viewed as a “delicate balancing act”. The child requires support in the seven relevant areas from his/her teacher. These seven areas are interdependent spheres and should one area be neglected or overseen by the teacher, the other areas may “slide off” and cause the child to “fall from the teachers grasp”. The teacher in turn is supported by both the educational audiologist and other relevant team members. Inadequate support by either a relevant team member or by the educational audiologist will result in the teacher being unable to “keep his/her balance”. A teacher that is “struggling to keep his/her balance” will not be able to effectively support the child, and thus will cause

the child to “struggle to remain standing”. The complete absence of either the educational audiologist or other team members may result in the teacher “completely losing his/her balance” and thus cause the child to “fall from the teacher’s grasp”. This will cause the child not to maximally benefit from educational efforts and not to develop his/her full academic potential.

2.3.1 Hearing loss and its effect on hearing ability

The wonder and significance of hearing is best described by Berg (1976:7) who wrote: *“Hearing is perhaps our most versatile and valuable sense ... it personalizes or decodes much of the world in which we live. It reaches behind, under, above, around corners, through walls, and over hills, bringing in the crackling of a distant campfire, the bubbling of a nearby stream, the closing of a door, the message of a voice, the myriad of sound which identifies much of our experience”*.

Although it may sound like a superfluous statement, it must be recognised that the child’s hearing loss causes the child to have reduced hearing ability. The consequences of reduced hearing ability, the role of the teacher in addressing reduced hearing ability, and the support required by the teacher in order to address reduced hearing ability, will follow.

2.3.1.1 Consequences of reduced hearing ability

The foremost consequence of reduced hearing ability on the education of the child is the child’s diminished ability to receive auditory information from the teacher, classmates, and the classroom environment fundamental for learning in the classroom. Learners who do not have full access to auditory information in the classroom cannot be expected to learn at a normal rate (Nelson & Soli, 2000).

Hearing loss has a negative impact on a child’s ability to learn language, produce speech, communicate, acquire literacy skills and achieve academically (ASHA, 1993; English, 1995; Jamieson, 1994; Sanders, 1988;

Tweedie, 1987; Webster & Wood, 1989). Furthermore, a hearing loss can be seen as a functional condition that can negatively affect the child's emotional, social and mental development (Sanders, 1988). All the above-mentioned affected areas can, on their own or in combination, cause educational barriers (ASHA, 1993; English, 1995; Johnson, Benson, & Seaton, 1997; Sanders, 1988; Tweedie, 1987; Webster & Wood, 1989).

The teacher is faced with the challenge of overcoming the child's reduced hearing ability and the accompanying impact on the education of the child with hearing loss. The teacher therefore has a special role to fulfil in order to address this challenge.

2.3.1.2 Role of the teacher in addressing reduced hearing ability

In order for the teacher to address the child's reduced hearing ability, the following two areas require special attention. Firstly, the teacher should have the **relevant knowledge** of reduced hearing ability and related areas (English, 1995; Tweedie, 1987; Webster & Wood, 1989). The teacher has to possess the relevant knowledge in order to understand the child's audiological and educational needs and accordingly plan for the child's educational programme (English, 1995). Secondly, the teacher should optimally **develop** the child's **residual hearing** (Berg, Blair & Benson, 1996; English, 1995; Johnson, Benson, & Seaton, 1997). Only when a child's residual hearing is optimally developed, will he/she wholly benefit from auditory input in the classroom and thus gain from educational efforts (Johnson, Benson, & Seaton, 1997).

The two above-mentioned areas should be considered, and form part of the teacher's role in addressing the child's reduced hearing ability, and therefore a discussion will follow on their relevance.

2.3.1.2.1 Knowledge of hearing loss and related areas

Teachers should have sound knowledge in the following areas in order to address the child's reduced hearing ability (English, 1995; Jamieson, 1994;

Johnson, Benson, & Seaton, 1997; Sanders, 1988; Tweedie, 1987; Webster & Wood, 1989). Teachers should:

- * know the functioning of the normal auditory mechanism with regards to basic anatomical structure and functioning in order to understand the process of hearing and the effect of a disrupted hearing mechanism;
- * be able to interpret an audiogram in order to understand the range and extent of the child's hearing loss;
- * know the common etiology of hearing loss in order to prevent hearing loss where possible and to understand the type of loss associated with each cause;
- * be aware of the factors that can further damage the child's residual hearing, in order to prevent further damage to the auditory mechanism; and
- * realise the impact of hearing loss on the child's ability to be educated in order to make relevant changes to the child's educational programme.

2.3.1.2.2 Optimal development of residual hearing

The teacher should optimally develop the child's residual hearing in order for the child to benefit from auditory input in class, such as speech (English, 1995; Froehlinger & Bryant, 1981; Jamieson, 1994; Johnson, Benson, & Seaton, 1997; Sanders, 1988).

Four methods of developing the child's residual hearing can be identified: (a) identification of children with hearing loss, (b) enhancement of the classroom acoustics, (c) improving the child's listening skills and (d) enhancement of the child's speech-reading skills (Berg, Blair & Benson, 1996; Bunch, 1987; English, 1995; Johnson, Benson, & Seaton, 1997; Sanders, 1988). A discussion on these four methods of developing the child's residual hearing will follow.

a) Identification of children with hearing loss:

Identification of children with hearing loss is part of the teacher's role in optimally developing residual hearing (English, 1995).

Undetected hearing loss can have detrimental consequences for the learner. The child with hearing loss who has not been identified will not be able to receive adequate intervention for language, speech, communication, literacy, academic and psychosocial development (English, 1995; Jamieson, 1994; Johnson, Benson & Seaton, 1997).

Higher academic achievement was found among children with hearing loss who were identified early in life (Martineau, Lamarche, Marcoux & Bernard, 2000).

Although the importance and value of early identification of hearing loss among children is emphasised in literature (Yoshinaga-Itano, 2000), this discussion will focus on identification of school-aged children (ages six years and older) and can therefore not be viewed as an *early* identification practice.

Despite the endorsement by the South African Department of Health, the implementation of universal hearing screening programmes among infants in South Africa will most probably not be possible due to problems such as inadequate resources, lack of services, lack of facilities, inadequate technology for the underprivileged majority and lack of personnel (Swart, 1995). Consequently, some children may go through the health system unidentified and may only be identified as having a hearing loss once they enter the school system.

Thus, in South Africa, an added responsibility rests on the teacher to be able to identify the child with hearing loss in his/her inclusive classroom. Teachers must have sound knowledge of the identifying signs of a child with hearing loss and know the appropriate channels for referral (English, 1995).

b) Enhancement of classroom acoustics:

Now that the identification of hearing loss has been discussed as a method of developing residual hearing, the second procedure whereby the development of residual hearing can be achieved, namely the enhancement of the classroom acoustics, should be taken into consideration.

In the classroom, information is primarily conveyed from the teacher to the child through soundwaves, if these soundwaves are diminished or stifled due to poor classroom acoustics, the child will be unable to receive auditory information in the class in order to learn and achieve academically (Berg, Blair & Benson, 1996). In addition to problems with learning, Gallup (1986) in Berg, Blair and Benson (1996) has found that when children cannot hear effectively in the classroom, they are more likely to have difficulty staying on task, behaving appropriately and cooperating throughout.

It is imperative that teachers be aware of the problems caused by poor classroom acoustics, the impact poor acoustics may have on the child's ability to be educated, and ways to enhance the acoustic environment of the classroom (Berg, Blair & Benson, 1996). The following three strategies were identified from literature and forms part of the quest for the enhancement of the classroom acoustics (Berg, Blair & Benson, 1996) and which in turn will optimise the child's residual hearing (Johnson, Benson & Seaton, 1997). These strategies for the enhancement of the classroom acoustics are: **noise control**, **signal control** (without amplification), and utilisation of **amplification** devices. A brief summary of these three strategies and the teacher's role in applying these strategies will follow.

The teacher should **control** unwanted **noise**: Classroom noise levels are increased by unwanted noise such as traffic passing by, children's voices from neighbouring classes and voices from inside the classroom, humming neon tube lighting in the class, et cetera (Johnson, Benson & Seaton, 1997). Excessive noise in classrooms is the mayor factor that affects the child's ability to hear auditory information. The teacher should, with the help of

professionals, identify and measure the airborne and structure-borne noises inside and outside the classroom and either isolate or reduce these noises (Berg, 1993).

The teacher should **control the signal** (without amplification): If the signal-to-noise ratio in the classroom is not at least a favourable + 15dB, children will not clearly hear the teacher's spoken message and will not be able to partake in, and learn from, lessons (EAA, 2002a). The signal-to-noise ratio can be improved by changing some surfaces in the class to be more absorbent in order to reduce noise, echoes and reverberation, and by making other surfaces reflective to increase the signal intensity. Hence the teacher should: convert all surface areas that do not provide useful reflection, to be more absorbent; make the ceiling and side walls reflective surfaces; install carpet on the floor; and place absorbent panels on the back wall (Berg, Blair & Benson, 1996).

The teacher should **utilise amplification devices**: Available technologies such as hearing aids, assistive listening devices, and cochlear implants help the child to optimally utilise his/her residual learning and consequently benefit from educational efforts by the teacher (Crandell & Smaldino, 2000). Children with hearing loss who do not have access to these devices or do not appropriately utilise these beneficial supporting devices are denied their basic right to hearing and consequently their opportunities for learning in class (Bentler, 1993; Crandell & Smaldino, 2000; English, 1995; Johnson, Benson, & Seaton, 1997). These devices can only be effective if they are carefully selected, evaluated and maintained for each child's needs (Crandell & Smaldino, 2000). Most of these devices must be checked and maintained daily by, inter alia, the teacher in order to be in proper working condition (Bentler, 1993; Crandell & Smaldino, 2000; Berg, Blair & Benson, 1996).

c) Improving the child's listening skills:

Two methods for optimally developing residual hearing skills namely, identification of hearing loss and the enhancement of the classroom acoustics

have been discussed. Improving the child's listening skills is the third method that the teacher has to pursue when optimally developing residual hearing in children with hearing loss.

Listening skills imply detecting the spoken message, discriminating the words, phrases, and sentences, and accordingly understanding their intent. Listening involves more than just the physiological process of hearing, but includes aspects such as motivation, attention, concentration and perceptual skills (English, 1995). The ability to listen effectively is essential for education, because at least 45% of the average school day involves listening activities (Berg, 1993). In order for the teacher to improve the child's listening skills that will result in the optimal development of the child's residual hearing, the teacher should follow guidelines identified from literature sources (Edwards, 1991; English, 1995; Johnson, Benson, & Seaton, 1997). The teacher should:

- * know the hierarchy of the normal development of listening skills;
- * recognise that listening skills are an integral part of learning rather than an isolated training activity that is presented as a separate "subject" in class;
- * have information on the level of performance of each of the children's listening skills;
- * teach the child to recognise optimal versus difficult listening situations;
- * teach the child to compensate for difficult listening situations by signalling when the message is unclear, and moving closer to the speaker;
- * introduce children to different listening situations and practice techniques for better listening; and
- * use training activities for specific listening skills such as awareness of environmental sounds, following auditory sequences, et cetera.

d) Enhancing the child's speech-reading skills:

The identification of hearing loss; the enhancement of the classroom acoustics; and the improvement of the child's listening skills, have been discussed. The last method for optimally developing the child's residual hearing is: the enhancement of the child's speech-reading skills.

Although speech-reading cannot, in the true sense of the word, be seen as part of the optimal development of residual hearing, speech-reading will feature as part of the discussion, because it helps to compensate and augment the child's reduced hearing ability within the educational setting.

Speech-reading involves the visual interpretation of spoken communication. It is a highly complex process in which the child with hearing loss must utilise situational and motivational variables as well as have mastery of the grammar of the spoken language (Moore, 1996).

Although, the value of speech-reading has been clarified in literature, agreement is not unanimous concerning the acquisition of visual skills in children with hearing loss (Johnson, Benson, & Seaton, 1997). Speech-reading is an invaluable tool for the education of any child with hearing loss and aids the child's reduced hearing ability when listening to spoken messages in the classroom (Bunch, 1987; Moore, 1996).

To enhance the speech-reading skills of the child with hearing loss in order to compensate and augment his/her reduced hearing ability within the educational setting, the teacher should take the following into consideration (Berg, 1976; Bunch, 1987; Moore, 1996). Teachers should:

- * understand the process of speech-reading;
- * know the different approaches to instruction such as the Jena method, Mueller-Walle method, Nitchie method, and Kinzie method; and
- * structure the classroom in order to provide optimal opportunities for visual clues such as the correct distance and angle from the speaker, correct lighting, et cetera.

The vital role of the teacher in developing the child's residual hearing was discussed in terms of the four methods, namely, identification of children with hearing loss, enhancement of the classroom acoustics, improving listening skills, and the enhancement of speech-reading skills.

The support required by the teacher in order to address the child's reduced hearing ability will be discussed, namely the support required by the teacher in terms of knowledge on hearing loss and related areas, as well as support required in terms of developing the child's residual hearing.

2.3.1.3 Support required by the teacher in order to address reduced hearing ability

The role of the teacher in addressing the child's reduced hearing ability includes the attainment of **knowledge** on hearing loss and related areas, as well as the optimal development of the child's **residual hearing** (English, 1995; Webster & Wood, 1989; Johnson, Benson, & Seaton, 1997). These two areas will be discussed in terms of the teacher's need for support in order to address the child's reduced hearing ability.

2.3.1.3.1 Support regarding the attainment of knowledge on hearing loss and related areas

Teachers should have sound knowledge of the functioning of the normal auditory mechanism, in order to be able to interpret an audiogram, know the common etiology of hearing loss, be aware of the factors that can further damage the child's residual hearing and realise the impact of a hearing loss on the child's ability to be educated. Knowledge in these areas is necessary in order to address the child's reduced hearing ability (English, 1995; Jamieson, 1994; Johnson, Benson, & Seaton, 1997; Sanders, 1988; Tweedie, 1987; Webster & Wood, 1989).

A study conducted among South African teachers revealed that teachers mostly had insufficient knowledge of hearing loss and related areas (Pottas, 1998). The results indicated that teachers only knew: 60% of the questions on the auditory mechanism; 33% of the questions on the interpretation of an audiogram; 57% of the questions on the causes of hearing loss; and only 33% of the questions on the impact of a hearing loss on the child.

Findings from this study makes it clear that South African teachers require support in attaining knowledge of hearing loss and related areas. The audiologist has extensive knowledge in these areas and thus can help teachers understand hearing loss and its related areas through training and information sessions (English, 1995; Johnson, Benson, & Seaton, 1997).

2.3.1.3.2 Support regarding the optimal development of the child's residual hearing

The role of the teacher during the optimal development of the child's residual hearing can be summarised as including the identification of children with hearing loss, the enhancement of the classroom acoustics, the improvement of the child's listening skills, and the enhancement of the child's speech-reading skills (Bunch, 1987; English, 1995; Froehlinger & Bryant, 1981; Jamieson, 1994; Johnson, Benson, & Seaton, 1997; Sanders, 1988). This is a very extensive and specialised task for the teacher, and therefore support is required from a professional specialising in these areas, such as the educational audiologist (English, 1995; Johnson, Benson, & Seaton, 1997). A discussion on the four areas, namely: (a) support regarding the identification of children with hearing loss, (b) support regarding the enhancement of the classroom acoustics, (c) support regarding the improvement of the child's listening skills and (d) support regarding the enhancement of the child's speech-reading skills, will follow.

a) Support regarding the identification of children with hearing loss:

A study conducted among American teachers found that one-fourth of high school teachers and half of primary school teachers were unaware that some of their children in class had hearing loss (Blair, EuDaly & Benson, 1999).

Findings in South Africa appear to be comparable with international results. A study conducted among South African pre-school teachers revealed that teachers were only able to identify one out of six children in their classes who were diagnosed with hearing loss (Chambers & Anderson, 1997). Drawing on

conclusions, South African literature reveals that pre-school teachers of mainstream schools receive the same amount of training in the identification of hearing loss (Chambers & Anderson, 1997) than primary school teachers of mainstream schools (Pottas, 1998), which constitutes very little knowledge in this area. Interpreting these results, it can be assumed that if *pre-school* teachers have such high failure rates to identify the children with hearing loss, the odds are good that *primary* and *high* school teachers will also have difficulty in identifying children with hearing loss in South African classrooms.

Following the discussion, the importance of support by a professional in hearing screening becomes clear for the South African teacher in the inclusive system. The educational audiologist is highly specialised in the identification practices of hearing loss among children, and can offer the teacher training and support in order to identify children in the class with hearing loss (ASHA, 1993; English, 1995; Ferguson, Hicks & Pfau, 1988; Johnson, Benson & Seaton, 1997).

b) Support regarding the enhancement of classroom acoustics:

The role of the teacher during the enhancement of the classroom acoustics in order to optimally develop the child's residual hearing includes knowledge and skill in specialised areas such as: determining the acoustic levels in class; reducing and eliminating noise; modification of classroom surfaces; utilisation of hearing aids, assistive listening devices, and cochlear implants; as well as keeping up to date with new trends in amplification (Berg, Blair & Benson, 1996).

Pottas (1998) concluded that the majority of South African teachers had very limited knowledge about the function, operation and maintenance of hearing aids. This indicates a need for support in the area of classroom acoustics.

The educational audiologist is unmistakably the most suitable person to support the teacher when enhancing the classroom acoustics in order to optimally develop the child's residual hearing (ASHA, 1993; English, 1995;

Johnson, Benson & Seaton, 1997). According to an American ad hoc committee on service delivery in schools (ASHA, 1993:29), an essential part of the educational audiologists role and responsibilities are to: “... *analyze classroom noise and acoustics and make recommendations for improving the listening environment; ... make recommendations about use of hearing aids, cochlear implants, group and classroom amplification, and assistive listening devices; ... ensure the proper fit and functioning of hearing aids, cochlear implants, group and classroom amplification, and assistive listening devices*”. The South African Speech-Language and Hearing Association (SASLHA) closely follows the code of conduct and professional roles and responsibilities stipulated by the American Speech-Language and Hearing Association (ASHA). In addition, the educational audiologist keeps up-to-date with the latest trends and technologies in amplification, and can introduce support and train the teacher on the utilisation of these new devices (English, 1995; Johnson, Benson & Seaton, 1997).

c) Support regarding the improvement of the child’s listening skills:

In order for the teacher to fulfil the role in improving the child’s listening skills, the teacher will require support in the different techniques and strategies that exist. The educational audiologist has expertise in the area of improvement of the child’s listening skills, and can offer valuable support to the teacher (Edwards, 1991; English, 1995; Johnson, Benson, & Seaton, 1997). The educational audiologist is responsible for assessment and teaching of listening skills to the learners, as well as training of the teacher to address the problem of listening skills (English, 1995).

d) Support regarding the enhancement of the child’s speech-reading skills:

The teacher’s role during the enhancement of speech-reading skills in order to help the child compensate and augment his/her reduced hearing ability within the educational setting, have been stipulated in the previous discussion.

A study among South African teachers of children with hearing loss disclosed that only 17% of questions on speech-reading were correctly answered (Pottas, 1998). This shows a definite need for teacher support in South Africa when enhancing the child's speech-reading skills.

An educational audiologist can offer considerable assistance to the teacher when enhancing the speech-reading skills of the child with hearing loss (Otis-Wilborn, 1992). According to an American ad hoc committee on service delivery in schools, the assessment and intervention of speech-reading skills are an important part of the role of the educational audiologist when serving children with hearing loss in the classroom (ASHA, 1993).

2.3.2 Hearing loss and its effect on spoken language skills

Language is the vehicle for communication, living and learning in our world (Froehlinger & Bryant, 1981). No matter what the degree of hearing loss, the child's spoken language will be delayed to a greater or lesser extent depending on the child's unique variables (Bess & McConnell, 1981; Bunch, 1987; English, 1995; Ferguson, Hicks & Pfau, 1988; Froehlinger & Bryant, 1981; Jamieson, 1994; Sanders, 1988; McAnally, Rose & Quigley, 1987). The term *language* is defined for the purposes of the forthcoming discussion as any *spoken* symbolic system used for communication and instruction in class, for example English or Zulu. The discussion will exclude manual languages such as South African Sign Language (SASL), as hearing loss does not affect the ability to acquire or use Sign Language. The issue of teachers' knowledge of, and proficiency in, Sign Language, will be dealt with under the discussion *Hearing loss and its effect on communication skills*. The consequences of delayed language skills, the role of the teacher in addressing language deficits, and the support required by the teacher in order to address language deficits, will follow.

2.3.2.1 Consequences of delayed language skills

Deprivation of the sense of hearing forms a barrier to the normal development of language which in turn is reflected as a barrier to learning in school (Bess & McConnell, 1981; Webster & Wood, 1989).

The main consequence of delayed language skills is that the child has diminished comprehension and means of expression during lessons that negatively influences the child's ability to be educated (Bess & McConnell, 1981; McAnally, Rose & Quigley, 1987).

A large number of children with hearing loss struggle with the reception and perception of incidental language (Jamieson, 1994), and their language development, comprehension, and production reveal the following discrepancies with their hearing peers (ASHA, 1993; McAnally, Rose & Quigley, 1987; Quigley & Power, 1972 in Sanders, 1988):

- * their vocabulary develops slower, and may plateau with age;
- * they learn concrete words more easily than abstract words;
- * they have difficulty understanding the multiple meanings of words;
- * they comprehend and produce shorter and more simple sentences;
- * their complex sentences (e.g. passive voice) are developmentally delayed;
- * they often misunderstand complex sentences;
- * they use more determiners, nouns and verbs, and fewer adverbs, auxiliaries, and conjunctions;
- * they omit or misuse function words (e.g. the, is, are), which gives their language a telegraph style; and
- * they often have misunderstandings and misuse of tense, pluralisation, noun-verb agreement, and possessives.

The above-mentioned language deficits often contribute to communication difficulties, poor literacy skills, poor academic achievement, low self-esteem, and social isolation that indirectly negatively influences the child's ability to be educated (McAnally, Rose & Quigley, 1987; Northern & Downs, 1984; Sanders, 1988).

Considering the impact of a language delay on the child's ability to be educated, it is evident that the teacher of the child with hearing loss has a unique role to fulfil during the development of the child's language skills.

2.3.2.2 Role of the teacher in addressing delayed language skills

The development of adequate language skills in the child with hearing loss is the most challenging of the tasks facing teachers. Teachers should consider each child's language needs and to address these needs accordingly (Bunch, 1987; Froehlinger & Bryant, 1981; Johnson, Benson, & Seaton, 1997; Lynas, 1994; Sanders, 1988).

The following guidelines must be taken into consideration by the teacher during language instruction, as well as when presenting other subjects in class (Bunch, 1987; Ferguson, Hicks & Pfau, 1988; Sanders, 1988). The teacher should:

- * have knowledge of normal language development;
- * have knowledge of each child's level of language functioning;
- * use the above-mentioned knowledge to modify and adapt teaching materials, techniques, and the classroom environment to meet the language needs of the learners;
- * stimulate and expand the child's language skills, but keep the language used for communication and instruction in class on a level which the child can comprehend;
- * have knowledge of the different language instructional approaches and apply the best suited approaches in class;
- * develop the child's language in conjunction with his/her sensory experiences of the world;
- * emphasise language across all contexts for the child and remember that each class activity should contain the potential for giving meaning to learning language; and
- * regard language as a social process that mostly takes place in the context of social interaction.

The aforementioned guidelines define the role of the teacher in addressing delayed language skills in an attempt to educate the child with hearing loss.

2.3.2.3 Support required by the teacher in order to address delayed language skills

The role of the teacher in addressing the child's language delay has been discussed, but it would be unfair to expect the teacher to handle this highly specialised task on his/her own. Although teachers in South Africa receive some form of training on language instruction and development (Pottas, 1998), a teacher does not have the expertise in all the areas of language development and neither does he/she have to have it. The teacher requires support, especially in areas such as determining the level of each child's language functioning and in planning for intervention steps (Webster & Wood, 1989). Assessment of, and intervention in, each child's language skills is generally done by a speech-language therapist and/or an educational audiologist (Johnson, Benson & Seaton, 1997; Owens, 1991; Sanders, 1988). The educational audiologist will use the child's level of language functioning as well as crucial information on the child's auditory functioning such as the type and degree of hearing loss, response with amplification, speech discrimination performance and the child's listening skills in order to plan for language intervention (Johnson, Benson & Seaton, 1997). In addition, the educational audiologist conducts special auditory evaluation test procedures with the child to provide the information required by the speech-language therapist to enter upon his/her intervention (Johnson, Benson & Seaton, 1997). Another area that the teacher in South Africa requires support in is the challenge of teaching the child with a home language different than the language used for instruction in class. The merging of different home languages in one class is a distinctive feature in South African schools (Viljoen & Molefe, 2001). Fortunately, the educational audiologist is well equipped to offer support to the teacher in addressing multi-linguism in the classroom (Johnson, Benson & Seaton, 1997).

2.3.3 Hearing loss and its effect on speech production

Speech is the means of communication used by the vast majority of members of society and without speech, the child is severely limited in both the extent and the quality of human contact (Ling, 1979 in Bess & McConnell, 1981).

Deficits in speech production is common among most children with hearing loss, because hearing loss interferes with the child's ability to hear the correct speech model of other people, as well as to monitor his/her own voice when speaking, and as a result, the subtle coordination of respiration, phonation, resonance and articulation is deficient (Berg, 1976; Bunch, 1987; Jamieson, 1994; Moores, 1996; Sanders, 1988). The consequences of deficits in speech production, the role of the teacher in addressing deficits in speech production and the support required by the teacher in order to address deficits in speech production, will follow.

2.3.3.1 Consequences of deficits in speech production

Reduced hearing ability causes deficits in speech production that interfere with the teacher's task of educating the child with hearing loss.

The leading consequence of deficits in speech production is that the child is not clearly understood by the teacher and classmates, causing communication breakdown, which in turn negatively influences the child's ability to be educated (Jamieson, 1994; Sanders, 1988).

Children with hearing loss can show errors in the following categories of speech production (Berg, 1976): timing and rhythm; pitch and intonation; hyponasality and hypernasality; articulation; and voice quality and loudness.

The above-mentioned errors in speech production has an effect on the child's normal development of communication skills, literacy skills, academic achievement, self-esteem, and social integration that impacts on the child's

ability to be educated in class (Bess & McConnell, 1981; Jamieson, 1994; Sanders, 1988; Tucker & Nolan, 1984).

The teacher therefore has a role to play in addressing the child's deficits in speech production as part of an attempt to educate the child with hearing loss (Froehlinger & Bryant, 1981; Sanders, 1988; Webster & Wood, 1989).

2.3.3.2 Role of the teacher in addressing deficits in speech production

The teacher has to address speech deficits as part of the broader framework of educating children with hearing loss. The following aspects must be taken into consideration in attempting to address these speech deficits (Berg, 1976; Froehlinger & Bryant, 1981; Jamieson, 1994; Moores, 1996). The teacher should:

- * comprehend the process of normal speech production;
- * consider each child's oral-motor functioning and know whether the child has any added neurological or anatomical limitations to his/her speech production;
- * consider each child's phonological repertoire and identify the sounds the child finds difficult to produce;
- * rate the child's speech intelligibility and monitor changes for the better or the worse in speech production; and
- * know of the various methods used for teaching correct speech production, such as analytical versus whole, formal versus informal, and unisensory versus multisensory.

If the teacher considers the above-mentioned aspects, he/she will fulfil the role of addressing the child's deficits in speech production.

2.3.3.3 Support required by the teacher in order to address deficits in speech production

The role of the teacher in addressing deficits in speech production have been made clear. A recent study among South African teachers of children with

hearing loss revealed that the majority of teachers experienced speech instruction as a difficult task and that they themselves felt incompetent in their abilities to address deficits in speech production (Isaacson, 2000). These findings make it clear that teachers often find it a daunting task in the classroom to address the speech deficits of the child with hearing loss and therefore require support from specialists in the area of speech instruction and speech correction. Educational audiologists, together with speech-language therapists, are the most suitable professionals to offer the teacher support in areas of speech assessment and intervention (English, 1995; Johnson, Benson & Seaton, 1997; Sanders, 1988). In order to address speech deficits in children with hearing loss, the teacher will need essential information on the child's phonological repertoire, as well as audiological information such as the type and degree of hearing loss, response with amplification, speech discrimination performance, listening skills, and the child's speech-reading skills (Johnson, Benson & Seaton, 1997).

2.3.4 Hearing loss and its effect on communication skills

When a child has achieved communication competence, the child has mastered the importance of the social values and rules underlying language in social interaction (McAnally, Rose & Quigley, 1987). Communication skills are the tools of progress for education (Sanders, 1988).

Some authors argue that children with hearing loss have communication difficulties largely due to delayed language skills, and in most cases, deficits in speech production. However, the obverse to this statement can also be argued, namely that delayed language skills and deficits in speech production may cause children with hearing loss to have communication difficulties (McAnally, Rose & Quigley, 1987). Whichever way the above-mentioned argument is perceived, communication should not be viewed independently from language and speech production skills (McAnally, Rose & Quigley, 1987).

When children who use Sign Language exhibit difficulties in communication through signing, it can mostly be explained by late exposure and/or lack of exposure to Sign Language and their communication difficulties are increased if these children are not immersed in exclusive signing environments (Bellugi & Klima, 1985; Moores, 1996).

Although communication through Sign Language is not negatively affected as a result of reduced hearing ability, Sign Language will receive attention during the discussion, as it forms an integral part of the communication options available to the child with hearing loss. The consequences of difficulties in communication, the role of the teacher in addressing difficulties in communication, and the support required by the teacher in order to address difficulties in communication, will follow.

2.3.4.1 Consequences of difficulties in communication

The reduced ability to hear causes the child to have difficulties in communication which in turn affects his/her ability to be educated (English, 1995; Froehlinger & Bryant, 1981; Johnson, Benson & Seaton, 1997).

The primary consequence of difficulties in communication is communication breakdown in class, which leads to inability of information exchange between teacher and child during the education process (Brackett, 1997). Effective classroom communication (exchange of messages between teacher and child) is a critical component to the success of educating children with hearing loss in inclusive settings (Brackett, 1997)

Difficulties in communication can present as deficiencies in: syntax, morphology, semantics, pragmatics, attention span, memory, and information processing (Froehlinger & Bryant, 1981; Lane & Molyneaux, 1992; Owens, 1991).

The above-mentioned deficiencies affects normal development of pragmatics, attention span, memory, information processing, academic achievement, self-

esteem, and social integration that indirectly influences the child's ability to be educated in a negative way (Froehlinger & Bryant, 1981; Sanders, 1988).

It therefore becomes a necessity for the teacher to assume the role of addressing the communication difficulties of the child with hearing loss (English, 1995; Froehlinger & Bryant, 1981; Johnson, Benson & Seaton, 1997).

2.3.4.2 Role of the teacher in addressing difficulties in communication

Addressing communication difficulties presents another challenge for the teacher when educating the child with hearing loss. The teacher will have to take note of the following when addressing communication difficulties in the child with hearing loss (Johnson, Benson & Seaton, 1997; Lynas, 1994; Moores, 1996). The teacher should:

- * understand the normal process of communication;
- * expose children to interactional experiences so that they are more motivated to communicate and so that they can develop their communication skills;
- * apply communication repair strategies when communication breakdowns occur in class;
- * have knowledge of the main communication options available to the child with hearing loss, namely the oral-aural method, total communication method and the bilingual-bicultural method;
- * have knowledge and proficiency in Sign Language if used in the classroom;
- * if necessary, involve interpreters in the classroom for children who use Sign Language; and
- * in collaboration with the child, parents and educational audiologist, decide on the most appropriate communication option for the child.

If the teacher is determined to fulfil his/her role in addressing communication difficulties, the teacher has to take note of the above-mentioned aspects when educating the child with hearing loss.

2.3.4.3 Support required by the teacher in order to address communication difficulties

Although the teacher of children with hearing loss may possess some knowledge on how to address communication difficulties, the teacher will need support to give the child the best opportunities to achieve communication competence (English, 1995; Froehlinger & Bryant, 1981; Johnson, Benson & Seaton, 1997).

A South African survey among regular teachers revealed that the majority of teachers felt that professionals should especially provide information on communication strategies, in order for them to manage the child with hearing loss in an inclusive classroom (Keith & Ross, 1998).

The teacher has to work with the educational audiologist in order to obtain critical information on the child's level of communication competence, the type and degree of hearing loss, response with amplification, speech discrimination performance, listening skills, and the child's speech-reading skills, in order to address communication difficulties (Johnson, Benson & Seaton, 1997). The educational audiologist can offer meaningful support to the teacher, because, according to an American ad hoc committee on audiology services in schools, the educational audiologist is fittingly qualified to assess and make recommendations regarding communication needs, strategies and options for children with hearing loss.

2.3.5 Hearing loss and its effect on literacy skills

Literacy consists of two highly interrelated counterparts, namely reading and writing. Achievement of literacy skills will broaden the communication system of the child and is the key to educational development of the child with hearing loss (Paul & Quigley, 1994; Sanders, 1988).

Generally, children with hearing loss have great difficulty in learning to read and write and they only achieve average to below-average competency due

to, inter alia, their language delays (Bunch, 1987; Jamieson, 1994; Moores, 1996; Paul & Quigley, 1994; Sanders, 1988; Tucker & Nolan, 1984). The literacy skills of children with hearing loss are generally poor. Their literacy skills often plateau with age, and this directly influences their mastery of all other written academic content (Paul & Quigley, 1994). The consequences of poor literacy skills, the role of the teacher in addressing poor literacy skills and the support required by the teacher in order to address poor literacy skills, will follow.

2.3.5.1 Consequences of poor literacy skills

The reduced ability to hear causes language delay and speech deficits, which in turn causes the child with hearing loss to develop poor literacy skills (Bunch, 1987; Paul & Quigley, 1994; Sanders, 1988; Tucker & Nolan, 1984).

The greatest consequence of poor literacy skills is that the child does not successfully master one of the critical foundations of education, and this negatively influences the child's ability to be educated (Paul & Quigley, 1994; Sanders, 1988).

A study of reading difficulties found among children with hearing loss revealed (Webster & Wood, 1989): a tendency to read slower; difficulties in mastering the sound system and using phonemic contrasts; deficits in their speech intelligibility and fluency while reading; literal interpretation of language; and difficulties in comprehension.

An analysis of the kinds of errors made by children with hearing loss in written production indicated (Paul & Quigley, 1994): omission of words necessary to make grammatically correct sentences; wrong substitutions for words; addition of unnecessary words; incorrect tense sequencing; and incorrect word order in sentences.

The above-mentioned characteristics testify that the child cannot fluently participate in reading and writing activities as required for the learning and

representation of school work that ultimately negatively interfere with the child's ability to be educated.

The teacher should assume the role of addressing poor literacy skills when educating the child with hearing loss.

2.3.5.2 Role of the teacher in addressing poor literacy skills

Poor literacy skills present a challenge to the teacher and highlight his/her responsibility to address these skills when educating the child with hearing loss. When planning a literacy programme for the child with hearing loss, the teacher should take the following into account (Froehlinger & Bryant, 1981, Moores, 1996). The teacher should:

- * ensure that the child has acquired the basics of language before proceeding with literacy instruction;
- * take into account the child's expectations and experiences when choosing reading matter and topics for writing;
- * identify and address the origin of the errors made by the child when reading and writing (e.g. auditory discrimination problems);
- * have knowledge of the different approaches to literacy instruction, namely top-down or bottom-up; and
- * apply the most suitable approach for the child with hearing loss.

When the teacher takes the above-mentioned aspects into account, he/she will be addressing the child's poor literacy skills and will be enhancing the child's opportunities for educational growth.

2.3.5.3 Support required by the teacher in order to address poor literacy skills

The role of the teacher in addressing poor literacy skills has been declared and although this is probably one of the areas teachers feel most confident in, the teacher can benefit remarkably from support provided by the educational audiologist (English, 1995; Johnson, Benson & Seaton, 1997). Through

assessment and intervention practices, the educational audiologist ensures that the child is optimally using his/her residual hearing and thereby creating maximal opportunities for learning to read and write by means of the teacher's auditory input (Bunch, 1987; English, 1995; Johnson, Benson & Seaton, 1997; Sanders, 1988; Tucker & Nolan, 1984).

2.3.6 Hearing loss and its effect on academic achievement

Academic achievement is the most measurable outcome of the educational efforts made by the teacher. The child's achievement in school subjects will give an indication of his/her interests and aptitude in certain areas and will ultimately influence decisions made on the child's future vocational placement (Bunch, 1987).

Children with hearing loss largely have poor academic achievement, especially in subjects such as mathematics, science and literature (Bunch, 1987; English, 1995; Johnson, Benson & Seaton, 1997; Moores, 1996; Sanders, 1988; Tucker & Nolan, 1984).

Previously, poor academic achievement was attributed to the supposed inferior intellectual ability found in the majority of children with hearing loss (Moores, 1996). At present, it is well established that as a group, people with hearing loss function within the normal distribution range of intelligence, and former findings were based on inappropriate test procedures that penalised the population with hearing loss on the basis of their inadequate language abilities (Moores, 1996). The consequences of poor academic achievement, the role of the teacher in addressing poor academic achievement and the support required by the teacher in order to address poor academic achievement, will follow.

2.3.6.1 Consequences of poor academic achievement

When the child with hearing loss receives diminished auditory input due to a reduced ability to hear, the child usually develops delayed language abilities,

deficits in speech production, difficulties in communication and poor literacy skills, which are the main contributors to poor academic achievement in school (Bunch, 1987; English, 1995; Johnson, Benson & Seaton, 1997; Moores, 1996; Sanders, 1988; Tucker & Nolan, 1984).

The foremost consequence of poor literacy skills is the child's inability to successfully complete his/her academic career which will negatively influence the child's vocational opportunities (Froehlinger & Bryant, 1981; Sanders, 1988).

The main consequences of hearing loss on academic achievement that has been identified in the literature are (ASHA, 1993):

- * all areas of academic achievement are negatively affected;
- * some children achieve skills no higher than the third- or fourth- grade level unless intensive appropriate educational intervention occurs early;
- * on average, they achieve from one to four grade levels lower than their hearing peers; and
- * the gap between hearing children and children with hearing loss usually widens as they progress through school.

The above-mentioned characteristics causes the child to experience difficulty in all areas of academic achievement, thus widening the gap between the child and his/her hearing peers, resulting in feelings of low self-esteem, frustration, anxiety, and powerlessness that indirectly affects the child's ability to be educated (Sanders, 1988; Tucker & Nolan, 1984).

The teacher therefore has an extremely important role to play in enhancing the academic achievement of the child with hearing loss.

2.3.6.2 Role of the teacher in addressing poor academic achievement

Improving the academic achievement of the child with hearing loss is an arduous role that has to be fulfilled by the teacher (Bunch, 1987). The

following principles enhance the child's ability to achieve better academic scores in school (Bunch, 1987; Moores, 1996). The teacher should:

- * provide appropriate reinforcement and positive feedback to the child;
- * enhance the child's opportunities for feedback on the teacher's instruction in class;
- * place value on the child's mastery of the subject and make the subject an integral part of the child's life;
- * provide meaningful homework that is graded and appropriate;
- * increase time spent on the mastery of a task or subject;
- * present subject content in smaller increments;
- * tailor learning experiences to each child's cognitive, physical, social, and emotional level;
- * modify subject curricula by controlling the vocabulary and syntax, and by increasing the use of visual aids;
- * involve parents to enforce the school curriculum at home; and
- * discuss progress with the child, parents and support personnel.

When the teacher follows the above-mentioned principles, the teacher can enhance the academic achievement of the child with hearing loss.

2.3.6.3 Support required by the teacher in order to address poor academic achievement

Children with hearing loss are dependent on intensive instruction from their teacher in order to learn the things that their hearing peers learn in a casual, informal, almost incidental manner (Sanders, 1988). The role of the teacher when addressing poor academic achievement has been made clear.

In order for teachers to address poor academic achievement, they should consider the child as a whole and therefore require support by a specialist who pays attention to the audiological and educational aspects of the child with hearing loss. The most suitable person to offer support in addressing the child with hearing loss and his/her academic achievement as a whole, is the educational audiologist (ASHA, 1993; English, 1995; Johnson, Benson &

Seaton, 1997). The educational audiologist can offer support in areas such as providing the teacher with essential information and intervention in areas such as: the child's type and degree of hearing loss, response with amplification, speech discrimination performance, listening skills, and the child's speech-reading skills (Johnson, Benson & Seaton, 1997). Information on these aspects will assist the teacher in planning the teaching materials, subject content, instructional techniques, and the classroom environment in order to meet the learning needs of the children (ASHA, 1993; English, 1995; Johnson, Benson & Seaton, 1997).

2.3.7 Hearing loss and its effect on psychosocial development

The psychosocial characteristics of a child refers to the intrinsic thoughts, perceptions, feelings or beliefs about him/herself and others, and to the behavioural traits during interaction and communication with other people in society (Cambridge International Dictionary of English, 1995).

The development of psychosocial characteristics in a child with hearing loss has mostly been found to be troublesome in certain areas (Anderson, 1991; ASHA, 1993; Brooks, 1981; Froehlinger & Bryant, 1981; Jamieson, 1994), and is not caused by the hearing loss itself, but by the side effects of the hearing loss (Moores, 1996). According to the literature consulted, the psychosocial development of children with hearing loss in inclusive educational settings is more troublesome than that of children with hearing loss in special schools. The reasons given for these children to experience more troublesome psychosocial development are: social ratings of peers and teachers are less favourable in inclusive educational settings as opposed to special schools, and these children are more likely to be rejected by their hearing peers than their peers with hearing loss (Cappelli, Daniels, Durieux-Smith, McGrath & Neuss, 1995; Stinson & Lang, 1994). The consequences of troublesome psychosocial development, the role of the teacher in addressing troublesome psychosocial development, and the support required by the teacher in order to address troublesome psychosocial development, will follow.

2.3.7.1 Consequences of troublesome psychosocial development

The deprivation of the sense of hearing indirectly causes troublesome psychosocial development, which in turn affects the teacher's ability to educate the child with hearing loss.

The main consequence of troublesome psychosocial development is that the child is less likely to benefit from educational attempts than children who are well-adjusted, have confidence, good self-esteem, appropriate social skills, and are socially integrated (Froehlinger & Bryant, 1981; Northern & Downs, 1984; Sanders, 1988).

The following psychosocial characteristics are mostly observed among children with hearing loss in **inclusive settings** (Anderson, 1991; Brooks, 1981; English, 1995; Heimgartner, 1982; Sanders, 1988):

- * they are unaware of subtle conversational clues, therefore the child appears socially inappropriate;
- * they miss portions of fast-paced peer interactions, therefore the child becomes socially isolated and develops a low self-esteem;
- * they have to make a greater effort to listen, therefore the child may more readily exhibit frustration and anger than his/her hearing peers;
- * they use amplification devices, which causes them to be viewed as "different" by hearing peers, and they become embarrassed, socially isolated, and lose their confidence to socially interact;
- * they tend to have communication difficulties, therefore the child becomes irritated, and exhibits challenging behaviour during communication breakdowns;
- * some prefer to associate with the Deaf Culture, therefore the child can become socially isolated from hearing peers;
- * academic pressure and too high expectations by teachers causes low self-esteem and feelings of anxiety; and
- * they experience feelings of powerlessness, because they cannot effectively interact and manipulate their environment through language and communication.

The aforementioned characteristics are unwanted behavioural traits in the classroom that indirectly affects the child's ability to be educated.

2.3.7.2 Role of the teacher in addressing troublesome psychosocial development

Teachers will have to address these psychosocial characteristics as part of the attempt to educate the child with hearing loss.

Sanders (1988) suggested that the teacher address the child's psychosocial needs by means of Maslow's Hierarchy of Needs (Maslow, 1968 in Sanders, 1988). The teacher should meet the following psychosocial needs in order to successfully educate the child with hearing loss:

- * motivate children to optimally develop their academic skills;
- * provide children with a safe and secure classroom environment;
- * have children feel that they are loved and that they belong;
- * promote the child's self-esteem; and
- * improve their confidence in class.

In addition, the teacher can also follow these guidelines to improve the child's psychosocial development (Froehlinger & Bryant, 1981; Tucker & Nolan, 1984):

- * give the child empathy not sympathy;
- * apply classroom rules and limits in the same way they apply to hearing peers;
- * provide opportunity for independence and responsibility;
- * facilitate acceptance and respect from hearing peers;
- * monitor the social adjustment and integration in class and intervene where necessary; and
- * give opportunity for socialising and expression in class.

If the teacher considers these guidelines, the teacher will aid in improving the child's psychosocial development.

2.3.7.3 Support required by the teacher in order to address troublesome psychosocial development

Addressing the troublesome psychosocial development of the child with hearing loss is often not seen by the teacher as part of his/her role (Sanders, 1988). The need for addressing troublesome psychosocial development in order to achieve success in the education of the child has been justified in the previous discussion, and therefore teachers cannot exclude this task from their role as educators. The teacher no doubt requires support in this area of the child's development. Undoubtedly, the psychologist and/or social worker are the most appropriate specialists in this area, and are relied upon to offer support to teachers in areas of psychosocial development of the child with hearing loss (English, 1995; Johnson, Benson & Seaton, 1997). However, the educational audiologist, with his/her specialist knowledge in the area of the school-going child with hearing loss, can greatly contribute in this area (English, 1995; Kricos, 1993). The educational audiologist, in collaboration with the psychologist and/or social worker, can provide information on psychosocial development to the teacher, parents and child. In addition, the educational audiologist can facilitate group discussion among children with hearing loss about social appropriateness and other pragmatic skills. The educational audiologist can also indirectly help reduce troublesome psychosocial development by offering the child, teacher and the child's family guidelines for effective communication as well as strategies for repairing communication breakdowns (English, 1995; Johnson, Benson & Seaton, 1997; Kricos, 1993).

A summarised version of the effects of hearing loss on the child's ability to be educated; the consequences thereof; the role of the teacher; and support required by the teacher follows in Table 2.1.

Table 2.1: Education and the child with hearing loss: effects, consequences, role of the teacher and support required by the teacher			
EFFECTS	CONSEQUENCES	ROLE OF TEACHER	SUPPORT REQUIRED
Reduced hearing ability	<p><u>Main:</u> The child has reduced ability to receive auditory information from the teacher, classmates, and classroom environment, and this negatively influences his/her ability to be educated.</p> <p><u>Other:</u> Affects normal development in language, speech, communication, literacy, academic achievement, and psychosocial areas, and this indirectly negatively influences his/her ability to be educated.</p>	<ul style="list-style-type: none"> * to possess relevant knowledge of the structure and functioning of the normal hearing mechanism; to be able to interpret an audiogram; to know common causes of hearing loss and the type of loss associated with each cause; to be aware of factors that can further damage residual hearing; and to know the impact of hearing loss on the child's ability to be educated. * to optimally develop the child's residual hearing by means of identification of hearing loss; to enhance the classroom acoustics; to improve listening skills; and to develop speech-reading skills. 	<p>The teacher needs support (information exchange, training, and/or assistance) from a person specialising in these areas, such as the educational audiologist, in order to render quality education to the child with hearing loss.</p>
Delayed language skills	<p><u>Main:</u> The child has diminished comprehension and means of expression during lessons and this negatively influences his/her ability to be educated.</p> <p><u>Other:</u> Affects normal development of receptive language and expressive language, and this contributes to communication difficulties, poor literacy skills, poor academic achievement, low self-esteem, and social isolation that indirectly negatively influences his/her ability to be educated.</p>	<ul style="list-style-type: none"> * to possess knowledge of normal language development; * to have knowledge of each of the learners' level of language functioning; * to use the above-mentioned knowledge to modify and adapt teaching materials, techniques, and the classroom environment to meet the language needs of the learners; * to stimulate and expand the child's language skills, but also to maintain the language used for communication and instruction in class on the child's' level of comprehension; * to have knowledge of the various language instructional approaches and to apply the best-suited approaches in class; * to develop the child's language in conjunction with his/her 	<p>The teacher needs support (information exchange, training, and/or assistance) from a person specialising in these areas, such as the educational audiologist, in order to render quality education to the child with hearing loss.</p>

Table 2.1 continued

		<p>sensory experiences of the world;</p> <ul style="list-style-type: none"> * to emphasise language across all contexts for the child and remember that each class activity should contain within it the potential for giving meaning to learning language; and * to regard language as a social process that mostly takes place in the context of social interaction. 	
Deficits in speech production skills	<p><u>Main:</u> The child is not clearly understood by the teacher and classmates (this causes communication breakdown) and negatively influences his/her ability to be educated.</p> <p><u>Other:</u> Affects normal development of communication skills, literacy skills, academic achievement, self-esteem, and social integration that indirectly negatively influences his/her ability to be educated.</p>	<ul style="list-style-type: none"> * to comprehend the process of normal speech production; * to consider each child's oral-motor functioning and know whether the child has any added neurological or anatomical limitations to his speech production; * to consider each child's phonological repertoire and identify the sounds the child has difficulty producing; * to rate the child's speech intelligibility and monitor changes for the better or the worse in speech production; and * to know of the various methods used for teaching correct speech production such as analytical versus whole, formal versus informal, and unisensory versus multisensory. 	<p>The teacher needs support (information exchange, training, and/or assistance) from a person specialising in these areas, such as the educational audiologist, in order to render quality education to the child with hearing loss.</p>
Difficulties in communication	<p><u>Main:</u> The child has difficulty to exchange information and messages between him/herself and the teacher in class, and this negatively influences his/her ability to be educated.</p> <p><u>Other:</u> Affects normal development of pragmatics, attention span, memory, information processing, academic achievement, self-esteem, and social integration, and this indirectly negatively influences his/her ability to be educated.</p>	<ul style="list-style-type: none"> * to understand the normal process of communication; * to expose children to interactional experiences so that they are more motivated to communicate and so that they can develop their communication skills; * to apply communication repair strategies when communication breakdowns occur in class; * to have knowledge of the main communication options available to the child with hearing loss, namely the oral-aural method, total communication method, and the bilingual- 	<p>The teacher needs support (information exchange, training, and/or assistance) from a person specialising in these areas, such as the educational audiologist, in order to render quality education to the child with hearing loss.</p>

Table 2.1 continued

		<p>bicultural method; and</p> <ul style="list-style-type: none"> * to decide on the most appropriate communication option for the child in collaboration with the child, parents and educational audiologist. 	
Poor literacy skills	<p><u>Main:</u> The child does not successfully master literacy skills which are one of the critical foundations of education, and this will negatively influence his/her ability to be educated.</p> <p><u>Other:</u> The child cannot fluently participate in reading and writing activities required for the learning and presentation of school work that indirectly negatively influences his/her ability to be educated.</p>	<ul style="list-style-type: none"> * to ensure that the child has acquired the basics of language before proceeding with literacy instruction; * to take into account the child's expectations and experiences when choosing reading matter and topics for writing; * to identify and address the origin of the errors made by the child when reading and writing (e.g. auditory discrimination problems); and * to have knowledge of the different approaches to literacy instruction, namely top-down or bottom-up and apply the most suitable for the child with hearing loss. 	<p>The teacher needs support (information exchange, training, and/or assistance) from a person specialising in these areas, such as the educational audiologist, in order to render quality education to the child with hearing loss.</p>
Poor academic achievement	<p><u>Main:</u> The child cannot successfully complete his/her academic career, and this will negatively influence his/her vocational opportunities.</p> <p><u>Other:</u> The child experiences difficulty in all areas of academic achievement, and the gap between the child and his/her hearing peers widens causing feelings of low self-esteem, frustration, anxiety, and powerlessness that indirectly negatively influences his/her ability to be educated.</p>	<ul style="list-style-type: none"> * to provide appropriate reinforcement and positive feedback to the child; * to enhance the child's opportunities for feedback on the teacher's instruction in class; * to place value on the child's mastery of the subject and make the subject an integral part of the child's life; * to provide meaningful homework that is graded and appropriate; * to increase time spent on the mastery of a task or subject; * to present subject content in smaller increments; * to tailor learning experiences to each child's cognitive, physical, social, and emotional level; 	<p>The teacher needs support (information exchange, training, and/or assistance) from a person specialising in these areas, such as the educational audiologist, in order to render quality education to the child with hearing loss.</p>

Table 2.1 continued

		<ul style="list-style-type: none"> * to modify subject curricula by controlling the vocabulary and syntax, as well as increase the use of visual aids; * to involve parents to enforce school curriculum at home; and * to discuss progress with the child, parents and support personnel. 	
Troublesome psycho-social development	<p><u>Main:</u> The child is less likely to benefit from educational attempts by the teacher that indirectly negatively influences his/her ability to be educated.</p> <p><u>Other:</u> The child exhibits unwanted traits in class such as social inappropriateness, social isolation, low self-esteem, easy frustration, anger, embarrassment, irritation, challenging behaviour, anxiety, and feelings of powerlessness that indirectly negatively influences his/her ability to be educated.</p>	<ul style="list-style-type: none"> * to motivate children to optimally develop their academic skills; * to provide children with a safe and secure classroom environment; * to have children feel that they are loved and that they belong; * to promote the child's self-esteem; * to improve their confidence in class; * to give the child empathy not sympathy; * to apply classroom rules and limits in the same way they apply to hearing peers; * to provide opportunity for independence and responsibility; * to facilitate acceptance and respect from hearing peers; * to monitor the social adjustment and integration in class and intervene where necessary; and * to give opportunity for socialising and expression in class. 	The teacher needs support (information exchange, training, and/or assistance) from a person specialising in these areas, such as the psychologist, social worker and/or the educational audiologist, in order to render quality education to the child with hearing loss.

[Table 2.1 was conceptualised from the following literature sources: ASHA (1993); Anderson (1991); Bentler (1993); Berg (1976); Berg (1993); Berg, Blair & Benson (1996); Bess & McConnell (1981); Blair, EuDaly & Benson (1999); Brackett (1997); Brooks (1981); Bunch (1987); Cappelli, Daniels, Durieux, McGrath & Neuss (1995); Chambers & Anderson (1997); Edwards (1991); English (1995); Ferguson, Hicks & Pfau (1988); Flexer (1993); Froehlinger & Bryant (1981); Heimgartner (1982); Jamieson (1994); Johnson, Benson & Seaton (1997); Lynas (1994); McAnally, Rose & Quigley (1987); Moores (1996); Northern & Downs (1984); Otis-Wilborn (1992); Owens (1991); Paul & Quigley (1994); Sanders (1988); Schlesinger (1985); Tucker & Nolan (1984); and Webster & Wood (1989)].

2.4 CONCLUSION

Children may have varying degrees of hearing loss and they may each adapt to their hearing loss in a different manner, which in turn will effect their ability to learn in their own unique way. Regardless of the degree of hearing loss, the educational effect of the disability can be significant. Children with hearing loss should receive individualised educational plans throughout their school-going years.

Hearing loss has many effects on the child's ability to be educated. Seven areas were identified from various literature sources, namely the effect on the child's: hearing ability, language skills, speech acquisition, communication skills, literacy skills, academic achievement, and psychosocial development (ASHA, 1993; Bess & McConnell, 1981; Bunch, 1987; English, 1995; Ferguson, Hicks & Pfau, 1988; Froehlinger & Bryant, 1981; Jamieson, 1994; Johnson, Benson, & Seaton, 1997; McAnally, Rose & Quigley, 1987; Moores, 1996; Sanders, 1988). Each of these effects has consequences that contribute to challenges for the teacher in the classroom. Considering the effects and consequences that a hearing loss has on a child's ability to be educated, it is important to clarify the teacher's role, and to provide support where required. The teacher has a very extensive role to fulfil when addressing the audiological and educational needs of the child with hearing loss, and therefore the teacher requires support from a person who has expertise in these areas. The areas where support is required where identified from literature and indicates a need for assistance from an educational audiologist. The educational audiologist specialises in the audiological and educational needs of the child with hearing loss, and provides support to the teacher by means of information exchange, training and assistance. Supporting the South African teacher in the inclusive educational system will enhance the quality of education for the child with hearing loss.

Although the needs of teachers where identified from international and local literature, the study will additionally aim to identify the needs of the South

African teacher in the inclusive education system by means of empirical research in order to obtain a comprehensive depiction of their needs.

2.5 SUMMARY

In chapter two, the unique educational considerations for each child with hearing loss was highlighted. The role of the teacher was clarified in terms of the effects and consequences of hearing loss on the child's ability to be educated. The seven areas that effect the child's ability to be educated were discussed, namely: the effect on the child's: hearing ability, language skills, speech acquisition, communication skills, literacy skills, academic achievement, and psychosocial development. The teacher's need for support by an educational audiologist was highlighted in each of these areas. The chapter ends with a conclusion and summary.

CHAPTER 3

SERVICE DELIVERY BY THE EDUCATIONAL AUDIOLOGIST

“...educational audiologists are no longer new creatures on the scene... their job first and foremost is advocating for the needs of individuals with hearing impairment within the educational setting” (adapted from English, 1995:ix).

3.1 INTRODUCTION

In the previous chapter, the role of the teacher of the child with hearing loss has been explained. Furthermore, areas in which the teacher may require support from the educational audiologist have been clarified. This chapter will attempt to clarify service delivery by the educational audiologist. Firstly, a brief overview of the evolvement of educational audiology will be provided followed by discussions on the inclusive service delivery system and the service delivery structure, roles, and responsibilities of the educational audiologist within the inclusive educational system. Based on this, a preliminary educational audiology model for use within the inclusive educational system will be presented.

One effective way of improving the quality of the learning environment of the child with hearing loss, is by investigating teachers' unique needs and challenges (English, 1995) and then addressing these needs as far as possible through the development of an educational audiology service delivery model for the inclusive educational system. According to Education White Paper no 6 (2001), teachers are the primary resource for achieving the goal of an inclusive educational system and will require support from specialists to address the barriers to learning. Furthermore, Salend (2001) cautions about the adequacy of teacher support services and teacher training that affects teachers' attitudes toward inclusion and that may ultimately impact on the

success of inclusion. The government acknowledges the important part that teachers' needs and skills play in the success of inclusion and stresses that "... educators may need to improve their skills and knowledge, and develop new ones." and furthermore proposes "... ongoing assessment of educators' needs ..." (Education White Paper no 6, 2001:18). Therefore, addressing teachers' needs as far as possible through the development of an educational audiology service delivery model is in line with the proposal for the future development of teacher skills as well as the move toward enhanced teacher support within and inclusive educational system as set out in the Education White Paper no 6 (2001). The service delivery model discussed in this chapter will establish a framework from which the educational audiologist can attempt to address the needs of teachers in the inclusive educational system.

The educational audiologist can greatly contribute to the success of educating children with hearing loss by supporting teachers within the school domain (Johnson, Benson & Seaton, 1997). However, the educational audiologist can only provide appropriate support to teachers if an educational audiology model is in place to provide suitable guidelines for accountable service delivery (Johnson, Benson & Seaton, 1997). Currently, in South Africa, the educational audiologist mainly supports teachers of children with hearing loss in *special schools*. From clinical observation, it is clear that not all schools providing for children with special needs, including schools providing for children with hearing loss, have posts for educational audiologists. Furthermore, in some schools that do have posts for educational audiologists, these posts remain vacant for years due to the limited number of educational audiologists, whereas children with hearing loss in mainstream schools often rely on the services of a private audiologist (Pottas, 1998). The inclusive educational system will require the educational audiologist to support teachers to effectively educate children with hearing loss attending either a special school, full-service school or an ordinary school (Education White Paper no 6, 2001). Therefore, an educational audiology service delivery model in South Africa will have to embrace the differences of managing the child with hearing loss in different educational placements and consequently provide appropriate support to the teachers.

Based on this, the aim of this chapter will be to outline the service delivery structure, roles, and responsibilities of the educational audiologist. This outline will help to conceptualise a preliminary educational audiology model for use within the inclusive educational system and thus provide a framework of support to teachers of children with hearing loss. This preliminary model will be adapted and modified in chapter 6 in order to incorporate the findings from the empirical study.

3.2 THE EVOLVEMENT OF THE SPECIALIST FIELD OF EDUCATIONAL AUDIOLOGY

The global evolvement of educational audiology is scantily documented, primarily because in many countries this field is not necessarily regarded as a separate entity and an audiologist can be employed in the school setting without having received any specialised or expert training. Literature on the development of this field in the United States of America is more readily available, because this is where the term “educational audiology” first originated and it is here where an attempt was made to clearly differentiate between *clinical* audiology and *educational* audiology (Johnson, Benson & Seaton, 1997). According to Medwetsky (1994), one of the earliest uses of the term “educational audiologist” is found in a **1965** report by the American Joint Committee on Audiology and Education of the Deaf. A superintendent of a public residential school wrote the following complaint to the committee: *“Audiology has always been, and still is, too far removed from the classroom. The audiologist generally knows too little about educational methods and yet he prescribes to parents... He should be an **educational audiologist** and not a *clinical audiologist*”* (Medwetsky, 1994:503). The Joint Committee Conference discussed the superintendent’s criticism, and the committee made the following suggestions (Medwetsky, 1994):

- * audiologists require more training and exposure in the delivery of services to children with hearing loss;
- * audiologist should be more involved in educational programs for children with hearing loss; and

- * they should offer more teacher support services in schools.

These recommendations were the first step towards the specialisation of audiology services in schools.

The practise of educational audiology continued to grow in the United States during the **1970's**, mostly due to federal legislation mandating specific services for children with physical and sensory disabilities (Johnson, Benson & Seaton, 1997 and Tucker & Nolan, 1984). In the early 1970's, Berg and Fletcher defined the unique role of the audiologist in the school setting and developed a curriculum as part of a graduate training course for audiologists working within the educational setting (English, 1995). In the emerging years up to the early 1980's, audiologists in schools mostly applied the clinical audiology model in the educational setting (Berg, 1991). This model was not effective, because at the time, according to Blair and Berg (1982), children with hearing loss were in need of a specialist who could bridge the gap between audiology and education. Consequently, a need for additional knowledge and skills in this field of practice arose.

In **1984**, the specialisation of “educational audiology” was formalised in the United States with the establishment of the Educational Audiology Association (EAA). The aim of the EAA was to “*facilitate the delivery of a full spectrum of audiological services to children with auditory impairments in educational settings*” (Berg, 1991:305). Currently, the EAA is an international organisation that continues to promote the delivery of quality audiology services in schools as well as to encourage educational audiologists to keep up to date with the latest practises in educational audiology (EAA, 2002b).

In other countries, no formal distinction or level of specialisation is generally made between *clinical* audiologists and *educational* audiologists. As a rule of thumb, audiology students receive professional training, which includes, courses in intervention with the paediatric population, and some courses that include educational audiology practises. Thus, most countries deem their graduates competent to render services within a school setting without further

specialisation. In the **United Kingdom**, audiologists are based at National Health Services (NHS) where they mainly provide services to hospitals and clinics. In addition, they provide services to special schools and mainstream schools where needed (University of Manchester, 2002). In **Australia**, the government-funded organisation Australian Hearing, is contracted to provide hearing services for all children. The paediatric audiologists from Australian Hearing are based at centres and regularly visit schools that provide primarily for children with hearing loss as well as regular schools (Australian Hearing, 2002). In **Canada**, audiologists are employed in a variety of settings, which include schools providing for children with hearing loss, as well as regular schools. In some Canadian provinces, audiologists are based at a district level and routinely serve the respective schools in their province (Toronto Hearing Services, 2002). In the **Netherlands**, students can either qualify as *audiologists* or obtain a dual qualification in *audiology and logopedics*. Those who have qualified as *audiologists* are based at medical centres and clinics and sometimes routinely serve special schools and mainstream schools (Federatie van Nederlandse Audiologische Centra, 2002), whereas *audiologists/speech-language therapists* are employed either at special schools or at mainstream schools (Katholieke Universiteit Leuven, 2002). In **South Africa**, professional degrees in audiology and speech-language therapy is being presented as either a dual or single qualification at different universities. A limited number of audiologists/speech-language therapists are currently being employed at, inter alia, schools providing for children with special needs which include schools for children with hearing loss.

Although most countries do not refer to their audiologists working in school-settings as “educational audiologists”, unquestionably, a high level of specialisation is involved. These audiologists have to possess unique knowledge and skills in order to manage the school-going child’s audiological and educational needs (English, 1995).

Service delivery by the educational audiologist is far more specialised and extensive than conceptualised previously (English, 1995). Therefore, it is currently recognised in most countries that educational audiologists are

valued members of the educational team, and are vital stakeholders when improving the educational environment of children with hearing loss (English, 1995).

3.3 INTERNATIONAL MODELS OF EDUCATIONAL AUDIOLOGY SERVICE DELIVERY

Before the most suitable option for service delivery by the educational audiologist can be considered within the South African context, international literature on educational audiology service delivery systems should be examined. International literature on educational audiology service delivery systems will give a broad overview of what should be included in a South African system. Although a variety of systems or models for service delivery have been proposed by authors such as Allard and Golden (1991) and Blair (1991), these service delivery systems have been reduced to three main options by the authors Johnson, Benson and Seaton (1997), namely the school-based system, contractual agreement system, and a combination of the two systems. In a school-based system, the school employs a full-time educational audiologist (or more than one) to render services at the school. With a contractual agreement system, the school utilises a private audiologist from outside the school to render part-time services at the school. The last service delivery system is a combination of the first and second option, in which the school employs a full-time educational audiologist who receives part-time assistance from other private audiologists in order to render services at the school (Johnson, Benson & Seaton, 1997).

In order to determine the most suitable service delivery system for educational audiologists, the comprehensiveness and cost effectiveness of the services must be considered (ASHA, 1993). Adding to these two considerations, the needs of teachers with regard to educational audiology service delivery systems should also be taken into account. The needs of teachers with regard to educational audiology service delivery systems will be explored

during the empirical part of the study. A brief summary on the comprehensiveness and cost effectiveness of the three options will follow.

A school-based system is often more comprehensive than contracted services, because the in-house educational audiologist has continued and easy access to the children, well-established daily communication with teachers and other team members, as well as a greater personal investment in the school, due to his/her permanent employment at the school (Allard & Golden, 1991). On the other hand, the school-based system is usually more costly than other systems, because of greater financial implications related to salaries and fringe benefits of in-house educational audiologists as well as the purchase and maintenance of audiological equipment and materials (ASHA, 1993).

The contractual-agreement system may be less comprehensive, because contracts are mostly limited to the provision of audiological services with less emphasis on educational intervention (Johnson, Benson & Seaton, 1997). Private audiologists working for a contractual-agreement system tend also to have less exposure to educational audiology and are more inclined toward clinical audiological practises within the school system (ASHA, 1993). Contractual services are usually more cost-effective, because services are provided on a fee-for-service basis and the private audiologist is responsible for providing his/her own audiological equipment and materials (ASHA, 1993).

A combination of the school-based system and the contractual-agreement system may result in varying degrees between comprehensiveness and cost-effectiveness that depends on the unique variations within the system (Johnson, Benson & Seaton, 1997). When evaluating the comprehensiveness and cost effectiveness of the three service delivery systems it becomes clear that the more comprehensive a system is, the less cost effective the system appears to be. And the opposite also seems true, namely, the less comprehensive the system, the more cost effective the system appears to be.

However, the above-mentioned literature only describes the *placement options* of the educational audiologist and does not provide a comprehensive perspective on the service delivery model of the educational audiologist. It seems that only Berg (1991) attempted to provide an expanded educational audiology service delivery model. Berg (1991) proposed a schematic presentation of a more detailed educational audiology service delivery model by including aspects such as the educational audiologists direct intervention activities which included identification, diagnosis, amplification, et cetera. This model also depicted indirect activities such as the improvement of speech and language skills. However, Berg's model (1991) does not make provision for the various roles that the educational audiologist may fulfil on the educational team, such as that of service co-ordinator or family and community liaison. Furthermore, activities such as prevention and hearing conservation were not included. Finally, the classification of tasks included in direct intervention and indirect intervention is confusing, because it is generally difficult to determine where one ends and the other begins, as, in many cases, an activity can be interpreted as both (Johnson, Benson & Seaton, 1997).

With the discussion of international service delivery models serving as a background, service delivery by the educational audiologist in the South African inclusive educational system should now be considered.

3.4 SERVICE DELIVERY BY THE EDUCATIONAL AUDIOLOGIST IN THE SOUTH AFRICAN INCLUSIVE EDUCATIONAL SYSTEM

To date, no educational audiology service delivery models for the South African context have been implemented. One of the reasons may be that educational audiology is not seen in South Africa as separate from speech-language therapy and therefore the functions of an educational audiologist are included in general models that depict services delivered by the speech-language therapist. These models are not adequate in depicting the full range of services delivered by educational audiologists within the school setting.

The move toward the inclusive educational system implies that the South African educational audiologist is faced with an improved educational system that will undoubtedly benefit the child with hearing loss as well as his/her teacher. Benefits include that the unique educational needs of the child with hearing loss may be addressed by means of better skilled teachers and that professional assistance will be made available to teachers where needed (Education White Paper no 6, 2001). The inclusive educational system may also be better equipped to provide for all degrees of hearing loss, because the inclusive educational system will offer a range of educational placements varying from special schools/resource centres to full-service schools and ordinary schools (Education White Paper no 6, 2001). Children with hearing loss will be placed in these schools according to their unique level of learning needs, ranging from high-intensive educational support through to low-intensive educational support. The better dispensation of financial and human resources as well as the provision for the unique educational needs of the child with hearing loss will favour the delivery of support services by an educational audiologist.

It must also be recognised, at this stage, that the educational audiologist's delivery of services extends beyond exclusively providing for children with hearing loss, but includes children with auditory processing deficits; and children with hearing loss with additional disabilities such as visual, cognitive and/or physical disabilities (Johnson, Benson & Seaton, 1997). The education of children with multiple disabilities create additional challenges for teachers, and educational audiologists are well equipped to assist teachers in overcoming these children's barriers to learning (Johnson, Benson & Seaton, 1997). Furthermore, it must also be stated that the educational audiologist should involve, apart from the school team, the child's caregivers, family and community in order to render comprehensive and accountable educational audiology services (Johnson, Benson & Seaton, 1997).

The educational audiologist will have to redefine his/her traditional role of service delivery in order to render appropriate and quality services within the inclusive educational system.

Within the envisioned inclusive educational system, the following questions therefore arise:

- * Where will the educational audiologist be posted? (i.e. service delivery structure);
- * In which capacity will the educational audiologist function? (i.e. roles); and
- * What duties will the educational audiologist perform? (i.e. responsibilities).

Thus, a new model for service delivery should be developed for the educational audiologist. A preliminary model should be based on answering these three questions.

3.4.1 Where will the educational audiologist be posted?

The *structure* of service delivery depends on the government's distribution of posts for educational audiologists. The White Paper on Education has not yet clarified the distribution of posts of professional support personnel such as educational audiologists, but an attempt will be made to speculate on the best placement of the educational audiologist within the inclusive educational system. The educational audiologist can either be stationed at a special school/resource centre, and/or full-service school and/or ordinary school. Indications to the placement of educational audiologists can be found in Education White Paper no 6 (2001:39) which states that: "... *it makes sense for specialist educators not to be based at each school, but at the district level to be drawn upon by each school as required*". It seems likely that educational audiologists will primarily be posted at special schools/resource centres and render services to full-service schools and ordinary schools as deemed necessary. Providing services in this way will rely heavily on the training of teachers in order to make the immense caseload of the educational audiologist more manageable (Johnson, Benson & Seaton, 1997). A discussion on the training of teachers will follow in section 3.4.3.4.

Whether a school-based system, contractual agreement system, or a combination of the two systems will be the most appropriate will be

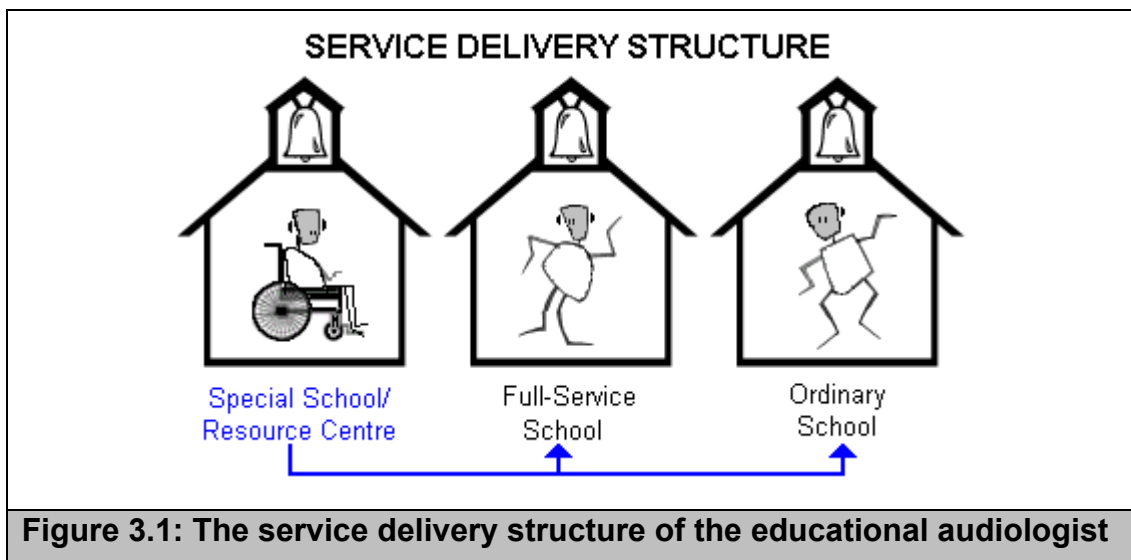
determined by future policy resolutions as well as by exploring teachers' specific needs for such services. However, an attempt should be made to speculate on what service delivery system will be the most suitable for the South African context.

Currently, educational audiologists are faced with the unique challenges of the South African context. Firstly, a lack of financial and human resources within the educational system (Hall & Engelbrecht, 1999; Steyn, 2000) makes it an extremely difficult task to render quality services to the large numbers that require educational audiology intervention. Over and above the overcrowding of learners in classrooms (Education White Paper no 6, 2001), only a limited number of schools have full-time posts for speech-language therapists/audiologists, thereby creating an unfavourable scenario for adequate service delivery. Educational audiologists in South Africa often have an extensive caseload that makes effective service delivery an unattainable goal. Furthermore, the lack of financial resources causes the limited provision of amplification devices such as FM systems and hearing aids (Penn & Reagan, 1995). Therefore, educational audiologists often have to rely on donations from private institutions to provide children with these much-needed devices and sometimes the unfortunate has to do without. The vast physical distances between neighbouring schools and a lack of proper infrastructure (Reeves, 1994) also prevents South African educational audiologists from delivering services to all schools in need of educational audiology intervention.

Fortunately, the documentation on educational policy acknowledges the past educational system's challenges with regard to financial resources, human resources, classroom overcrowding and the lack of professional support services and aims to address these obstacles in the inclusive educational system (Education White Paper no 6, 2001). Government proclamation proposes the development of more appropriate funding strategies that will first and foremost target areas such as an increase in human resources which will include teachers, as well as professional support personnel such as educational audiologists (Education White Paper no 6, 2001). Special

mention is made of funds allocated for the provision of assistive devices such as hearing aids to all learners who cannot gain access to learning without these devices (Education White Paper no 6, 2001). The inclusion of a greater number of learners into full-service schools is also planned, so as to achieve a more natural geographical distribution of learners with disabilities, resulting in a more efficient system with respect to the utilisation of both limited financial resources and professional support services (Education White Paper no 6, 2001). In addition, Education White Paper declares that “... *the key to reducing barriers to learning within all education and training lies in a strengthened education support service*” (Education White Paper no 6, 2001:28). It seems therefore that professional support personnel such as the educational audiologist is valued and decisions made will therefore be committed to addressing the challenge of limited professional support personnel that characterise the past educational system.

In Figure 3.1 below, suggestions are provided as to where the educational audiologist will be posted in the inclusive educational system.



In Figure 3.1 an outline is provided of where the educational audiologist will be posted in the inclusive educational system.

Two suggestions for the South African context:

- (a) Employment of educational audiologists at central establishments such as special schools/resource centres, so that the educational audiologist will be centrally located and able to render services at the respective school as well as to neighbouring full-service schools and ordinary schools when needed.

This will overcome challenges such as the lack of availability of educational audiologists in South Africa (Pottas, 1998), and the lack of financial resources within the educational system (Hall & Engelbrecht, 1999; Steyn, 2000).

This solution complies with guidelines proposed in the Education White Paper no 6 (2001).

- (b) In addition, following a combination of the school-based system and the contractual-agreement system in the inclusive educational system.

The combination system will ensure a healthy balance between comprehensiveness and cost-effectiveness of services (Johnson, Benson & Seaton, 1997).

The combination system allows for outside audiologists to support the school-based audiologists in terms of selection and fitting of amplification devices as the school-based audiologist in South Africa mostly do not have access to the full range of technological resources due to financial constraints within the educational system.

Suggestions have been made as to where the educational audiologist will be posted. This discussion will be followed by the role of the educational audiologist within the service delivery system.

3.4.2 In which capacity will the educational audiologist function?

In order to determine in which capacity the educational audiologist will function, the *role* of the educational audiologist within the inclusive educational system should first be explored.

Regardless of the service delivery structure selected for inclusive education, it is critical to bear in mind that the primary aim of an educational audiology service delivery model is to provide an optimal education through direct audiological services the child with hearing loss and, most importantly, indirectly through support services to the child's school team, caregivers and family (EAA, 2002c). Literature states that, in addition to performing audiological services, the educational audiologist should serve on the team at various times, in any or all of the following roles, namely as service co-ordinator, instructional team member, consultant, supervisor, as well as family and community liaison (EAA, 2002b; English, 1995; Johnson, Benson & Seaton, 1997).

These different roles of the educational audiologist can metaphorically be regarded as different "hats" that the educational audiologist may wear depending on the different roles that he/she fulfils on the educational team (see Figure 3.2). For instance, when other team members look to the educational audiologist for guidance and leadership, the educational audiologist may wear the "hat" of service co-ordinator and when team members function independently from each other, the educational audiologist may wear the "hat" of consultant.

It is clear, therefore, that the role of the educational audiologist may vary depending on the participation and availability of other support personnel within the educational system (Johnson, Benson & Seaton, 1997). What is certain is that the educational audiologist should work in a team with other personnel such as psychologists, speech-language therapists, occupational therapists, school nurses and teachers in order to render a comprehensive and integrated service to children with hearing loss (English, 1995).

These roles will briefly be discussed with regard to their relevance within the inclusive educational system.

3.4.2.1 The educational audiologist as a service co-ordinator

The role of a service co-ordinator implies communication and co-ordination with other team members in order to establish effective collaboration that will aim to address the needs of children with hearing loss. The service co-ordinator is primarily responsible for monitoring and co-ordinating the educational programme of the child (Johnson, Benson, & Seaton, 1997). The co-ordinator should share the proposed intervention plan with the child's caregivers and family and should involve them in the decision making process throughout the child's school career (Johnson, Benson, & Seaton, 1997).

The educational audiologist is uniquely skilled in managing the effects of hearing loss on the child's educational development. The educational audiologist has expertise in hearing loss and the effect thereof on the child's: auditory skills, language skills, speech acquisition, communication skills, literacy skills, academic achievement, and psychosocial development (ASHA, 1993; English, 1995; Jamieson, 1994; Johnson, Benson, & Seaton, 1997). Consequently, the educational audiologist is highly competent to act as the service co-ordinator of the team in order to oversee that the audiological and educational needs of children with hearing loss are met (English, 1995). Furthermore, according to Ross (1982), the educational audiologist has broad enough training in order to serve as an information conduit and synthesiser on the team of the child with hearing loss, and is therefore the most appropriate member to co-ordinate the educational team of the child with hearing loss.

According to Johnson, Benson and Seaton (1997), one of the tasks of a service co-ordinator is to ensure that teachers and other support personnel are sufficiently prepared and informed in order to work with the child with hearing loss. This may be a crucial role to fulfil in the inclusive educational system in South Africa, because children with hearing loss have unique educational considerations and may present overwhelming challenges to teachers who have no prior experience in the education of children with hearing loss (English, 1995). Insufficient teacher training in South Africa for teachers providing for children with hearing loss (Pottas, 1988), may also

warrant that the educational audiologist act as service co-ordinators of teams serving children with hearing loss. Therefore, educational audiologists should assist teachers in identifying the audiological and educational needs of children in the classroom and determine and co-ordinate the support services required by children with hearing loss (English, 1995). Traditionally, caregivers and family members of children with hearing loss in South Africa were not involved as part of the child's intervention team, therefore the educational audiologist will have to ensure that the child's caregivers and family members are actively involved in intervention efforts made by the team (English, 1995). Another significant task of the service co-ordinator is to evaluate each child's educational placement and to make recommendations for placement changes as required (Johnson, Benson & Seaton, 1997). The *correct* placement of children with hearing loss in either special schools/resource centres, full-service schools, or ordinary schools will certainly form the backbone of a successful inclusive education. The educational audiologist has expertise in assessing the most appropriate educational placement option for the child with hearing loss and re-evaluating the placement of the child in order for the child to maximally benefit from the educational environment (EAA, 2002b; English, 1995; Johnson, Benson & Seaton, 1997). The educational audiologist is trained to educate the child's caregivers and family as to the consequences of these various placement options and will help the child's significant others to provide support to the child in his/her educational environment, thereby ensuring that the child maximally benefits from all educational efforts (Johnson, Benson & Seaton, 1997).

From current observations within the South African context, it seems that the psychologist and in some cases the social worker, generally fulfils the role of service co-ordinator at special schools, mainly due to their expertise in child development, especially in areas related to cognition. It is unclear who will continue to fulfil the role of service co-ordinators on teams in the inclusive educational system. Most likely, the psychologist will continue to play this role. However, if the educational audiologist does not function as the service co-ordinator, it should not be seen that he/she has a diminished role on the

team, because the educational audiologist has a vital contribution to make towards team interventions, regardless of his/her specific role on the team (English, 1995). However, when the need arises, the educational audiologist will have the appropriate knowledge and skills in order to function as a service co-ordinator on the educational team of the child with hearing loss.

3.4.2.2 The educational audiologist as instructional team member

When teachers, other support personnel, caregivers, and family members require training and information exchange with regard to the audiological and educational management of the child with hearing loss, the educational audiologist has to fulfil the role of instructional team member (Johnson, Benson & Seaton, 1997).

Educational audiologists have, because of the specific nature of their profession, expertise in equipping the team with knowledge and skills in order to provide the best opportunities for learning to children with hearing loss through educational and audiological intervention (English, 1995).

The educational audiologist as instructional team member will typically provide routine in-service training by means of workshops, information sessions, in-class demonstrations, and home-visits. Themes for in-service training that the educational audiologist often may include are: ways to improve classroom acoustics, maintenance of amplification devices, et cetera (Johnson, Benson & Seaton, 1997). Another task of the educational audiologist as instructional team member is to promote and advocate the services provided by the educational audiologist that will benefit the educational development of children with hearing loss (Johnson, Benson & Seaton, 1997). In addition, the educational audiologist will train the caregivers and the family of the child to appropriately manage the child with hearing loss at home in order to ensure that the child benefits from stimulation provided in the home environment, that will, in turn, favour the child's performance within the school environment (English, 1995). According to Anderson (2002), caregiver instruction and

involvement are the “magic” ingredients for producing successful outcomes in children with hearing loss.

In South Africa, the roles and responsibilities of the educational audiologist are not commonly known among teachers (Pottas, 1988) and even among caregivers. Therefore, educational audiologists should acquaint teachers and caregivers with the benefits of their skills and knowledge for the child with hearing loss in the inclusive educational system. If teachers and caregivers are made aware of the advantages of collaborating with the educational audiologist, the child will be able to receive adequate support in order to benefit from educational efforts (English, 1995).

Expanded discussions on the educational audiologist’s responsibilities with regard to teacher training will be explored later in section 3.4.3.4. An overview of the educational audiologist as consultant will follow.

3.4.2.3 The educational audiologist as consultant

An educational audiology consultant attempts to provide direct or indirect support to the educational team in order to address a specific child’s unique audiological and educational needs (Johnson, Benson & Seaton, 1997), and as such is functioning as a consultant.

The educational audiologist has the theoretical background and practical skill in managing the child with hearing loss in order to assist the teacher in finding solutions to the child’s educational or audiological challenges (English, 1995).

Teachers of children with hearing loss can benefit from consultation services, because they often require the educational audiologist’s direct or indirect support to address a specific child’s unique audiological and educational needs that may arise in the classroom from time-to-time, such as (Johnson, Benson & Seaton, 1997):

- * information on a specific child's hearing sensitivity or auditory processing ability;
- * suggested activities for improving a specific child's listening skills;
- * assistance with the use of a specific child's amplification devices; and
- * problem-solving when a specific child experiences barriers to learning due to his/her hearing loss.

The educational audiologist as consultant on the team, will therefore try to address the needs of teachers as they arise in the classroom.

From practical observation, educational audiologists often fulfil the role of consultants within the child's intervention team. According to Education White Paper no 6 (2001:41), professional support personnel, such as educational audiologists, may be utilised to “... *provide direct intervention programmes to learners in a range of settings, and/or serve as consultant-mentors ...*”.

The educational audiologist's role of consultant will continue to exist in the inclusive educational system, and will be critical, because the current transition to an inclusive educational system will surely present challenges to teachers and they may require support from an expert to manage children with hearing loss.

3.4.2.4 The educational audiologist as supervisor

An educational audiologist fulfilling the role of supervisor ensures that audiological activities are performed accurately and that the child receives quality services within the school setting (English, 1995).

Due to the educational audiologist's specialisation in the rendering of audiological activities, it would only be fitting that they oversee personnel performing these duties (English, 1995).

Depending on the particular work description, the educational audiologist may be expected to supervise other support personnel when they render

audiological activities (English, 1995). Currently it seems that educational audiologist in South Africa mainly supervise teachers who perform troubleshooting of amplification devices and in some cases when teachers or school-nurses perform middle-ear evaluations.

According to Education White Paper no 6 (2001), professional support personnel will be utilised to train other team members to perform new tasks, and to supervise these persons at intervals, to ensure that they are performed adequately. Due to South African challenges mentioned, educational audiologists have large caseloads, which hinder effective service delivery. A possible solution to this challenge would be the utilisation of teachers to perform certain audiological activities under supervision (Johnson, Benson & Seaton, 1997). Hearing-conservation programmes is an example of an activity that can be performed by teachers under the supervision of the educational audiologist (Johnson, Benson & Seaton, 1997). However, the unique situation in South Africa and the ever-increasing challenges that face teachers must not be overlooked. Currently teachers are expected to fulfil many additional duties such as information distribution and counselling of learners on HIV/AIDS; vocational preparation; and the adaptation of curriculum content to reach the aims of outcomes based education (Education White Paper no 6, 2001). The educational audiologist must therefore carefully consider ways in which the teacher can incorporate certain audiological activities within his/her daily classroom activities without causing unnecessary strain on the teacher (English, 1995). The educational audiologist as supervisor has an important role to fulfil in the expansion of educational audiology services by means of the utilisation of teachers as human resources (English, 1995).

The next role presented is that of the educational audiologist as family and community liaison on the team.

3.4.2.5 The educational audiologist as family and community liaison

The family and community liaison agent considers the child as a unique human being within his/her social context, and therefore links the child's significant others to the educational team, in order to ensure the applicability of the child's intervention programme, thereby increasing the success of outcomes (Johnson, Benson & Seaton, 1997).

The educational audiologist is trained to facilitate a network of communication to ensure that all professionals, family members and other community members work together for the benefit of the child with hearing loss (English, 1995).

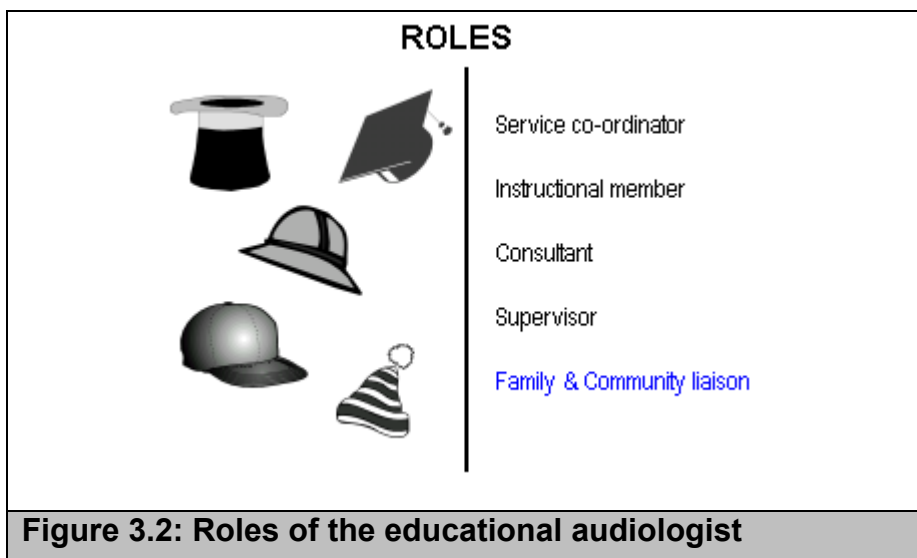
In South Africa, the educational audiologist is often faced with a lack of parental involvement and caregiver involvement. Due to urbanisation, many parents are forced to work in far-off cities, and therefore, caregivers raise their children, instead of the parents themselves (Van der Westhuizen & Mosoge, 2001). These parents are consequently unable to fully participate in their child's intervention plan and caregivers have to assume this role. Unfortunately, the child's caregivers and community were not involved in the past as part of the intervention team of the child with hearing loss. This lack of family and community involvement can be attributed to, inter alia, professionals who in the past tended to involve parents only, and excluded other caregivers, as this did not comply with their traditional "Western practice" to consider persons other than the child's parents (Reeves, 1994). Furthermore, unfavourable geographical distribution of schools in the past created vast physical distances between schools and caregivers' homes which made contact with professionals too cumbersome (Reeves, 1994). In addition, poor infrastructure and lack of transport aggravates the lack of contact between caregiver and families, and schools (Van der Westhuizen & Mosoge, 2001).

Thus the educational audiologist may have to include individuals within the child's community, which, within a South African context, could include: the

caregivers, immediate family, extended family, traditional healers, social service providers, church fraternity and the Deaf Community. According to a South African study, which correlates with findings elsewhere, persons with hearing loss who mainly communicate by means of Sign Language have an extensive network of social organisations which includes local Deaf clubs, sport associations and theatres for the Deaf (Ram, 1998). Through socialisation, the Deaf community in South Africa forms a cohesive and supportive unit (Ram, 1998). Realising this, the educational audiologist can play an important part in a more comprehensive education of the child with hearing loss.

The educational audiologist as liaison, has the task of establishing channels for communication between the child's caregivers and the relevant community members and the educational team (English, 1995). The child's caregivers as well as the community should be involved in the child's educational well-being through information exchange, training, and support (English, 1995).

In Figure 3.2 below, suggestions are provided regarding the capacity in which the educational audiologist will function in the inclusive educational system.



In Figure 3.2, an outline of the roles of the educational audiologist in the inclusive educational system is provided.

Two suggestions for the South African context:

(a) The educational audiologist in South Africa should first and foremost fulfil the role of family and community liaison.

This role is inevitable during service delivery in the South African context, because poor and inadequate communication channels existed in the past between the educational audiologist and the child's significant others, and this caused unsatisfactory intervention outcomes and feelings of distrust between professionals and caregivers (Reeves, 1994).

(b) However, different roles should be fulfilled at any given time, because of the great diversity that exists between rural and urban schools, as well as among schools from within the same districts. This results in different schools having different needs related to the level of team member involvement. The availability of team members may also vary among schools.

Whether the educational audiologist in the inclusive educational system functions as a service co-ordinator, instructional team member, consultant, supervisor, or as a family and community liaison, the educational audiologist remains an essential member that brings unique skills and knowledge to the educational team, thus ensuring the optimal development of the child's educational abilities (EAA, 2002b; English, 1995; Johnson, Benson & Seaton, 1997). An outline of the roles of the educational audiologist is presented in Figure 3.2.

The successive discussion of the responsibilities of the educational audiologist will shed more light on the specific duties that the educational audiologist is likely perform within the inclusive educational system.

3.4.3 What duties will the educational audiologist perform?

In order to investigate the duties of the educational audiologist, the *responsibilities* of the educational audiologist within the inclusive educational system should be explored.

The educational audiologist's responsibilities within the South African context were conceptualised from various literature sources. These responsibilities will be discussed in terms of the delivery of services within the inclusive educational system.

The responsibilities of the educational audiologist continues to evolve and mature in response to influences such as technological advancements, changing educational trends and evolving government policy (EAA, 2002c). The most recent guidelines for audiology services in schools as proposed by the American Speech-Language-Hearing Association (ASHA, 1993) was an important resource for identifying some of the responsibilities of the educational audiologist. The responsibilities identified from literature sources were adapted and re-categorised, in order to make clear the responsibilities of the educational audiologist within the inclusive educational system (See Figure 3.3). The seven identified responsibilities of the educational audiologist are prevention and conservation, assessment, habilitation and amplification, education and training, assistance and support, monitoring and follow-up, and evaluation and research (ASHA, 1993; EAA, 2002b; EAA, 2002d; English, 1995; Johnson, Benson & Seaton, 1997). Each responsibility will be discussed in terms of its relevance to the inclusive educational system.

Prevention and conservation forms the foundation of the educational audiologist's responsibilities and will be the first responsibility to be explored.

3.4.3.1 Responsibility #1: Prevention and conservation

The educational audiologist is the most knowledgeable team member to educate teachers and caregivers on the prevention of hearing loss and the conservation of hearing, and consequently have a vital responsibility in the audiological well-being of the child with hearing loss (English, 1995; Johnson, Benson & Seaton, 1997).

Prevention entails three components, namely primary, secondary and tertiary prevention (ASHA, 1991; Gerber, 1990). Primary intervention implies

measures to avoid the occurrence of hearing loss taken in such a way that a reduction in the prevalence of persons with hearing loss becomes noticeable (Gerber, 1990). Secondary prevention involves obstructing the development of hearing disability by means of early identification and treatment of the person with hearing loss (ASHA, 1991). Tertiary prevention entails impeding the progress of an established hearing disability by appropriate treatment (ASHA, 1991).

Hearing conservation refers to any initiative or programme that aims to educate teachers, other team members, school-going children, caregivers and communities about hearing loss and ways to prevent hearing loss (Johnson, Benson & Seaton, 1997). Hearing conservation can be executed across all three components of prevention.

Hearing loss affects approximately 10% of the total South African population (DEAFSA, 1996), yet hearing loss is, in many cases, either preventable or curable through relatively cost-effective methods (DEAFSA, 2002). Worldwide the focus in Health and Health related services falls primarily on the *prevention* of diseases and disabilities (WHO, 1995). In 1997, the South African government adopted the Primary Health Care (PHC) approach and has since been dedicated to the prevention of diseases and disabilities, which inter alia, include the prevention of hearing loss (Health White Paper, 1997).

Surprisingly, a literature search revealed that little mention is made of *primary prevention* of hearing loss in the field of educational audiology. Unquestionably, educational audiologists have a responsibility to contribute to the reduction of the prevalence of hearing loss among school-going children. Educational audiologists are able to and should, contribute to primary prevention of hearing loss, due to their expertise in the etiology of hearing loss and their knowledge of hearing-conservation programmes that target primary prevention.

However, the educational audiologist is mainly involved with school-going children and do not necessarily have contact with parents-to-be, such as the

audiologist who is based within the Health sector. Nevertheless, the educational audiologist may even have a contribution to make in the pre-natal prevention of hearing loss, because the educational audiologist has contact with school personnel, parents and caregivers and caregivers who at some stage in their lives may decide to have children. The educational audiologist can therefore provide information on the pre-natal prevention of hearing loss to school personnel as well as parents at the school.

It may be especially important to target parents at the school during primary prevention, because, as literature indicates, hereditary hearing loss is one of the identified risk factors for hearing loss (Joint Committee on Infant Hearing, 1994). Parents who already have children with hearing loss should be informed of the potential risk of giving birth to another child with hearing loss. In cases where their school-going child's hearing loss could have been avoided through either favourable conditions or by avoiding damaging agents, the educational audiologist too has an important role to educate caregivers in order to avoid similar conditions for other siblings in the family.

The primary prevention of otitis media induced hearing loss will also form part of the educational audiologist's responsibility (Johnson, Benson & Seaton, 1997). Middle ear infection is one of the most prevalent diseases among school-going children and can result in temporary or even permanent hearing loss (English, 1995).

Other agents that may damage hearing and that may be hindered through information exchange and direct intervention by the educational audiologist include noise-induced hearing loss, ototoxic induced hearing loss, physical trauma to the auditory mechanism, and hearing loss caused by childhood diseases (Hall & Mueller, 1997).

The educational audiologist can achieve *secondary prevention* through early identification of hearing loss and appropriate early intervention for the child with a recently acquired hearing loss (ASHA, 1991). Undetected hearing loss can have detrimental consequences for the school-going child (EAA, 2002b).

The child with hearing loss who has not been identified will not receive the appropriate audiological intervention in order to benefit from, inter alia, educational attempts (English, 1995; Johnson, Benson & Seaton, 1997). Minimising the handicapping effects of hearing loss depends upon early identification of the child and upon prompt subsequent intervention (ASHA, 1993). Although the importance and value of early identification of hearing loss among children is emphasised in the literature (Yoshinago-Itano, 2000), universal hearing-screening programmes among infants in South Africa have not been adopted, mainly due to financial constraints within the Health Sector (Swart, 1995; DEAFSA, 2002). Consequently, some children with hearing loss are unidentified and may only be identified once they enter the school system.

Furthermore, a high incidence of conductive hearing loss due to otitis media is also prevalent among school-going children in South Africa (DEAFSA, 1996) and must be identified at an early onset, as it can further damage the residual hearing of the child with hearing loss and can negatively affect his/her academic performance (English, 1995; Johnson, Benson & Seaton, 1997). The early identification and treatment of otitis media induced hearing loss is an ongoing responsibility of the educational audiologist, and the “prevention of hearing loss due to otitis media project” is a programme specifically launched by the South African PHC system (Department of Health, 2002b).

The South African PHC system advocates the *early* identification of hearing loss, which suggests shortly after birth, in the case of a congenital loss, or as soon as possible after the onset of the hearing loss, in the case of an acquired loss (Health White Paper, 1997).

The Education White Paper no 6 (2001) supports the identification of hearing loss at schools in the inclusive educational system. Therefore, the educational audiologist will, as a valued member of the educational team, have the responsibility of detecting hearing loss among school-going children in order to ensure the correct management of the child in terms of medical and audiological intervention, correct educational placement, parent and

caregiver counseling, and training of team members involved with the child (English, 1995; Johnson, Benson & Seaton, 1997). The educational audiologist may provide direct screening services to identify hearing loss together with a supervised hearing-screening programme conducted by the teachers themselves (Johnson, Benson & Seaton, 1997). A hearing-screening programme may consist of checklists completed by teachers for each child, incorporating at-risk registers in order to identify children who may have hearing loss (Johnson, Benson & Seaton, 1997). However, the educational audiologist should bear in mind that a study among South African teachers revealed that teachers were not accurate in identifying children with hearing loss and therefore require more information and training in the use of screening checklists (Chambers & Anderson, 1997). In order to initiate an effective hearing-screening programme, the educational audiologist should develop appropriate channels of communication and referral between learners, teachers, caregivers, families and support personnel (ASHA, 1993). Another task that will most probably face the educational audiologist in the inclusive educational system is the development of a *systematic* hearing-screening programme which will allow for periodic screening and in-place follow-up procedures (ASHA, 1993).

Prompt intervention is required once a child is identified with a hearing loss and the educational audiologist should involve the team in the child's audiological management (Johnson, Benson & Seaton, 1997). The maximal development of the child's residual hearing is an important part of secondary prevention and involves: the provision of appropriate amplification devices and the education and training of teachers, caregivers and family in order to ensure that the child continually optimises his/her auditory abilities (Johnson, Benson & Seaton, 1997).

Literature regards *tertiary prevention* as the main responsibility of the educational audiologist when embarking on the prevention of hearing loss (English, 1995; Johnson, Benson & Seaton, 1997; Kenworthy, 1993). The educational audiologist therefore has the responsibility of ensuring the

protection of the child's residual hearing in order to hinder its deterioration (English, 1995).

A review of literature regarding hearing-conservation programmes for children revealed the sole emphasis on the tertiary prevention of *noise-induced* hearing loss (Anderson, 1991; ASHA, 1993; Bennett & English, 1999; Bess & McConnell, 1981; Bunch, 1987; EAA, 2002b; English, 1995; Flexer, 1993; Johnson, Benson & Seaton, 1997). However, it is felt that many other aspects are essential to include in hearing-conservation programmes. Therefore the focus on noise-induced hearing loss, for the purposes of this discussion, seem to be too narrow. The tertiary prevention of hearing loss should, apart from (a) noise-induced hearing loss, surely include aspects such as: (b) appropriate amplification; (c) good ear habits and proper ear hygiene; and the (d) effective management of otitis media. These aspects will therefore be included in the educational audiologist's responsibility toward tertiary prevention of hearing loss.

(a) Noise-induced hearing loss

Information should be provided on what harmful noise exposure is and the prevention thereof (Bennett & English, 1999). According to international literature on noise-induced hearing loss among school-going children, noise-induced hearing loss is on the increase, due to more frequent exposure to fire crackers, loud music, loud computer games, and noisy classroom environments (Bennett & English, 1999). Vocational training in schools may also provide harmful noise environments to children, such as the noise levels created during woodwork and metalwork lessons (English, 1995). The educational audiologist can evaluate classroom noise levels, especially in technical classes, such as woodwork and metalwork, in order to prevent noise-induced hearing loss (English, 1995).

(b) Appropriate amplification

Appropriate amplification is imperative in the conservation of hearing. Too little amplification can result in the gradual sensory deprivation of hearing abilities and overamplification can result in the damaging of the auditory mechanism

(Bentler, 1993). The educational audiologist should evaluate the appropriateness of amplification by using certain audiometric procedures as well as questionnaires and inventories, that are periodically completed by the child, the teacher and significant others (Bentler, 1993).

(c) Good ear habits and proper ear hygiene

Good ear habits and proper ear hygiene are aspects that are included because they are particularly relevant to the South African context, and some of these aspects are endorsed by the PHC system. Bad ear habits may include the use of ototoxic medications, and the insertion of foreign objects in the ear canal. Improper ear hygiene may include the overcleaning of earcanals with strong chemicals, or the insertion of herbal remedies. Good ear habits and proper ear hygiene should be promoted, because a great percentage of South African school-going children live in poverty (Kamper, 2001) and it can be speculated that conditions associated with poverty such as lack of water, unhealthy environmental conditions and uneducated caregivers may negatively influence the child's approach to good ear habits and proper ear hygiene.

(d) Effective management of otitis media

The prevention and appropriate treatment of otitis media have been discussed in this section. It is important that the educational audiologist educate the child with hearing loss, as well as all other team members, on the prevention and identification of otitis media as well as indicate the appropriate channels for medical referral (Johnson, Benson & Seaton, 1997).

Hearing conservation is a valuable tool for all three components of prevention, namely primary, secondary, and tertiary prevention. Hearing conservation can be achieved by educating the school-going children themselves, and by training teachers, other team members, caregivers, families and communities.

The assessment of school-going children's hearing is the next responsibility that results from identifying children with hearing loss, and will be explored next.

3.4.3.2 Responsibility #2: Assessment

The assessment of hearing loss among school-going children is essential in order to provide information concerning the nature and extent of hearing loss and its effect upon the child's auditory abilities, language skills, speech production skills, communication abilities, literacy skills, academic achievement and the child's psychosocial well-being (ASHA, 1993; English, 1995; Johnson, Benson & Seaton, 1997). Children who fail screening activities and those with known hearing loss should receive comprehensive ongoing audiological assessment in order for appropriate treatment to be planned (EAA, 2002b). According to Education White Paper no 6 (2001), the inclusive educational system will follow a learner-centred approach which recognises that determining learners' barriers to learning involves the assessment of all developmental areas, which include hearing ability. Thus, the assessment of school-going children's hearing in order to determine whether their hearing may be a barrier to learning, and the impact thereof on the ability to be educated, complies with the policy for an inclusive educational system.

The provision of comprehensive audiological assessments, including the evaluation of central auditory functioning, is another responsibility routinely assumed by the educational audiologist (EAA, 2002b). The aim of hearing assessment by the educational audiologist includes determination of the presence of a hearing loss and/or central auditory processing disorder; monitoring of changes in hearing sensitivity; determination of the educational effects of a hearing loss and/or central auditory processing disorder; determination of the need for speech, language, auditory processing, and/or hearing therapy; determination of the need for personal and classroom amplification; and monitoring the benefit from therapy and amplification devices (Johnson, Benson & Seaton, 1997). The educational audiologist in the inclusive educational system should integrate audiological results with the results of other team members, especially the classroom teacher, in order to provide information that will benefit the child's educational growth (Johnson, Benson & Seaton, 1997).

The caregivers, family and community of the child with hearing loss should also be involved during assessment procedures, in order to obtain a complete representation of the child's strengths and weaknesses across all social contexts (English, 1995).

After the child has been assessed, the educational audiologist will embark on the relevant habilitation and amplification strategies as required by the child to benefit from the educational attempts of the teacher.

3.4.3.3 Responsibility #3: Habilitation and amplification

Audiological habilitation services and amplification devices should be provided for all school-going children in need thereof, as part of an attempt to render accountable health and educational services (Crandell & Smaldino, 2000; EAA, 2002b). Information obtained from audiological assessments as well as evaluations conducted by other team members should be incorporated to plan for effective habilitation services and appropriate amplification devices (ASHA, 1993). The provision of habilitation services and amplification devices should be tailored to meet the needs of the child and the caregivers, and should address the educational challenges of the child (EAA, 2002b).

The educational audiologist has a major responsibility in the provision of the school-going child's habilitation services and amplification devices (ASHA, 1993; EAA, 2002b). In literature, the primary purpose of the educational audiologist being involved in habilitation of hearing loss, is to facilitate the maximum use of auditory input during the learning process (Johnson, Benson & Seaton, 1997). In addition, because the educational audiologist in South Africa is dually qualified, the responsibility of addressing speech, language and communication difficulties also forms an important part of the habilitation process. Habilitation should therefore include training the child in the effective use of his/her hearing, which may include auditory therapy and the modification of the child's acoustic environment (EAA, 2002b). Other habilitation services provided by the educational audiologist include instruction in speech-reading, listening skills, communication strategies, self-

management of hearing needs (Johnson, Benson & Seaton, 1997), and the development of speech, language and communication skills. The educational audiologist should also involve other team members, especially teachers, to be aware of the habilitation goals of each child, and to contribute to the child's intervention programme in the classroom wherever possible (English, 1995; Johnson, Benson & Seaton, 1997). The child's caregivers and family should also be enabled to play an active role in taking care of the child's personal amplification devices, and they should be part of executing the goals of the habilitation plan (Johnson, Benson & Seaton, 1997).

According to Education White Paper no 6 (2001), assistive devices, such as amplification devices will be made accessible and available to all school-going children in need thereof. Merely providing a device to a child with hearing loss without having proper knowledge and skills in the provision of paediatric amplification may be harmful to the child's auditory mechanism or may not benefit the child at all (Bentler, 1993). Clearly, the provision of appropriate amplification devices is a highly specialised field and therefore is a responsibility of the educational audiologist (ASHA, 1993; EAA, 2002b). The provision of appropriate amplification devices will include the selection of an appropriate device, training in the effective use thereof, as well as monitoring the functioning of the device itself (EAA, 2002b; Johnson, Benson & Seaton, 1997). Such responsibility will entail for the educational audiologist to keep up-to-date with amplification technology and to obtain knowledge on the most cost-effective amplification devices available for the child with hearing loss (EAA, 2002b). Training of other team members, especially teachers, will help them correctly operate classroom amplification devices, such as FM systems (English, 1995). In addition, teachers should receive training from audiologists in the trouble-shooting of hearing aids, to ensure that the children's hearing aids remain in proper working condition (Johnson, Benson & Seaton, 1997). Cochlear implanted children also require habilitation services in order to maximally benefit from their device, and teachers, school teams and caregivers will require support and assistance (Johnson, Benson & Seaton, 1997).

In South Africa an unequal distribution of resources currently exist between rural and urban schools that provide for children with hearing loss (Penn & Reagan, 1995). In the past, rural schools often lacked funding for amplification devices and materials for auditory training. Consequently, educational audiologists will find varying degrees of availability and sophistication of amplification devices, depending on the placement. Hopefully, these imbalances will be addressed by the funding made available for the inclusive educational system.

According to Johnson, Benson and Seaton (1997), the educational audiologist is one of the most important human resources for facilitating the inclusion of children with hearing loss, through the provision of habilitation services and amplification devices. Therefore, the educational audiologist will have a significant part to play in the success of inclusion of children with hearing loss in the inclusive educational system.

The education and training of team members was frequently mentioned during previous discussions on the roles and responsibilities of the educational audiologist and will now be discussed as a separate responsibility.

3.4.3.4 Responsibility #4: Education and training

Although the education and training of team members, caregivers, families, and communities form an integral part of the majority responsibilities of the educational audiologist, this will receive special attention in this discussion.

The educational audiologist cannot render effective and accountable audiological services to children with hearing loss if he/she does not involve members of the educational team, teachers, the child's caregivers, family and community (ASHA, 1993). The most effective way of involving these team members is by providing education and training in the management of children with hearing loss (Johnson, Benson & Seaton, 1997). Education and training of team members and caregivers is a continuous responsibility of the educational audiologist (English, 1995).

One of the most recurrent themes in Education White Paper no 6 (2001), is the *education and training* of members of the educational team in order to help address the school-going child's barriers to learning. Thus, the educational audiologist will have a great responsibility in the education and training of especially teachers in order to minimise the effect of the child's hearing loss on his/her educational development. The education and training of caregivers, family, and communities, are especially required in the South African context, due to ignorance that exists due to poor services rendered in the past to persons of races other than the White race (Reeves, 1994).

The caregivers, family and community of the child with a disability are some of the most important resources when providing intervention services (United Nations, 2002). Participation is a basic human need, and essential for ensuring sustainable and appropriate intervention, and therefore community-based rehabilitation is a strategy to employ when enhancing the quality of life of the person with a disability (United Nations, 2002). For this reason, the educational audiologist should aim at promoting interventions in the general systems of society, including adaptations of the physical and psychological environment that will facilitate the social integration and self-actualisation of children with hearing loss (United Nations, 2002).

The education of team members, caregivers, and family members, should include the interpretation of information relevant to the child's hearing loss. These include the interpretation of audiograms and the clarification of the influence of the hearing loss on the child's development of auditory abilities, language skills, speech production skills, communication skills, literacy skills, academic achievement, and psychosocial well-being (EAA, 2002b). Education will also entail the provision of information to all parties involved about the causes of hearing loss, how to prevent hearing loss, and how to relate to the child with hearing loss (EAA, 2002b). Recognition of the distinctive and unique characteristics of each family and community is central to success (United Nations, 2002). Educational audiologists should respect indigenous beliefs and practices whilst educating and training communities (United Nations, 2002). Advocating educational audiology services, and

making others aware of the value of these services to the child with hearing loss, is also an important part of education (English, 1995). Certain challenges should be overcome in South Africa when educating and training caregivers, family, and communities. These challenges include the multilingual and multicultural nature of communities and the limited literacy skills of caregivers in rural contexts. The education of team members, especially teachers and caregivers, in the value of educational audiology services will be an important responsibility of the educational audiologist in the inclusive educational system, as these roles and responsibilities are not commonly known among South African teachers (Pottas, 1988).

The training of team members and caregivers should consist of easily-executable strategies for identifying hearing loss and managing the child with hearing loss (Johnson, Benson & Seaton, 1997). This may vary from teachers completing checklists to identify children at-risk of hearing loss, to teachers replacing expired batteries of hearing aids (English, 1995; Johnson, Benson & Seaton, 1997). The purpose of training team members and caregivers is firstly to involve these members as stakeholders that are part of the intervention team (Johnson, Benson & Seaton, 1997). The utilisation of these persons will ensure more comprehensive service delivery as each of the persons involved has unique contributions to make towards the child's intervention programme (ASHA, 1993). The second reason for the training of team members and caregivers is to help reduce the educational audiologist's immense caseload thereby creating the opportunity for more effective service delivery for all children in need of these services (Johnson, Benson & Seaton, 1997). The benefit of training teachers will be especially valuable in the South African context, where schools are currently overcrowded and professional support personnel, such as educational audiologists are a rarity (Education White Paper no 6, 2001).

The educational audiologist will greatly contribute to the inclusion of children through the education and training of teachers, other team members, caregivers, and families, in the audiological and educational management of children with hearing loss.

The fifth identified responsibility of the educational audiologist involves the support and assistance of team members and caregivers.

3.4.3.5 Responsibility #5: Support and assistance

When the educational audiologist provides support and assistance to team members and caregivers, he/she functions as a consultative team member who either provides indirect services, such as information exchange or hands-on intervention if the need arises (Johnson, Benson & Seaton, 1997). This service delivery approach corresponds with approaches outlined in the Education White Paper no 6 (2001), namely that teachers should receive support and assistance from other professional team members, in order to overcome children's barriers to learning. Literature available on the roles and responsibilities of the educational audiologist mostly categorise *support* and *assistance* together with *education* and *training*. For the purposes of this study, it was decided to discuss this responsibility separately however. The reason for categorising it separately is that the provision of *support* and *assistance* differs from *education* and *training*, because the latter is a responsibility mainly initiated by the educational audiologist, whereas *support* and *assistance* is mostly team-driven, as needs arise from persons involved with the child (English, 1995; Johnson, Benson & Seaton, 1997). The first step towards support and assistance will be the establishment of fluent communication channels between the educational audiologist and other team members (ASHA, 1993). In many cases, this implies that the educational audiologist should move into the classroom or into the community, in order to render services. Support and assistance by the educational audiologist may include recommendations for the modification and adaptation of classroom instructional methods, curriculum content, and teaching materials (EAA, 2002d). In addition, the educational audiologist can provide advice on problem-solving if a child experiences barriers to learning due to his/her hearing loss (Johnson, Benson & Seaton, 1997). The educational audiologist therefore serves as a "back-up" whenever team members or caregivers require additional intervention of a child with hearing loss, while receiving regular educational audiology services at school (ASHA, 1993; Johnson,

Benson & Seaton, 1997). The educational audiologist has an important task to fulfil when providing support and assistance to caregivers and family members, as these persons often feel helpless to deal with the challenges brought on by the child's hearing loss. Caregivers and family should therefore receive support on an emotional level as well as in other areas where assistance is required (Johnson, Benson & Seaton, 1997).

The educational audiologist within the inclusive educational system has the responsibility of providing support and assistance, especially to teachers and caregivers, in order to ensure that every child with hearing loss benefits from educational efforts (Johnson, Benson & Seaton, 1997).

The monitoring and following-up of children with hearing loss is another important responsibility of the educational audiologist and will succeed this discussion.

3.4.3.6 Responsibility #6: Monitoring and follow-up

Monitoring and follow-up services should be provided by the educational audiologist for each child who has been identified with hearing loss as well as to those who are at risk of developing hearing loss (ASHA, 1993). Without appropriate monitoring and follow-up services, all of the effort invested in prevention, conservation, assessment, habilitation and amplification, education and training, support and assistance, will be futile (Johnson, Benson, & Seaton, 1997). Monitoring and follow-up services include, but are not limited to, teacher consultation; parent, caregiver and family counselling; follow-up of referrals and recommendations; monitoring and reassessment of the child's auditory skills, language skills, speech production, communication skills, literacy skills, academic achievement, and psychosocial development; monitoring of the performance and effectiveness of the child's personal and group amplification devices; and monitoring of the child's educational placement (ASHA, 1993; English, 1995; Johnson, Benson, & Seaton, 1997). The purpose of monitoring and follow-up services is to ensure that the child is receiving an individualised intervention plan, that aims to address the child's

unique audiological and educational needs at various stages of his/her school career (EAA, 2002b; Johnson, Benson, & Seaton, 1997). Monitoring and follow-up services are part of a learner-centred approach which complies with the transition towards an inclusive educational system (Education White Paper no 6, 2001).

The educational audiologist in the inclusive educational system has an important responsibility to ensure that children with hearing loss receive appropriate and adequate audiological and educational intervention through the provision of monitoring and follow-up services (ASHA, 1993).

The final responsibility identified from literature sources is evaluation and research, and will be explored next.

3.4.3.7 Responsibility #7: Evaluation and research

Evaluation and research for the purposes of this study, will deal with the assessment of the educational audiology service delivery system as a whole (ASHA, EAA, 2002b). The evaluation of the service delivery system must be an on-going responsibility of the educational audiologist to ensure the efficacy of services within the educational system (EAA, 2002b). Furthermore, the ongoing research into best practices in audiological and educational management of children with hearing loss is of utmost importance to render accountable services in accordance with current trends (ASHA, 1993). Although it cannot be expected of each educational audiologist to embark upon research, attending continuing education programmes and keeping abreast of current research findings in the field are included in this responsibility (EAA, 2002b).

The South African educational audiologist has a tremendous responsibility in the evaluation of the educational audiology service delivery system in the inclusive educational system, because the inclusive educational system is a new concept with new challenges. The educational audiologist therefore should ensure by means of evaluation and research that the proposed

educational audiology service delivery system is best suited to the South African school-going population, and that it complies with future educational policies.

In Figure 3.3 (below), suggestions are provided as to what the duties of the educational audiologist will be in the inclusive educational system.



In Figure 3.3, an outline is provided of what duties the educational audiologist will be in the inclusive educational system.

Suggestion for the inclusive educational system:

(a) The responsibilities of *education and training* and *support and assistance* should be regarded as main priorities in order to comply with policies stipulated in Education White Paper no 6 (2001) and to ensure that all children receive intervention despite the unfavourable ratio of educational audiologist per school-going child.

3.5 A PRELIMINARY MODEL FOR SERVICE DELIVERY BY THE EDUCATIONAL AUDIOLOGIST IN THE INCLUSIVE EDUCATIONAL SYSTEM

In the previous discussions, the educational audiologist's service delivery structure, role, and responsibilities within the South African context was conceptualised from various literature sources. The conceptualised model will be modified and adapted according to the findings from the empirical study. The preliminary educational audiology service delivery model is presented in Figure 3.4.

This model aims to provide a framework for the delivery of services that will support teachers of children with hearing loss. Supporting teachers will ultimately benefit children with hearing loss in order to reach their full potential (English, 1995).

3.6 CONCLUSION

An educational audiology service delivery model will aim to provide a framework for the delivery of services that will support the teacher and the caregiver of the child with hearing loss. Addressing teachers' needs as far as possible through the development of an educational audiology service delivery model falls in line with current government policy on teacher support services. Supporting teachers and caregivers will ultimately ensure that children with hearing loss reach their full potential within the school-setting.

After a review of international literature on current practices in educational audiology, it becomes clear that the information is not sufficient to develop an educational audiology service delivery model appropriate for the South African context. Therefore, an empirical study should be undertaken to customise the service delivery model for the unique South African context.

3.7 SUMMARY

In Chapter 3, the evolution of the field of educational audiology was briefly described. Considering the move toward an inclusive educational system, the following questions arose: *Where will the educational audiologist be posted?* (i.e. service delivery structure); *In which capacity will the educational audiologist function?* (i.e. roles); and *What duties will the educational audiologist perform?* (i.e. responsibilities). Applying guidelines outlined in Education White Paper, the service delivery structure of the educational audiologist within the inclusive educational audiologist was speculated on. Five roles of the educational audiologist were identified from literature and

explored in terms of its relevance to the inclusive educational system. Lastly, seven responsibilities of the educational audiologist were described with applicability to the inclusive educational system. A conclusion and summary were provided at the end of the chapter.

CHAPTER 4
METHODOLOGY

*“...scientific human inquiry might be the greatest gift that Western
consciousness has given the world.” (Reason, 1994:9)*

4.1 INTRODUCTION

In an attempt to address the shortcomings of the education of children with disabilities, the South African government proposes an inclusive educational system. It is hypothesised that this system will positively benefit these children, including children with hearing loss (Education White Paper no 6, 2001).

However, from the theoretical background discussed in chapters one, two and three, it became clear that the movement toward inclusion of children with hearing loss in the educational system will also increase the challenges already faced by teachers (Keith & Ross, 1998). Correspondingly, the needs of teachers regarding their learners' audiological and educational management will have to be addressed in order to ensure maximal learning opportunities for children with hearing loss.

One of the possible solutions to addressing teachers' needs is through the assistance of an educational audiologist (English, 1995). The educational audiologist can support teachers in modifying or adapting the teaching approaches and/or classroom environment in order to maximise the learning environment of children with hearing loss (English, 1995; Johnson, Benson & Seaton, 1997).

Addressing teachers' needs through the development of an educational audiology service delivery model is in line with current government policy on teacher support services. The educational audiologist has a unique role in the school setting which differs from the field of clinical audiology. Furthermore, the educational audiologist is uniquely skilled in managing the effects of hearing loss on the child's educational development, and is a crucial member on the educational team (English, 1995; Johnson, Benson & Seaton, 1997). The roles and responsibilities of an educational audiologist serving on an educational team are mostly determined by the educational context, the needs of the children and the needs of teachers (Johnson, Benson & Seaton, 1997). The specific nature of teachers' needs regarding the roles and responsibilities of an educational audiologist serving on an educational team in South Africa is not clear. Therefore, the appropriate research question posed is: *What are the needs of teachers in the inclusive educational system regarding an educational audiology service delivery model?* In order to provide an answer to this question, empirical research was undertaken. **The aim of this chapter is to describe the research methodology employed to answer the aforementioned research question.**

Firstly, the aims and objectives of the research are identified, followed by a discussion on the research design utilised. This is followed by a description of the selection criteria and selection procedures of the participants, and the data collection instruments and equipment used. The pilot study is then presented in terms of the aim, objectives, results and consequent adaptations for the main study. The data collection procedures, data recording procedures, and the procedures employed for data analysis are then explained.

4.2 RESEARCH AIMS

The *aim* of the study is to determine the needs of teachers of children with hearing loss regarding an educational audiology service delivery model within the inclusive educational system.

In order to achieve this aim, the following *objectives* were formulated:

- * to determine and describe the needs of teachers regarding their knowledge of educational audiology;
- * to determine and describe the needs of teachers regarding the audiological and educational management of children with hearing loss; and
- * to determine and describe the needs of teachers regarding the structure of service delivery to children with hearing loss.

4.3 RESEARCH DESIGN

The research design was a **qualitative** paradigm that was **descriptive** and **contextual** in nature (Leedy & Ormrod, 2001; Mouton & Marais, 1996; Schurink, 1998).

Primarily **qualitative** research methods were utilised for the purposes of this study. According to Kirk and Miller (1986:9), qualitative research is “...*a particular tradition in social science that fundamentally depends on watching people in their own territory and interacting with them in their own language, on their own terms.*” The purpose of qualitative research is to observe, describe, explain, interpret, and then to present in an organised way in order to contribute to the development of theory (Leedy & Ormrod, 2001). In the current study a qualitative analysis of teachers’ needs regarding the management of children with hearing loss within the inclusive educational system, made it possible to determine their current needs. In addition, more specific information could be obtained through comparison and dependency tests of variables, such as their level of graduate training and amount of experience.

By means of quantitative analysis, findings could be interpreted in terms of their generalizability to the whole population of teachers of children with hearing loss in South Africa. Thus, both qualitative and quantitative measures

were employed to analyze the results of this study (Mouton & Marais, 1996). The main thrust of the design remained qualitative, however.

In particular, a **descriptive** research design (Mouton & Marais, 1996) was selected for this study. This design involved the utilisation of the questionnaire survey method to obtain a measure of the needs of teachers in the inclusive educational system. The survey was supplemented by focus group interviews in order to enrich the qualitative nature of the study (Stewart & Shamdasani, 1990). A descriptive study made an in-depth description of a specific group possible and also made it possible to subsequently determine the frequency with which specific characteristics or variables occurred in that sample (Mouton & Marais, 1996). The single common element in all descriptive types of research, is the goal to describe that which exists as accurately as possible (Mouton & Marais, 1996). In the case of this study, it was to portray teachers' needs regarding an educational audiology service delivery model within the inclusive educational system.

The **contextual** nature of the research design referred to the collection of findings among a specific professional group, namely teachers of children with hearing loss within a specific geographical area, namely the whole of South Africa (Schurink, 1998).

The main research protocol comprised of a questionnaire survey followed by focus group interviews. The use of a combination of research methods to explore a particular topic had the potential of maximising the quality of data collection and reducing the chance of bias (Berg, 1998). For the present study, the use of different methods enabled the forming of a comprehensive depiction of the needs of teachers of children with hearing loss regarding an educational audiology service delivery model within the inclusive educational system.

The empirical research consisted of three main phases, namely a pilot study, the main study, and an analysis of the results. A graphic representation of the empirical research phases and their respective participants are presented in Figure 4.1.

Schools	Participants
PILOT STUDY	
<p>One school from the total of 35 schools which provided for children with hearing loss in South Africa was selected to pre-test the questionnaire and the focus group interviews.</p> <p>Where necessary, changes were made for the main study.</p>	<p>Ten teachers, representing all teaching phases, were randomly selected from the pilot school to complete the questionnaire. Six other teachers, representing all teaching phases, were randomly selected from the pilot school to participate in a focus group interview (n=16).</p>
↓	
MAIN STUDY	
<p>The remaining 34 schools were requested to participate in the questionnaire survey and focus group interviews.</p>	<p>A total of 769 teachers, representing eight provinces, were approached to participate in the questionnaire survey and focus group interviews.</p>
↓	
Questionnaire survey	
<p>From the total of 34 schools selected for the main study, 32 schools were requested to participate in the questionnaire survey.</p> <p>Results obtained from the questionnaire survey were, amongst others, used to identify themes to be used in the focus group interviews.</p>	<p>A total of 664 teachers were asked to complete the questionnaire.</p>
↓	
Focus group interviews	
<p>The remaining two schools were requested to participate in focus group interviews.</p> <p>Four separate focus group interviews were conducted with the participants, two interviews per selected school were performed.</p>	<p>Ten teachers from the junior and senior teaching phases of a school which mainly promotes spoken language participated in focus groups. Ten teachers from the junior and senior teaching phases of a school which mainly promotes Sign Language participated in focus group interviews. (n=20)</p>
↓	
ANALYSIS OF RESULTS	
<p>The results obtained from the questionnaire survey and focus group interviews were analyzed quantitatively and qualitatively.</p>	
Figure 4.1: Phases of the empirical research	

Firstly, a pilot study was conducted to pre-test the data collection instruments, equipment, and procedures (Leedy & Ormrod, 2001). After the necessary changes were made based on the results of the pilot study, teachers selected for the main study were requested to complete the questionnaire (Berg, 1998). Results obtained from the questionnaire survey were used to identify themes to be used in focus group interviews (Morgan, 1997). Finally, focus group interviews were conducted and results obtained were analyzed quantitatively and qualitatively (Mouton & Marais, 1996).

4.4 PARTICIPANTS

This study aimed to determine the needs of the *total population* of teachers employed at schools which provide for children with hearing loss within the whole of South Africa. Therefore, minimal criteria were set for the selection of the schools and for the selection of participants employed at these schools. However, many participant variables will be considered in order to meaningfully interpret the final results (Huysamen, 1998). The criteria and variables are as follows.

4.4.1 Selection criteria for schools

The following criteria for selection were applied to schools.

*** Geographical area**

Schools that provide for children with hearing loss in all nine provinces in South Africa, namely: Eastern Cape, Free State, Gauteng, Kwazulu-Natal, Limpopo, Mpumalanga, Northern Cape, North West, and Western Cape, were included in the questionnaire survey (See Appendix A). It was determined, however, that, to date, the Northern Cape had no schools that specifically provided for children with hearing loss.

All schools that provide for children with hearing loss in South Africa were targeted, in order to ensure the transferability of the results obtained from participants, thus ensuring that the results obtained were representative of teachers of children with hearing loss in *South Africa* (Reid & Gough, 2000).

More extended criteria regarding the selection of the geographical area were set out for the purposeful selection of schools to participate in focus group interviews (Leedy & Ormrod, 2001).

The schools that participated in focus group interviews were selected exclusively from the Gauteng province.

Schools from the *Gauteng* province were selected, because it was logistically manageable for the researcher to frequent these schools during face-to-face focus group interviews (Berg, 1998). Furthermore, schools from the Gauteng province were specifically selected, because the researcher had prior exposure to Gauteng schools providing for children with hearing loss during graduate training. Thus, the researcher had first-hand knowledge of the teaching standards of these schools, as well as of their willingness to participate in research projects.

* **Nature of schools**

All schools included had to provide for children with *hearing loss*. However, all schools that provide for children with hearing loss are not mutually exclusive, as some of these schools jointly provide for regular children; children with visual impairment; cognitive impairment; and/or physical impairment.

The above-mentioned schools were therefore also targeted in order to ensure the inclusion of the needs of the total population of teachers of children with hearing loss, thus ensuring that the results obtained were representative of *all teachers* of children with hearing loss in South Africa (Reid & Gough, 2000).

For the purposes of this study, however, schools providing for children with hearing loss excluded educational establishments that exclusively offered schooling in the *pre-school* phase. These schools were excluded, because they are privately owned and therefore will not be directly effected by the government's plans for transition into the greater inclusive educational system (Education White Paper no 6, 2001).

4.4.2 Selection criteria for participants

The following criteria were set for selection of participants.

*** Employment**

The participants had to be employed as teachers by any of the schools mentioned above in order to ensure that they had teaching experience with children with hearing loss and that they were familiar with the educational-setting in South Africa.

Participants employed at *special schools*, as opposed to participants working at regular schools, were selected for two main reasons.

Firstly, teachers employed at regular schools have limited or no exposure to the audiological and educational management of children with hearing loss. Therefore, participants may not be fully aware of the special needs of these children and therefore may have limited insight as to the need for support in various areas by educational audiologists. Keith and Ross (1998) revealed in a South African study that the majority of teachers did not believe that having a child with hearing loss in their class would require much extra effort. Lampropoulou and Padeliadu (1997) found that regular education teachers were more positive towards inclusion than teachers of children with hearing loss, because they might have based their opinions about inclusion on humanitarian grounds, as they had no experience in educating children with hearing loss. Therefore, the study utilised the knowledge and expertise of teachers who educate children with hearing loss and therefore have better

insight about the audiological and educational need for support when managing the child with hearing loss.

Secondly, participants employed at special schools, as opposed to participants working at regular schools, were selected, because, according to the Education White Paper no 6 (2001), teachers with specialised knowledge and skills are regarded as human resources who should be utilised to the benefit of learners with barriers to learning. It can therefore be assumed that teachers of children with hearing loss will be placed within the inclusive educational system to offer support to children with hearing loss. Furthermore, teachers with specialised knowledge and skills will be used to train teachers with less exposure in managing the child with hearing loss (Education White Paper no 6, 2001). Therefore, the study selected participants who were currently educating children with hearing loss, and who most likely will continue to manage these children in the inclusive educational system.

*** Communication instructional approach**

Participants included had to represent the two main approaches to communication instruction found among teachers providing for children with hearing loss in South Africa.

Teachers providing for children with hearing loss can be divided into mainly two sub-groups, namely: teachers who mainly promote the use of spoken language among their learners and teachers who mainly promote the use of Sign Language as a mode of communication (Moore, 1996).

The different communication instructional approaches followed by teachers gives rise to differences in teaching practices and educational philosophies amongst the sub-groups (Moore, 1996). Thus, the focus group interviews had to be conducted with participants of both sub-groups, in order to obtain representative responses from all teachers of children with hearing loss in South Africa (Reid & Gough, 2000).

4.4.3 Variables considered in participant selection

A variable is a characteristic of the participants, or a condition which they have been exposed to, that is not the same for all participants (Huysamen, 1998). Variables can influence the meaningful interpretation of findings and are therefore clarified (Huysamen, 1998). The following variables could not be controlled and will be considered during the interpretation of results obtained from participants (Mouton & Marais, 1996):

- * Participants were divided into their respective *sub-groups according to their communication instructional approach*. This variable will be considered as participants of these sub-groups may have different needs for an educational audiology service delivery model.
- * The variables *gender, age and experience* will be considered in order to determine the influence thereof on participants' needs for an educational audiology service delivery model.
- * *Home language and medium of language instruction* were variables noted in order to determine whether there are differences in the needs of participants using different languages. In addition, it will be used to determine whether participants teaching in a language other than their home language have additional needs.
- * *Highest educational qualification, specialised training as well as in-service training* of participants, will be considered to determine if there are different needs among participants with varying levels of training.
- * *Educational phases taught* by participants as well as the *teacher/learner ratio* may influence the needs among participants and will be considered.

4.4.4 Selection procedures of schools

The following procedures were employed for the selection of schools.

All 35 schools currently providing for children with hearing loss in South Africa were identified from a list obtained from the Deaf Federation of South Africa

(DEAFSA, 2001a) and were included in the questionnaire survey (See Appendix A).

The transferability of the results obtained from participants was increased by the inclusion of *all* schools in South Africa, thus ensuring that the results obtained were representative of teachers of children with hearing loss in *South Africa* (Reid & Gough, 2000)

Two schools of the total number of schools were purposefully (Leedy & Ormrod, 2001) selected from the list of Gauteng schools for participation in the focus group interviews.

The schools to participate in focus group interviews were purposefully selected, because this facilitated analysis of differences between pre-determined heterogeneous groups (Morgan, 1997). Furthermore, these two schools were specifically selected, because both of these schools had a national reputation for being schools with high teaching standards and dedicated teaching staff; and had shown a willingness to participate in research projects in the past.

4.4.5 Selection procedures of participants

The following procedures for the selection of participants were employed.

- * During the questionnaire survey, school principals were requested to provide the number of teachers currently employed at their school in order to issue these participants with questionnaires.
- * During focus group interviews, a list of all the teaching personnel was obtained from the schools in order to randomly select participants from the various teaching phases of each school (Leedy & Ormrod, 2001).
- * The school principals had to indicate in which of the two categories of the communication instructional approach the teachers could be classified, and participants were divided into their respective sub-groups. Teachers who followed either Sign Language, Total Communication, or

Bilingual/Bicultural communication approaches, regarded themselves as teachers who mainly promote Sign Language, whereas teachers following the Oral-Aural approach categorised themselves as mainly promoting spoken language.

- * Participants were randomly selected from both the junior and senior phases to ensure representativeness during the focus group interviews (Leedy & Ormrod, 2001).
- * Two focus groups were conducted with each selected school, totalling four separate focus group interviews. Five participants were randomly selected from the junior phase of a school (ranging from pre-school to grade 6) for the first focus group interview. For the purposes of the second focus group interview, five participants were randomly selected from the senior phase of a school (ranging from grade 7 to vocational phase). These selection procedures allowed for a more equal distribution of participants among the teaching phases.
- * The selection of five teachers per focus group interview was regarded as a sufficient number of participants, because according to Morgan (1997), a smaller number of participants are required if the participants have a high level of involvement with the topic and a smaller group allows the researcher to exercise more control over the active involvement of each participant. Furthermore, five teachers were selected for each focus group interview, because findings from the pilot study (section 4.6.8) revealed this to be a desirable number of participants for active focus group participation.

A visual representation of the participant selection procedure for focus group interviews can be seen in Table 4.1.

Table 4.1: Participant selection procedure for focus group interviews			
School # 1: Participants mainly promoting spoken language approach	5 participants from the Junior Phase	Focus group 1	TOTAL: 20 participants 4 focus groups
	5 participants from the Senior Phase	Focus group 2	
School #2: Participants mainly promoting Sign Language approach	5 participants from the Junior Phase	Focus group 3	
	5 participants from the Senior Phase	Focus group 4	

4.4.6 Description of participating schools

Questionnaires were sent to 32 of the total of 35 schools, thereby excluding the three schools used during the pilot study and focus group interviews. These three schools were excluded in order to avoid data-contamination (Neuman, 1997). After completion of the survey, 84% of schools returned their questionnaires. Of the total number of schools providing for children with hearing loss in South Africa, 77% of schools participated in the survey. As mentioned previously, only eight of the nine provinces had schools providing for children with hearing loss in South Africa. Schools that participated in the survey, represented all eight provinces with schools for children with hearing loss, namely: Eastern Cape, Free State, Gauteng, Kwazulu-Natal, Limpopo, Mpumalanga, North West, and Western Cape (See Appendix A). This is a very good statistical representation of the total population of schools in South Africa (Huysamen, 1998).

Table 4.2 provides a summary of the relevant characteristics of the schools that met the selection criteria.

Table 4.2: Description of participating schools in the questionnaire survey (n=32)						
PROVINCE	SCHOOL	NATURE OF SCHOOL	COMMUNICATION INSTRUCTIONAL APPROACH	EDUCATIONAL AUDIOLOGISTS POSTED AT SCHOOL	TEACHERS EDUCATING CHILDREN WITH HEARING LOSS	NUMBER OF LEARNERS WITH HEARING LOSS
Eastern Cape	1	hearing loss & visual impairment	Sign Language	1	35	120
	2	regular school & unit for hearing loss	Oral-Aural	0	5	40
	3	hearing loss	Total Communication	1 vacancy	11	110
	4	hearing loss	Sign Language	0	38	300
Free State	5	hearing loss & visual impairment	Sign Language	1 vacancy	16	160
	6	hearing loss & visual impairment	Sign Language	0	20	210
Gauteng	7	hearing loss, visual impairment & physical impairment	Total Communication	2	14	40
	8	hearing loss	Oral-Aural	0	35	189
	9	hearing loss	Total Communication	1	16	102
	10	hearing loss	Total Communication	1 vacancy	22	170
	11	hearing loss	Sign Language	1	25	161
Kwazulu-Natal	12	hearing loss	Total Communication	1 vacancy	20	150
	13	hearing loss	Bilingual/Bicultural	1	25	99
	14	hearing loss	Total Communication	1	14	108
	15	hearing loss	Sign Language	1	27	241

Table 4.2 continued

	16	hearing loss	Sign Language	0	3	12
	17	hearing loss	Total Communication	1	18	265
	18	hearing loss	Total Communication	2	28	240
	19	hearing loss	Sign Language	1 vacancy	30	275
Limpopo	21	hearing loss, visual impairment	Sign Language	1	16	189
	22	hearing loss	Oral-Aural	0	2	36
	23	hearing loss, visual impairment & physical impairment	Sign Language	1 vacancy	21	197
	24	hearing loss	Sign Language	1	23	240
Mpumalanga	20	hearing loss, visual impairment & cognitive impairment	Total Communication	0	6	60
Northern Cape	No schools providing for children with hearing loss to date					
North West	25	hearing loss	Sign Language	0	7	60
	26	hearing loss	Total Communication	0	30	300
Western Cape	27	hearing loss	Total Communication	1	30	200
	28	hearing loss	Oral-Aural	1	15	70
	29	hearing loss	Total Communication	2	15	200
	30	hearing loss	Oral-Aural	1	13	84
	31	hearing loss	Total Communication	1	29	150
	32	hearing loss	Oral-Aural	2	55	506
TOTAL:					664 teachers	6 215 learners

Table 4.2 reveals that the majority of schools are dedicated to exclusively providing for children with hearing loss, whereas a few include other disabilities such as visual impairment, physical impairment, and/or cognitive impairment. Most schools mainly promote Sign Language and only six of these schools mainly promote spoken language as a mode of communication. Nine of these schools were unfortunate not to have any posts allocated for speech-language therapists/audiologists by the provincial Department of Educational, whilst vacancies for speech-language therapists/audiologists existed at six other schools. This indicates a lack of intervention by the speech-language therapists/audiologists at these schools that may negatively affect the audiological and educational management of children with hearing loss (Johnson, Benson, & Seaton, 1997).

The descriptive characteristics of the two schools included in the focus group interviews are not provided, as anonymity was ensured, and these features may reveal the identity of these schools.

4.4.7 Description of participants

Participants of the questionnaire survey and focus group interviews will be described separately.

*** Participants in the questionnaire survey**

Questionnaires were sent to 664 of the total population of 769 teachers of the 32 schools, thereby excluding the participants used during the pilot study and focus group interviews. As mentioned previously, these participants were excluded in order to avoid data-contamination (Neuman, 1997). A return rate of 55% completed questionnaires was achieved. This is considered a good return rate as the general return rate for mailed questionnaires is usually in the region of 20% (Berg, 1998). Forty seven percent of the total population of teachers providing for children with hearing loss in South Africa participated in the questionnaire survey. The resulting sample consisted of 45% teachers

who mainly promote spoken language and 48% teachers who mainly promote Sign Language.

It is concluded that the sample was representative of the total population of teachers providing for children with hearing loss in South Africa considering the following (Huysamen, 1998):

- * participants represented all eight provinces that have schools providing for children with hearing loss in South Africa;
- * participants represented 77% of all the schools providing for children with hearing loss;
- * participants from the sub-groups representing the two communication instructional approaches were represented nearly equally percentage-wise; and
- * a large number of completed questionnaires (n=364) were received from participants.

Figure 4.2 provides a summary of the description of participants included in the questionnaire survey.

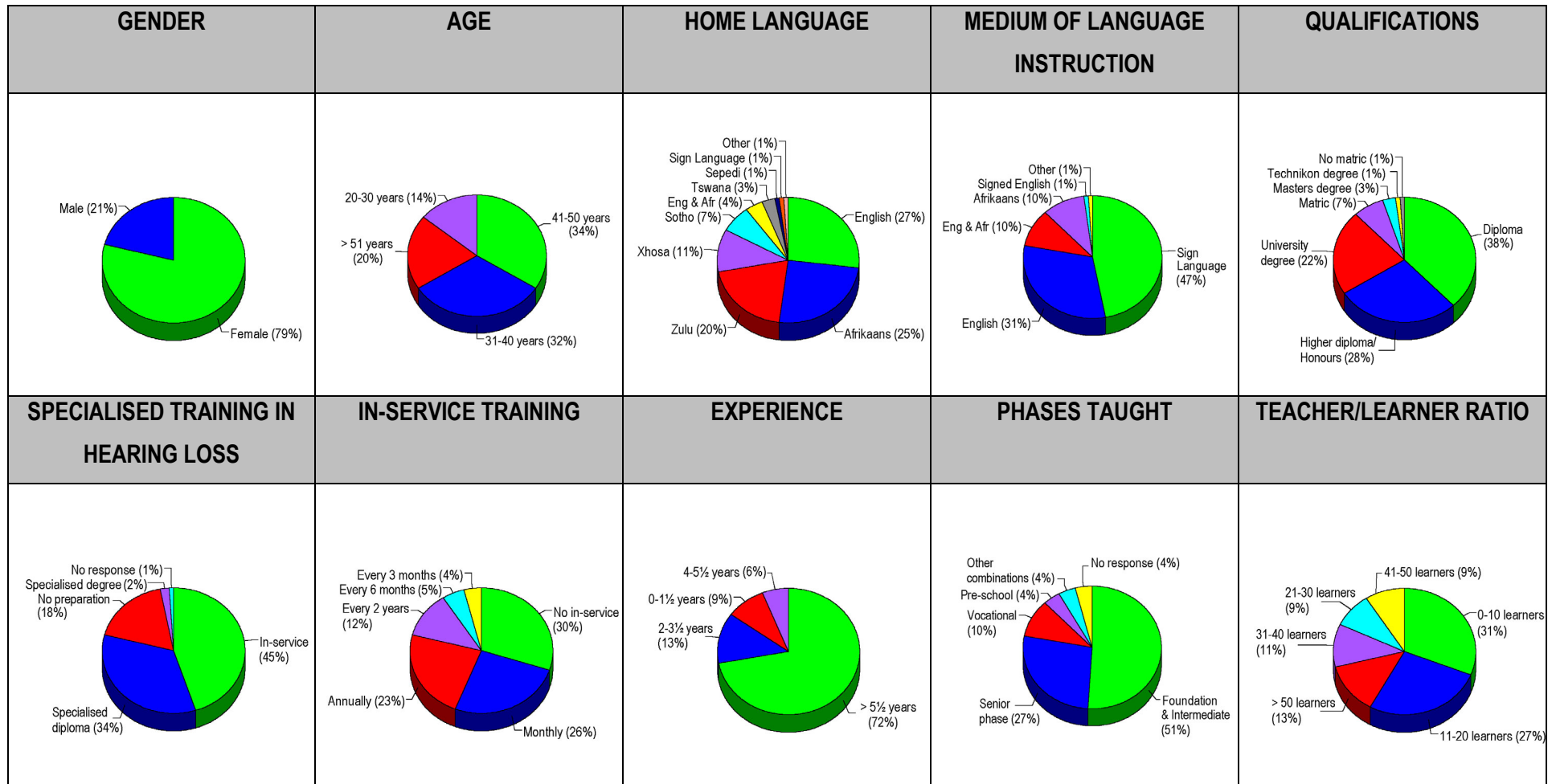


Figure 4.2: Description of participants in the questionnaire survey (n=364)

According to Figure 4.2, participants were mostly female and mainly spoke English, Afrikaans, or Zulu. Zulu was the main African language spoken among participants. This can be explained by the fact that KwaZulu-Natal (where Zulu is spoken) had of the majority of schools providing for children with hearing loss and therefore many Zulu-speaking participants were included in the study. Other home languages (1%) spoken by participants included, inter alia, Ndebele, Siswati, Tsonga, and Venda. Participants mainly had diplomas or honours degrees/higher diplomas. Teachers received specialised training in the management of children with hearing loss mainly through in-service training or by obtaining a specialised diploma. The majority of participants had more than 10 learners in their classrooms.

*** Participants in focus group interviews**

A visual representation of the participant selection procedure for focus group interviews have already been provided in Table 4.1

Teachers who met the selection criteria and acted as participants in the focus group interviews, are described in Figure 4.3.

According to Figure 4.3, the participants were mostly Afrikaans-speaking females and had mostly obtained higher education diplomas. It becomes clear that participants in the focus group interviews differ from the participants in the questionnaire survey. Participants in the focus group interviews are mostly Afrikaans-speaking, are more qualified, and have had more specialised training than participants in the questionnaire survey. However, dependency tests will determine the influence of the aforementioned variables and differences between the participants with respect to home language, qualifications and specialised training will be clarified during the interpretation of the results. Furthermore, it was decided to conduct focus group interviews with Afrikaans-speaking participants, as this is the researcher's first language.

4.5 DATA COLLECTION INSTRUMENTS AND EQUIPMENT

Data collection instruments, as well as various equipment were employed in order to obtain the information required from the participants and are presented forthwith.

4.5.1 Data collection instruments

A questionnaire (See Appendix D) and focus group interviews (See Appendix E) served as data collection instruments for the study, and are described in the following discussion.

4.5.1.1 The questionnaire

The design of the questionnaire is described in the following section:

Justification for the use of a questionnaire:

The use of a questionnaire as a data collection instrument for this study was considered the most advantageous for the following reasons (Berg, 1998; Neuman, 1997):

- a wide geographical area (as in this case the whole of South Africa) could be included in the survey;
- questionnaire surveys are more time-effective, since a large number of responses can be obtained in a limited period of time;
- questionnaire surveys are more cost-effective in comparison with face-to-face contact with participants; and
- a questionnaire is answered in privacy, therefore participants are more likely to express their true opinions and views.

However, the main disadvantage of a mailed questionnaire is that there tends to be a poor response rate (Neuman, 1997). This limitation was acknowledged, and guidelines in the literature were followed in order to facilitate a good response rate (Berg, 1998; Neuman, 1997):

- principals were contacted telephonically prior to the mailing of the questionnaires in order to explain the aim of the research and to obtain their permission;
- principals received follow-up telephone calls to inquire whether the teachers have completed and re-mailed the questionnaires;
- the majority of questionnaires were sent by courier services, to ensure that principals received the questionnaires at the school premises within approximately two days of the initial phone call; and
- questionnaires were supplied with postage-paid, self-addressed envelopes that were registered at the post-office, to ensure that these parcels could be tracked within the postal system.

Aim of the questionnaire:

The aim of the questionnaire was to obtain information from the participants regarding teachers' needs, in order to develop an educational audiology service delivery model for use within the inclusive educational system.

Language of the questionnaire:

The questionnaire was compiled in both English and Afrikaans, as either or both of these languages are spoken by teachers in South African schools for children with hearing loss.

Format and content of the questionnaire:

A questionnaire was designed using relevant literature sources and guidelines for questionnaire construction. Seven areas and their impact on the child's ability to be educated were identified from the literature, namely the effects on the child's: hearing ability, language skills, speech acquisition, communication skills, literacy skills, academic achievement, and psychosocial development (ASHA, 1993; Bess & McConnell, 1981; Bunch, 1987; English, 1995; Ferguson, Hicks & Pfau, 1988; Froehlinger & Bryant, 1981; Jamieson, 1994; Johnson, Benson, & Seaton, 1997; McAnally, Rose & Quigley, 1987; Moores, 1996; Sanders, 1988). These seven areas were used to structure the main content of the questionnaire, in order to determine the teachers' need for support with regard to addressing these areas, when educating children with hearing loss in the inclusive educational system. The validity of the questionnaire content was ensured by the inclusion of all the relevant theoretical areas of educating children with hearing loss (Reid & Gough, 2000).

Two key principles were kept in mind during the formulation of the questions, namely: avoiding confusion and keeping the participant's perspective in mind (Neuman, 1997). Therefore, attention was given to the following during the development of the questionnaire (Berg, 1998; Mouton & Marais, 1996; Neuman, 1997):

- the wording of instructions and questions were kept simple and precise, in order to avoid ambiguity;
- the terminology used in the questionnaire was appropriate and familiar to persons in the teaching profession; and

- questions phrased in a manner, which could have been perceived as threatening or judgmental, were avoided.

The arrangement and sequencing of questionnaire-items could significantly effect the results (Berg, 1988). The questions had to be sequenced logically in order to minimise discomfort and confusion among participants. The funnel sequence (Berg, 1998) was therefore used, beginning with general questions probing biographic information and ending with more specific questions on the teachers' needs. Most questions were close-ended to ease accuracy and speed of completion by the participants (Neuman, 1997). Another reason for using more close-ended questions was that open-ended questions featured in the focus group interviews. However, as the aim was to describe teachers' needs with regard to educating children with hearing loss in the inclusive educational system, it was necessary to add open questions, in order to probe their detailed opinions and suggestions for the inclusive educational system.

Although the main aim of the study was to determine the *needs* of teachers of children with hearing loss, additional information was also probed in the questionnaire. Participants had to recommend areas of which teachers had to have knowledge and/or intervention steps that teachers had to execute. Information on the aforementioned was obtained, because the need for support can best be understood if areas of importance to the participants were identified. However, the results and discussion focused mainly on the *needs* of teachers and this additional information was solely utilised to clarify the identified needs of participants.

The questionnaire was comprised of 30 questions distributed across 12 pages, and consisted of three sections, namely Section A, Section B, and Section C.

Although a 12-page questionnaire seemed lengthy, most of the questions were closed-ended in nature that participants only had to tick off. Therefore, the duration for completion (approximately 20 minutes) was considered as being within reasonable limits (Berg, 1998).

Table 4.3 depicts the development of the questionnaire in terms of the content included and the justification for the inclusion thereof.

Table 4.3: Development and description of questionnaire content			
SECTION	QUESTIONS	TOPIC	JUSTIFICATION
Section A: consists of 5 close-ended questions & 1 open-ended question	Questions 1 to 6	Biographic information of participants	Questions were included on participants' personal characteristics such as: gender; age; home language; qualifications; specialised training; and experience in order to describe the participants included in the study, as well as to draw correlations during data analysis.
Section B: consists of 7 close-ended questions & 1 open-ended question	Questions 7 to 12	Information regarding teaching practices	Questions requested information with regards to teaching practices and included: the educational phases taught; number of learners; medium of language instruction; method of communication instruction; and in-service training in order to describe the schools included in the study, as well as to draw comparisons during data analysis.
Section C: consists of 15 close-ended questions & 5 open-ended questions	Question 13	Knowledge of the various aspects of hearing loss and the need for support	<p>This question was included to determine whether participants realised the importance of having knowledge in these areas, in order to successfully educate children with hearing loss in the inclusive educational system. In this question provision was also made for determining participants' need for support in order to acquire this knowledge. This was included, because teachers will benefit from the support of an educational audiologist in order to acquire knowledge of the child with hearing loss (Johnson, Benson & Seaton, 1997). This question consisted of the following items:</p> <ul style="list-style-type: none"> * An item was included on the knowledge of the process of communication interaction. This area was included because knowledge of the process of communication helps teachers to have a better understanding of what is needed by the child to communicate successfully. Therefore, knowledge of the process of communication interaction creates an awareness as to why communication breakdowns occur, and this knowledge may help teachers to address the child's communication breakdowns more effectively (Sanders, 1988). * The different communication options available to the child was included, because knowledge thereof will help teachers to make an informed decision as to what the best option for the child is based on each option's potential strengths and weaknesses (Lynas, 1994). * Items were included on the anatomy and functioning of the ear; the interpretation of audiograms; causes of hearing loss; types of hearing loss; and factors that can further damage hearing. These areas were included, because knowledge thereof will result in teachers understanding the impact of the hearing loss on the child's ability to communicate and to be educated as well as to equip teachers with the knowledge to advocate hearing conservation among their learners (Johnson, Benson & Seaton, 1997).

Table 4.3 continued

			<ul style="list-style-type: none"> * The purpose, functioning and trouble-shooting of FM systems and hearing aids were included, because teachers need to understand and manage these devices in order to help the child to maximally utilise their residual hearing (English, 1995). * The impact of hearing loss on child's ability to be educated was included, because teachers need to take into account the effect of hearing loss in order to make adaptations to the child's education programme (Bunch, 1987).
	Question 14	Knowledge of the areas that hearing loss impacts on and the need for support	<p>This question was included to determine whether participants had knowledge of all the areas that hearing loss impacted on. Participants' need for support in obtaining knowledge in order to be able to address the negative impact of the hearing loss was also probed in this question. This was included, because teachers will benefit from the support of an educational audiologist in order to address the negative impact of the hearing loss on the child's ability to be educated (Johnson, Benson & Seaton, 1997).</p> <p>This question consisted of the following items: language development; speech production; communication skills; literacy skills; academic achievement; and psychosocial development. These areas were included, because according to various literature sources that include ASHA (1993); English (1995); Johnson, Benson & Seaton (1997); McAnally, Rose & Quigley (1987); Moores (1996); and Sanders (1988), a hearing loss could negatively impact thereon.</p>
	Question 15	Knowledge of the steps to be taken in order to develop the child's residual hearing and the need for support to obtain this knowledge	<p>This question was included to determine whether participants had knowledge of all the steps that needed to be taken in order to optimally develop the child's residual hearing. Participants' need for support in order to obtain knowledge on how to develop a child's residual hearing was also included in this question. This was included, because teachers will benefit from the support of an educational audiologist in order to obtain knowledge on how to optimally develop the residual hearing of a child with hearing loss (Johnson, Benson & Seaton, 1997).</p> <p>This question consisted of the following items:</p> <ul style="list-style-type: none"> * Identification and reduction of noise levels in the school environment; and improvement of sound quality in the classroom were included, because teachers will improve the listening conditions of the child by having knowledge and skills in these areas, and thus will ultimately contribute to the optimal development of residual hearing (Berg, Blair & Benson, 1996). * Items were included on advocating for FM systems and the continual use of hearing aids, because teachers will contribute to the optimal utilisation of the child's residual hearing if they have knowledge and skills in these areas (Crandell & Smaldino, 2000). * Items were included on the instruction of correct listening behaviours and speech-reading techniques. These items were included because knowledge and skills in these areas will improve the child's ability to receive auditory information and in this way will contribute to the optimal development of residual hearing (Berg, 1993; Moores, 1996).

Table 4.3 continued

	Question 16	Knowledge of the steps to be taken in order to develop the child's language skills and the need for support	<p>This question was included to determine whether participants had knowledge of all the steps that needed to be taken in order to develop the child's language skills. Participants' need for support in order to develop the child's language skills, was also included in this question. This was included, because teachers will benefit from the support of an educational audiologist in order to develop the language skills of a child with hearing loss (Johnson, Benson & Seaton, 1997).</p> <p>This question consisted of the following items:</p> <ul style="list-style-type: none"> * The use of the hierarchy of normal language development and regarding the child's language level during communication and during lessons, were included in this question. These items were included, because teachers will only be able to appropriately plan for language activities, subject content, and communication interaction, if they consider the child's level of language functioning as well as the natural phases for language acquisition (McAnally, Rose & Quigley, 1987). * Modification and/or adaptation of teaching materials, techniques, and the classroom environment, to meet the language needs of the child, were included in this question. These items were included, because teachers will aid comprehension of lessons if they have knowledge and skills in these areas (Moores, 1996). * An item was included on the knowledge of different language instructional approaches, because knowledge thereof will help teachers to make an informed decision as to what the best option for the child is based on each option's potential strengths and weaknesses (Moores, 1996). * Emphasis on language across contexts, and within activities of social interaction, were included in this question. These items were included, because teachers will contribute to the development of the child's language skills if they have knowledge and skills in these areas (McAnally, Rose & Quigley, 1987). * Awareness of the possible presence of additional language pathologies were included, because children with hearing loss may also exhibit other language pathologies that, if not identified and treated, may further negatively affect the child's language development (McAnally, Rose & Quigley, 1987).
	Question 17	Knowledge of the steps to be taken in order to develop the child's speech production skills and the need for support	<p>This question was included to determine whether participants had knowledge of all the steps that needed to be taken in order to develop the child's speech production skills. Participants' need for support, in order to develop the child's speech production skills, was also included in this question. This was included, because teachers will benefit from the support of an educational audiologist, in order to develop the speech production skills of a child with hearing loss (Johnson, Benson & Seaton, 1997).</p> <p>This question consisted of the following items:</p> <ul style="list-style-type: none"> * The following items were included in this question: use of the hierarchy of normal speech development; considering the child's level of oral-motor functioning; obtaining information on the child's phonetic repertoire; and monitoring and documenting changes in the

Table 4.3 continued

			<p>child's speech deficits. These items were included, because teachers will only be able to appropriately plan for activities for the improvement of speech intelligibility if they consider these areas (McAnally, Rose & Quigley, 1987).</p> <ul style="list-style-type: none"> * An item was included on the knowledge of different speech instructional approaches, because knowledge thereof will help teachers to make an informed decision as to what the best option for the child is based on each option's potential strengths and weaknesses (Moores, 1996). * Awareness of the possible presence of additional speech pathologies were included, because children with hearing loss may also exhibit other speech pathologies, which if not identified and treated, may further negatively affect the child's development of speech production (Sanders, 1988).
	Question 18	Knowledge of the steps to be taken in order to develop the child's communication skills and the need for support	<p>This question was included to determine whether participants had knowledge of all the steps that needed to be taken in order to develop the child's communication skills. Participants' need for support in order to develop the child's communication skills was also included in this question. This was included, because teachers will benefit from the support of an educational audiologist, in order to develop the communication skills of a child with hearing loss (Johnson, Benson & Seaton, 1997).</p> <p>This question consisted of the following items:</p> <ul style="list-style-type: none"> * An item was included on the development of communication skills through exposure to interactional experiences. This item was included, because teachers will contribute to the development of the child's communication skills if they have knowledge and skills in this area (Lynas, 1994). * The application of communication repair strategies was included, because teachers will be able to promote the development of better communication skills if they have knowledge and skills in this area (Brackett, 1997). * An item was included on the knowledge and application of different communication options, because knowledge thereof will help teachers to make an informed decision as to what the best choice for the child is, based on each option's potential strengths and weaknesses (Moores, 1996).
	Question 19	Knowledge of the steps to be taken in order to develop the child's literacy skills and the need for support	<p>This question was included to determine whether participants had knowledge of all the steps that needed to be taken in order to develop the child's literacy skills. Participants' need for support, in order to develop the child's literacy skills, was also included in this question. This was included, because teachers will benefit from the support of an educational audiologist in order to develop the literacy skills of a child with hearing loss (Johnson, Benson & Seaton, 1997).</p> <p>This question consisted of the following items:</p> <ul style="list-style-type: none"> * Acquisition of language skills before proceeding with literacy instruction, was included. This item was included, because teachers with an awareness of this matter will not spend their time fruitlessly on reading and writing activities, but will first develop the

Table 4.3 continued

			<p>child's foundation of language (Moore, 1996)</p> <ul style="list-style-type: none"> * Items were included on the identification and remediation of reading and writing errors, because teachers will be able to promote the development of better literacy skills if they have knowledge and skills in this area (Paul & Quigley, 1994). * An item was included on the knowledge of different literacy instructional approaches, because knowledge thereof will help teachers to make an informed decision as to what the best option for the child is, based on each option's potential strengths and weaknesses (Paul & Quigley, 1994)
	Question 20	Knowledge of the steps to be taken in order to promote the child's academic achievement and the need for support	<p>This question was included to determine whether participants had knowledge of all the steps that needed to be taken in order to promote the child's academic achievement. Participants' need for support in order to promote the child's academic achievement, was also included in this question. This was included, because teachers will benefit from the support of an educational audiologist, in order to develop the academic skills of a child with hearing loss (Johnson, Benson & Seaton, 1997).</p> <p>This question consisted of the following items:</p> <ul style="list-style-type: none"> * Customisation of the learning experience to meet the child's cognitive, physical, social, and emotional level, was included. This item was included, because teachers will more successfully contribute to the development of the child's academic skills if they keep these areas in mind (Bunch, 1987). * Modification of the curriculum by controlling the vocabulary and syntax, was included in this question, because knowledge and skills in this area will aid comprehension of subject content, and will thus promote the child's development of academic competency (Bunch, 1987).
	Question 21	Knowledge of the steps to be taken in order to develop the child's psychosocial well-being and the need for support	<p>This question was included to determine whether participants had knowledge of all the steps that needed to be taken in order to develop the child's well-being. Participants' need for support, in order to develop the child's psychosocial well-being was also included in this question. This was included, because teachers will benefit from the support of an educational audiologist in order to develop the psychosocial skills of a child with hearing loss (Johnson, Benson & Seaton, 1997).</p> <p>This question consisted of the following items:</p> <ul style="list-style-type: none"> * Items on promotion of confidence; and acceptance and respect from hearing classmates, were included. These items were included, because teachers will contribute to the child's development of sound psychosocial skills if they have knowledge and skills in this area (Sanders, 1988). * Monitoring social adjustment and integration in class was included in this question, because teachers need to consider these aspects in an attempt to develop the child's psychosocial well-being (Sanders, 1988). * The item opportunity for socialisation and expression, was included, because if teachers provide these opportunities, the child with hearing loss may be less prone to troublesome

Table 4.3 continued

			psychosocial development (Sanders, 1988).
	Question 22	Information on the selection of relevant team members for the inclusive educational system	<p>This question was asked to determine which team members participants wanted to include during teamwork in the inclusive educational system.</p> <p>This question consisted of the following items: the child with hearing loss; the parents; the speech therapist; the educational audiologist; the social worker; the psychologist; the occupational therapist; and an option to add a person not mentioned. These options were included, because working with other team members is a crucial part in the success of educating the child with hearing loss (Johnson, Benson & Seaton, 1997). Although any fellow team members can be selected by the participants, literature states that of all the team members involved with the child with hearing loss, the child and the parents/guardians should always be involved (English, 1995).</p>
	Question 23	Information on the selection of a team co-ordinator for teamwork in the inclusive educational system	<p>This question was asked to determine participants' opinions on which person they thought should fulfil the role of team co-ordinator during teamwork in the inclusive educational system.</p> <p>This question consisted of the following items: the child with hearing loss; the parents; the teacher; the educational audiologist; the speech therapist; the social worker; the psychologist; or the occupational therapist. According to literature, any of these persons, except the child, can function as a team co-ordinator. It is, of course, felt that, due to the educational audiologist's expertise in the educational and audiological management of the child with hearing loss, the educational audiologist is best suited for the role of team co-ordinator (English, 1995; Johnson, Benson & Seaton, 1997).</p>
	Question 24	Information on the selection of methods available for teacher support in the inclusive educational system	<p>This question was asked to determine participants' opinions on what methods of support they thought could benefit teachers in the inclusive educational system.</p> <p>This question consisted of the following items: once-off training session; regular workshops; continuous in-service training; and hands-on assistance when needed. All of these methods of support have their benefits, but, arguably, continuous in-service training may provide the most benefit to teachers, due to the higher frequency of such training sessions (English, 1995).</p>
	Question 25	Information on the selection of an educational audiology service delivery model for use within the inclusive educational system	<p>This question was asked to determine participants' opinions on what educational audiology service delivery model they thought could benefit teachers in the inclusive educational system.</p> <p>This question consisted of the following items: the school-based system; the contractual agreement system; and a combination of the two systems. (See explanation of the three systems in Chapter 3). These three options were identified as the three main educational audiology service delivery systems found in school settings, and were therefore included (Johnson, Benson & Seaton, 1997).</p>
	Question 26	Knowledge of the functions of an	<p>This question was included to determine whether participants had knowledge of the roles and responsibilities of the educational audiologist in the school setting. In addition, this</p>

Table 4.3 continued

		educational audiologist	question was asked to determine participants' opinions on what they thought the roles and responsibilities of the educational audiologist in the school setting within the inclusive educational system should be. This question was included, because if teachers have knowledge of the roles and responsibilities of the educational audiologist, they will be inclined to more frequently utilise the support from the educational audiologist, and, as a result, the child with hearing loss will benefit from these support services (Johnson, Benson & Seaton, 1997).
	Question 27	Information on the necessity and advantages of receiving support from the educational audiologist when including a child with hearing loss	This question was included to determine whether participants had knowledge of the advantages of receiving support from the educational audiologist in the inclusive educational system. In addition, this question was asked to determine participants' opinions on what they thought the advantages of receiving support from the educational audiologist in the inclusive educational system should be. This question was included, because, if teachers have knowledge of the advantages of the support from an educational audiologist they will be inclined to more frequently utilise the support from the educational audiologist and as a result the child with hearing loss will benefit from these support services (Johnson, Benson & Seaton, 1997).
	Question 28	Information on the challenges faced by teachers when including the child with hearing loss	This question aimed to determine participants' opinions on what they thought the challenges might be when educating the child with hearing loss in the inclusive educational system. This question was included, because the transition toward the inclusive educational system will undoubtedly present challenges to teachers that need to be identified.
	Question 29	Information on the possible suggestions to address these anticipated challenges	This question aimed to explore participants' suggestions on how to overcome the challenges they identified in question 28. This question was included, because suggestions on how to overcome these challenges may be incorporated in a proposal for an educational audiology service delivery model
	Question 30	Information on the advantages or disadvantages of including the child with hearing loss	This question aimed to determine participants' opinions on what they thought the advantages or disadvantages of the inclusive educational system for the child with hearing loss could be. This question was included, because some of the potential disadvantages could be addressed through the support from an educational audiologist. The advantages identified will highlight the possible success teachers may have when educating the child with hearing loss.

4.5.1.2 Focus group interviews

Focus group interviews were utilised as an additional data collection instrument for the study and contributed to findings obtained from the questionnaire survey. The design of the focus group interviews is described forthwith:

Justification for the use of focus group interviews:

A focus group interview is a discussion in which a group of participants, under the guidance of a facilitator, talk about topics important to the investigation (Stewart & Shamdasani, 1990). This method may be used for exploration and/or confirmation of knowledge (Stewart & Shamdasani, 1990). Focus group interviews were included in the study in order to confirm findings obtained from the questionnaire survey (Stewart & Shamdasani, 1990). The quantitative data obtained from the questionnaire survey was supplemented and enriched by focus group interviews (Morgan, 1997). The use of focus group interviews were regarded as an important data collection instrument in the current research for the following reasons (Morgan, 1997; Stewart & Shamdasani, 1990):

- some of the quantitative results obtained from the questionnaire survey could be qualitatively interpreted;
- concentrated amounts of data, on precisely the topic of interest could be extracted;
- new ideas and creative concepts could be stimulated;
- complex behaviours and opinions could be more clearly studied; and
- participants could be made stakeholders in the research process, when they were given a chance to freely voice their feelings and suggestions.

However, the most common disadvantage of utilising focus group interviews is that the small numbers of participants included in focus group interviews limits the generalisation of findings to the larger population (Stewart & Shamdasani, 1990). Therefore, this data collection method was not used in isolation in this

study, but was combined with a questionnaire survey in order to make findings more generalizable.

Aim of focus group interviews:

The aim of the focus group interviews was to obtain more detailed information on teachers' needs in order to plan for the development of an appropriate educational audiology service delivery model in South Africa. The use of focus group interviews provided the opportunity to embark on an in-depth investigation into participants' opinions and suggestions regarding the inclusive educational system and the managing of children with hearing loss (Stewart & Shamdasani, 1990).

Content and format of focus groups:

One focus group interview schedule (See Appendix E) was compiled after completion of the questionnaire survey, by using existing themes from the questionnaire, as well as including a topic aimed at answering the research question of the study. This focus group interview schedule was used during all four focus group interviews. The focus group schedule consisted of two topics, and each of these topics had corresponding interview probes to guide the participants during the focus group interviews (Stewart & Shamdasani, 1990).

Topic 1 of all four focus groups was selected as follows. Participants of the questionnaire survey responded extensively to Questions 28, 29 and 30 of the questionnaire. The participants of the questionnaire survey revealed mixed feelings amongst themselves, even amongst participants of the same school in response to these questions. The following question was therefore probed: *"How do you feel about the inclusive educational system and children with hearing loss?"*. This topic remains controversial internationally amongst many teachers of children with hearing loss (English, 1995; Moores, 1996). By determining participants' views, such as, e.g., the challenges they foresee, and the solutions they suggest, will aid the development of an educational

audiology service delivery model, that can attempt to address these challenges.

Topic 2 was selected in order to fulfil the aim of the study, which is to develop an educational audiology service delivery model for use within the inclusive education system. Subsequently, the following question was probed: “*How do you feel about the role of a hearing therapist (audiologist) in the inclusive educational system?*”. By determining teachers’ need for support and the challenges of current service delivery by the educational audiologist, the educational audiology service delivery model can be developed according to the findings.

Guidelines on conducting focus group interviews were followed (Morgan, 1997; Steward & Shamdasani, 1990). It was decided that the duration of a single focus group interview should be approximately 30 minutes, in order to correspond with the schools’ in-service time that teachers were requested to attend after school hours. A choice had to be made between a more structured approach, a less structured approach, or a combination of both (Morgan, 1997). Generally, more structured focus groups are useful when there is a strong pre-existing agenda for the research, whereas less structured focus group interviews are more advantageous during exploratory research (Morgan, 1997). The *Funnel Strategy* is a compromise between more structured interviews and less structured interviews, and was decided on for the following reasons (Morgan, 1997):

- free discussion is emphasised during the initial part of the focus group interview. This allows for the participants to reveal their own perspectives and opinions, without being influenced by the researcher’s predetermined agenda. The researcher can use these responses to further extract specific themes for later discussion.
- during the second part of the focus group interview, the researcher can move towards a more structured discussion on specific themes of interest, in order to answer the research question.

It was decided to conduct two focus groups at each of the two selected schools, thus totalling four separate focus group interviews. It was decided to involve *two schools*, because the descriptive data indicated that the schools providing for children with hearing loss can mainly be divided into two sub-groups, namely those schools who mainly promote the use of spoken language among the children, and those schools where the children mainly use Sign Language as a mode of communication. This allowed for a more accurate depiction of responses obtained from teachers at schools providing for children with hearing loss.

The reason for conducting *two focus groups* within the same school, was to ascertain that the responses of participants within the same school were fairly homogenous and a representation of that school (Morgan, 1997). If the responses were fairly homogenous across the groups within the same school, more focus groups would not generate new understanding as data saturation had occurred (Morgan, 1997).

It was decided to include five participants per focus group interview as this was regarded as a sufficient number of participants, because according to Morgan (1997), a smaller number of participants are required if the participants have a high level of involvement with the topic and a smaller group allows the researcher to exercise more control over the active involvement of each participant. Furthermore, five teachers were selected for each focus group interview, because findings from the pilot study revealed this to be a more desirable number of participants for active focus group participation.

Language of focus group interviews:

All four focus group interviews were conducted in Afrikaans, as this was the language preference indicated by the participants at the selected schools and this is the researcher's first language. This ensured that the focus group interviews were fluently conducted and that content could be correctly interpreted.

4.5.2 Data collection equipment

The following equipment was used during focus group interviews. The focus group interviews were recorded on 60 minute *Sony EF®* audiocassettes by means of a *Panasonic Slim Line®* Audiocassette Recorder. An external *Sony®* microphone was inserted in order to ensure high quality recordings. It was decided to make only audio recordings of the focus group interviews and not video recordings, because according to Morgan (1997), video recordings generally tend to make participants more self-conscious and cause far greater invasion of privacy than audio recordings. However, the value of non-verbal cues during focus group interviews were not overlooked, and the researcher documented distinct non-verbal behaviours such as frowning, gesturing or winking, that aided the interpretation of the content (Steward & Shamdasani, 1990).

4.6 PILOT STUDY

A pilot study was undertaken before the main study was carried out and is described below:

4.6.1 Aim

The aim of the pilot study was to improve the trustworthiness, reliability and validity of the data collection instruments (questionnaire and focus group interviews) used, and to identify aspects of the research design and procedures that needed refinement (Neuman, 1997).

The objectives of pre-testing the questionnaire survey and focus group interviews are as follows (Berg, 1998; Leedy & Ormrod, 2001; Morgan, 1997, Neuman, 1997; Steward & Shamdasani, 1990):

- * to determine the clarity of instructions;
- * to evaluate the clarity of terminology used;
- * to evaluate the unambiguity of questions;

- * to determine whether questions were too invasive or of a sensitive nature;
- * to determine the appropriateness and relevance of the choice of words;
- * to determine the appropriateness and relevance of the content of questions;
- * to gain experience with the format of conducting focus group interviews;
- * to evaluate the format, fluency, and ease of the focus group interview;
- * to determine the duration of completion;
- * to evaluate the ease of questionnaire coding;
- * to evaluate the ease of focus group transcription; and
- * to evaluate the strategies proposed for data analysis.

4.6.2 Selection criteria for the school

The selection criteria as set out in the main study in section 4.4.1 were used for the pilot study.

4.6.3 Selection criteria for participants

The selection criteria as set out in the main study in section 4.4.2 were used for the pilot study.

4.6.4 Selection procedures of the school

One school was purposefully selected from the list of Gauteng schools that provided for children with hearing loss (Leedy & Ormrod, 2001). This school was selected, as it was logistically manageable for the researcher to frequent during the pilot study. This school was also selected as it was regarded to be representative of the majority of South African schools for children with hearing loss, as it was a semi-rural school; had a large number of learners; and no educational audiologists were employed in the school (Pottas, 1998). This school was excluded from the main study, in order to avoid data-contamination (Neuman, 1997).

4.6.5 Selection procedures of participants

Ten teachers were randomly selected from the school's personnel list to complete the questionnaire (Leedy & Ormrod, 2001). It was ensured that the participants represented each teaching phase.

A further six teachers were randomly selected from the personnel list in order to participate in the pre-testing of the focus group interview (Leedy & Ormrod, 2001). The participants represented all three teaching phases.

4.6.6 Data collection instruments and equipment

Data collection instruments and equipment used for questionnaire completion were similar to items stipulated in section 4.5.

4.6.7 Procedures

The following methods were used to pre-test the questionnaire survey (Berg, 1998; Neuman, 1997):

- Permission was obtained from the Superintendent General of the Gauteng Department of Education to conduct a pilot study at this school (See Appendix F);
- The principal of this school was contacted telephonically and by fax, to explain the aims and purpose of the research project, and permission was requested in order to conduct a pilot study at the school. The principal was also requested to give teachers permission to participate in the pilot study (See Appendix B);
- the aim of the research, as well as the role of the participants, were explained to the principal and participants;
- participants were requested to complete the questionnaires in the presence of the researcher;
- participants were encouraged to mark any questions that were not clearly understood, and these questions were discussed after completion of the questionnaire;

- after questionnaire completion, the researcher requested the participants to comment on the instructions used in the questionnaire, phrasing of questions, terminology used, and the questionnaire content;
- comments and suggestions were followed up where applicable; and
- all questionnaires were scanned after completion and participants were requested to comment on the questions they had omitted.

The following procedures were used to pre-test the focus group interviews (Morgan, 1997; Steward & Shamdasani, 1990):

- the first three methods employed to pre-test the questionnaire survey are identical, as the same school was utilised for pre-testing the focus group interviews;
- the participants received refreshments, and sat in a semi-circle around a table, while audio recordings were made of the focus group interview (Steward & Shamdasani, 1990);
- the focus group interview was conducted by means of the focus group interview schedule (See Appendix E);
- participants were encouraged to indicate questions and probes that were not clearly understood;
- after completion of the focus group interview, the participants had to comment on the: instructions, phrasing of questions, terminology used, the interview content, as well as the method of interviewing; and
- comments and suggestions were followed up where applicable.

4.6.8 Results

The objectives, methods and results of pre-testing both data collection instruments are summarised in Table 4.4.

Table 4.4: Objectives, methods and results of pre-testing the questionnaire survey and focus group interviews		
OBJECTIVE	METHOD	RESULTS
To determine the clarity of instructions (Neuman, 1997)	Participants were asked to comment on the clarity of instructions after completion.	The instructions to Questions 13 to 21 of the questionnaire survey were not clear to one of the participants. See adaptation of the questionnaire-item in Table 4.5.
To evaluate the clarity of terminology used (Neuman, 1997)	Participants were asked to comment on the clarity of terminology used after completion.	Some participants were unsure about the terminology used in Question 7, Question 11 and Question 22 of the questionnaire survey. See adaptation of these questionnaire-items in Table 4.5.
To evaluate the unambiguity of questions (Berg, 1998)	Participants were asked to comment on the unambiguity of questions after completion.	The wording of Question 22 of the questionnaire survey was seen as ambiguous by one of the participants. See adaptation of the questionnaire-item in Table 4.5.
To determine whether questions were too invasive or of a sensitive nature (Berg, 1998)	The researcher viewed the questionnaires after completion of the questionnaire survey to determine whether questions were omitted. The reasons for omission were established during discussions. The researcher observed whether participants revealed any body language during focus group interviews that indicated that questions were too invasive or of a sensitive nature. Participants in focus group interviews were asked to identify questions of an invasive or insensitive nature.	Question 2 of the questionnaire survey was regarded by one of the participants as too invasive. See adaptation of the questionnaire-item in Table 4.5.
To determine the appropriateness and relevance of the choice of words (Leedy & Ormrod, 2001)	Participants were asked to comment on the clarity of instructions after completion.	Some of the participants preferred different terminology to that used in Question 5 of the questionnaire survey. See adaptation of the questionnaire-item in Table 4.5.

Table 4.4 continued

<p>To determine the appropriateness and relevance of the content of questions (Neuman, 1997)</p>	<p>Participants were asked to comment on the appropriateness and relevance of content after completion.</p>	<p>One of the participants wanted to add another option to choose from in Question 9 of the questionnaire survey. See adaptation of the questionnaire-item in Table 4.5.</p>
<p>To gain experience with the format of conducting focus group interviews (Steward & Shamdasani, 1990)</p>	<p>The researcher made fieldnotes on interview techniques and procedures that needed refinement.</p>	<p>The researcher felt confident in the conducting of the focus group interview and no adaptations were necessary.</p>
<p>To evaluate the format, fluency and ease of the focus group interviews (Steward & Shamdasani, 1990)</p>	<p>The researcher made fieldnotes on the format, fluency and ease of the focus group interviews.</p>	<p>During the focus group interview it became apparent that there was not enough opportunity for <i>all</i> of the participants to express their opinions. See adaptation of this item in Table 4.6.</p>
<p>To determine the duration of completion (Steward & Shamdasani, 1990)</p>	<p>The researcher timed the duration of completion with a stopwatch.</p>	<p>It was established that it took approximately 20 minutes to complete the questionnaire, this was considered within reasonable limits. The duration of the focus group interview complied with the 30 minutes that was available during the schools' in-service training time.</p>
<p>To evaluate the ease of questionnaire coding (Leedy & Ormrod, 2001)</p>	<p>The researcher coded participant responses during the questionnaire survey.</p>	<p>The coding of responses were completed without difficulty.</p>
<p>To evaluate the ease of focus group transcription (Morgan, 1997)</p>	<p>The researcher listened to clarity of the audio recording and transcribed a small part of the interview.</p>	<p>The audiocassette recording was intelligible and could be transcribed without difficulty.</p>
<p>To evaluate the strategies proposed for data analysis (Neuman, 1997; Steward & Shamdasani, 1990)</p>	<p>The researcher analysed data according to strategies proposed.</p>	<p>Strategies employed for analysis of data seemed appropriate.</p>

The subsequent adaptation of the data collection instruments based on these results follow. The adaptations for the questionnaire survey and the focus group interview are presented separately in Table 4.5 and Table 4.6.

Table 4.5: Adaptation of questionnaire-items based on results from the pilot study. (Similar adaptations were made to the Afrikaans-questionnaire).		
QUESTIONNAIRE-ITEMS THAT WERE QUERIED, MISUNDERSTOOD OR OMITTED BY PARTICIPANTS	COMMENTS/SUGGESTIONS MADE BY THE PARTICIPANTS	ADAPTATION OF THE QUESTIONNAIRE-ITEM FOR USE IN THE MAIN STUDY
<p>Question 2 <i>What is your age?</i></p>	<p>One of the participants felt too self-conscious to write down her age and did not complete the question.</p>	<p>This open-ended question was changed to a multiple-choice question with four possible categories to choose from, namely: <i>20-30 years, 31-40 years, 41-50 years and 51 years and older</i>. This adaptation attempted to ensure that participants felt less self-conscious by not requesting their exact age and thus encouraged participants to complete the question.</p>
<p>Question 7 <i>Which phases do you teach?</i> <i>[pre-primary] [primary]</i> <i>[secondary] [vocational]</i> <i>[technical]</i></p>	<p>All of the participants indicated that their school used different classification of educational phases and that the old classification of phases found in the questionnaire was no longer used.</p>	<p>With further inquiry elsewhere it was established that the grouping of grades have changed nationally and that another classification of grades is currently used. Therefore, the options were changed to the new classification system, namely: <i>pre-school, foundation, intermediate, senior, and vocational/technical</i>. This adaptation aimed to prevent confusion among participants as to which option to choose and ensured that the researcher correctly interpreted the responses obtained.</p>
<p>Question 9 <i>What medium of language instruction do you use at your school?</i> <i>[Afrikaans] [English] [Sotho]</i> <i>[Zulu] [Xhosa] [Sign Language]</i> <i>[Other (Specify:)]</i></p>	<p>One of the participants suggested that a separate category should be added for <i>Signed English</i>.</p>	<p>It was decided not to add a separate category for <i>Signed English</i>, because then the categories <i>Signed Afrikaans, Signed Sotho, Signed Zulu, and Signed Xhosa</i> would also have to be added which would make the options to choose from too cumbersome. It was felt that one of the options, namely <i>Other (Specify:)</i> made provision for other language mediums not mentioned in the question.</p>

Table 4.5 continued

<p>Question 11 <i>Have teachers at your school received any specific in-service training in terms of managing the child with hearing loss?</i></p>	<p>Some of the participants were uncertain whether the term <i>in-service training</i> included workshops that the teachers have attended outside the school.</p>	<p>The phrase: (e.g. <i>any workshops, seminars, hands-on demonstrations</i>) was added at the end of the question. This adaptation provided participants with more clarity on what was being asked.</p>
<p>Questions 13 to 21 <i>Please tick off your choices in both columns <input checked="" type="checkbox"/></i>:</p>	<p>One of the participants asked whether she had to tick of both columns and whether the researcher should not omit one of the columns to avoid confusion.</p>	<p>No adaptation was made to this instruction, because it was decided that this instruction was as clearly stated as possible. The suggestion to omit of one of the columns would render the aim of the questionnaire pointless. The other participants understood the instruction clearly and completed this question appropriately.</p>
<p>Question 22 <i>Which of the following persons should a teacher in an inclusive educational system involve during teamwork in order to successfully plan the child's educational programme?</i> <i>[the child] [the parents]</i> <i>[the speech therapist] [the hearing therapist (audiologist)]</i> <i>[the social worker] [the psychologist] [the occupational therapist] [Others, (specify):]</i> <i>[None of the above-mentioned]</i></p>	<p>One of the participants was unsure whether the option <i>the child</i> implied the child with a hearing loss or if it could refer to a peer in the classroom.</p> <p>-----</p> <p>Some of the participants enquired as to why there was an option for <i>the speech therapist</i> as well as <i>the hearing therapist (audiologist)</i> when, according to their knowledge, this was the same professional.</p>	<p>The option <i>the child</i> was changed to <i>the child with hearing loss</i>. This adaptation provided participants with more clarity on what was being asked.</p> <p>-----</p> <p>This question was not adapted, because although speech therapy and hearing therapy is a dual qualification in South Africa, literature clearly indicates that a professional functioning as an educational audiologist at a school for children with hearing impairment has different responsibilities from a therapist practising speech therapy (Johnson, Benson & Seaton, 1997). This question aimed to identify their separate functions and was therefore not altered. It was speculated that if the participants were unsure, they would tick both options.</p>

Only one adaptation was made to the format of focus group interviews, and is described in Table 4.6 below.

Table 4.6: Adaptation of focus group interviews based on results from the pilot study		
FOCUS GROUP ITEM	FINDING	ADAPTATION FOR USE IN THE MAIN STUDY
Not enough opportunity available for <i>all</i> of the participants to express their opinions during the interview.	This implied that either the duration of the interview was too short or that there were too many participants. However, the interview time could not be lengthened, as it had to comply with the 30 minutes available during in-service training at schools.	The number of participants was reduced from six teachers to five teachers for the main study. This is still regarded as a sufficient number of participants for focus group interviews (Stewart & Shamdasani, 1990).

Based on the results, changes were made to the areas identified and the main study was carried out thereafter.

4.7 PROCEDURES

The procedures of the collection, recording, and analysis of data are presented forthwith.

4.7.1 Data collection procedures

The following procedures of data collection were utilised during the questionnaire survey and during focus group interviews.

4.7.1.1 Data collection by questionnaire survey

Data collection by questionnaire survey proceeded as follows:

- * The Superintendent Generals of the eight education departments were contacted by telephone and fax, in order to obtain permission to include the selected schools in the respective provinces. Only eight of the nine provinces had schools that provided for children with hearing loss and permission was obtained from these eight departments (See Appendix F). To date, the Northern Cape province has no schools that provide for children with hearing loss.
- * The principals of the selected schools were contacted telephonically to explain the aims and purpose of the research project and permission was requested to conduct research at their schools. The principals were also requested to give their teachers permission to participate in the research.
- * The principals who were willing to participate in the research received a follow-up covering letter (Appendix B) with the questionnaires, in order to revise the research aims and procedures of questionnaire distribution.
- * The remaining schools received their questionnaires by courier service within approximately two days of the initial telephone call to the principal.
- * The principal of each school was requested to oversee that questionnaires were distributed to teachers and re-posted to the researcher after completion.
- * Schools were provided with postage-paid, registered, self-addressed envelopes, in order to facilitate the return rate of the questionnaires, as it minimised the personal cost and effort of the participants (Neuman, 1997). Returning the questionnaires by registered mail ensured that the whereabouts of these packages could be tracked within the postal system. These self-addressed envelopes were marked with a code in order to keep track of schools that returned their questionnaires and those schools that did not return their questionnaires. After questionnaires were received, all identifying information was removed.
- * All questionnaires were accompanied by a covering letter to the principals (Appendix B) and participants (Appendix C). The covering letter explained

the purpose of the study, confirmed permission from the local Department of Education, assured anonymity and confidentiality, and requested participants' informed consent (See Appendix C).

- * It was suggested that participants were given a half-hour in which to complete the 20 minute-questionnaire.
- * Schools that agreed to participate in the study, but who did not complete or return their questionnaires after a period of three months, received follow-up telephone calls, and were reminded to complete and return their questionnaires, to ensure a higher return rate (Neuman, 1997).

4.7.1.2 Data collection by focus group interviews

The collection of data during the focus group interviews took place in the following manner.

- * Permission to conduct focus group interviews at the selected schools was obtained from the Superintendent General of the Gauteng Department of Education (See Appendix F).
- * The principals of the selected schools were contacted telephonically to explain the aims and purpose of the research project, and permission was requested in order to conduct focus group interviews at their schools.
- * Before the commencement of each focus group interview, the researcher explained the aim and purpose of the study to the participants, confirmed that permission had been obtained from the local Department of Education, assured anonymity and confidentiality, and requested their informed consent (See Appendix E).
- * Each group of participants received refreshments, and sat in a semi-circle around a table to promote a feeling of comfort and intimacy that aimed to facilitate more informal communication and opportunity for expression (Steward & Shamdasani, 1990).
- * Four separate focus group interviews were conducted using one interview schedule (See Appendix E). At the first selected school, the first focus group interview involved 5 randomly selected teachers from the junior phase, and the second focus group interview comprised of 5 randomly

selected teachers from the senior phase. The second selected school involved 4 randomly selected teachers from the junior phase during the third focus group interview as one of the selected participants were absent; and the fourth focus group interview comprised of 5 randomly selected teachers from the senior phase (See Table 4.1).

- * The duration of focus groups interviews was approximately 30 minutes each and was conducted on the school premises on separate days during in-service training time. This was done to ensure that participants would not feel resentful due to the extension of their work hours.
- * Audio recordings were made of the focus group interviews, in order to aid written transcriptions.
- * During the focus group interviews the researcher made notes of distinct nonverbal behaviour, such as frowning, gesturing or winking, that aided the interpretation of the content of the audiocassette recordings at a later stage (Stewart and Shamdasani, 1990).
- * After completion of the focus group interviews, the participants were thanked for their time and contribution towards the research project.

4.7.2 Data recording procedures

The procedures utilised for the recording of the data were as follows.

4.7.2.1 Data recording of the questionnaire survey

- * The participants' responses were exclusively coded by the researcher herself in the column provided on the questionnaire, in order to avoid the possibility of inter-coder discrepancy. The dependability of results was hereby increased (Reid & Gough, 2000).
- * A data-transfer typist of the Department of Statistics, University of Pretoria, typed the raw coding onto spreadsheets that were later analyzed by means of computer software. The researcher verified that raw data was correctly transferred by the data-transfer typist by means of random examination of data.

- * All the various responses to open-ended questions were typed by the researcher by means of *Microsoft Word*® word processing software in order to ease later analysis into main categories of content.

4.7.2.2 Data recording of focus group interviews

- * Each focus group interview was manually transcribed by repeated listening to the audio recordings of each interview.
- * Critical nonverbal cues were added to excerpts, in order to ensure that the entire character of the discussion was made clear for further analysis (Stewart & Shamdasani, 1990).
- * The manually transcribed focus group interviews were typed by means of *Microsoft Word*® word processing software (See Appendix H) in order to aid further analysis.
- * The typed transcriptions were compared to the original audio recordings to verify their accuracy.

4.7.3 Data analysis

The procedures of data analysis are presented below.

4.7.3.1 Data analysis of the questionnaire survey

Analysis of questionnaire data included quantitative analysis where percentages and frequencies of responses were determined, as well as qualitative analysis, where responses were described in detail.

Data obtained from the questionnaire survey was analyzed by means of descriptive statistics in order to describe and summarise the collection of scores obtained. The purpose of descriptive statistics was to physically reduce large amounts of data and to facilitate the drawing of conclusions about them (Bless & Higson-Smith, 1995).

Raw data transferred onto data spreadsheets was analyzed by means of computer software, namely SAS/STAT® (version 8) from the SAS Institute.

Responses to open-ended questions were abstracted into main ideas, in order to categorise answers of all the participants into more manageable units (Berg, 1998). Table 4.7 provides a summary of the statistical procedures used during data analysis of the questionnaire survey.

Table 4.7: Summary of statistical procedures of data analysis of the questionnaire survey		
OBJECTIVES OF THE QUESTIONNAIRE	DESCRIPTION OF STATISTICAL PROCEDURES	REFERENCES
<p>Section A: To obtain biographic information from the participants</p>	<ul style="list-style-type: none"> * Frequency tables were used to determine the composition of characteristics of the sample. * Descriptive statistics were employed. These comprised of tabulated data and the calculation of descriptive quantities in order to identify tendencies and characteristics of the sample. * The Chi-squared test (χ^2-test) was used to ascertain whether two qualitative variables were related or to infer whether differences existed. * The content of open-ended questions were analysed qualitatively 	<p>Huysamen (1998) Keller & Warrack (2000) Leedy & Ormrod (2001)</p>
<p>Section B: To obtain information from participants with regards to their teaching practices</p>	<ul style="list-style-type: none"> * Descriptive statistics were used. These consisted of tabulated data and the calculation of descriptive quantities in order to identify tendencies of the sample * The Chi-squared test (χ^2-test) was used to ascertain whether two qualitative variables were related or to infer whether differences existed. * The content of open-ended questions were analysed qualitatively 	<p>Huysamen (1998) Keller & Warrack (2000) Leedy & Ormrod (2001)</p>
<p>Section C: To obtain:</p> <ul style="list-style-type: none"> * participants' recommendations on knowledge and skill in the educational and audiological management of the child with hearing loss * participants' recommendations on need for support by an educational audiologist in various areas 	<ul style="list-style-type: none"> * Frequency tables were used to evaluate the performance of the sample. * Descriptive statistics were used. These comprised of tabulated data and the calculation of descriptive quantities in order to identify tendencies and distributions * Weighted averages were calculated in order to obtain a condensation of results. * The Chi-squared test (χ^2-test) was used to ascertain whether two qualitative variables were related or to infer whether differences existed. * The content of open-ended questions were analysed qualitatively and presented by means of descriptive statistics 	<p>Huysamen (1998) Keller & Warrack (2000) Leedy & Ormrod (2001)</p>

4.7.3.2 Data analysis of focus group interviews

Analysis of data obtained from the focus group interviews was qualitative in nature.

The *Cut-and-Paste technique* described by Stewart and Shamdasani (1990) was used in order to analyze and interpret data obtained from the focus group interviews. This technique has distinct steps that are critical in order to establish the dependability of data recording and analysis (Reid & Gough, 2000). This technique consists of four steps, and the first step includes the recording of data. The remaining three steps of data analysis are described below:

Step 1: Units of relevance are identified - The researcher identified units from the transcript that were relevant to the research aims. A unit included a phrase, a sentence, or long exchanges (Stewart & Shamdasani, 1990). These units were underlined by means of the word processing program.

Step 2: Classification of themes - After re-reading the transcript, major themes were identified by the researcher. According to Stewart and Shamdasani (1990), a balance must be struck between what themes are important and relevant to participants and what is important to the researcher. However, it must be noted that for the purposes of this study, focus group interviews are utilised as a method of confirmation of the results of the questionnaire survey as opposed to the exclusive exploration of new knowledge (Stewart & Shamdasani, 1990). Therefore, themes of focus group interviews were identified by selecting themes that corresponded with those of the questionnaire items. Since a combination of structured and less structured interview techniques were used (Morgan, 1997), not all themes were represented during focus group discussions.

The units relating to these themes were colour-coded by means of the word processing program. After all units were colour-coded according to the themes, these units were cut and pasted into their respective classifications

by means of the word processing program. These sorted themes provided the basis for further categorisation of content (Stewart & Shamdasani, 1990).

Step 3: Categorisation of supporting material - Units that supported each theme were further categorised in order to form an interpretative representation of responses. These excerpts were numbered and were presented within a format that clearly captured the findings of each theme (Stewart & Shamdasani, 1990).

4.8 RELIABILITY, VALIDITY, AND TRUSTWORTHINESS ISSUES

Both qualitative and quantitative research methods were utilised for the purposes of this study (Leedy & Ormrod, 2001). The nature and purpose of quantitative and qualitative research differ, and therefore it is erroneous to apply the same quality criteria such as validity, reliability and trustworthiness to both (Krefting, 1991). The following steps were taken to ensure quality measures during the quantitative and qualitative research methods.

*** Quantitative research methods**

Quantitative research methods were mainly employed during the questionnaire survey, and the quality criteria of validity and reliability are discussed forthwith.

Ensuring reliability:

- Reliability was concerned with the accuracy and consistency of measurements (Bless & Higson-Smith, 1995). Reliability means that the information provided by indicators does not vary as a result of characteristics of the indicator, instrument or measurement device itself. If indicators have a low degree of reliability, the final results would be questionable (Neuman, 1997). Reliability was necessary for validity, and was more achievable than validity.

- The reliability of questionnaire completion was determined by: providing concise and simple instructions; keeping the length of the questionnaire within reasonable limits; and by ensuring that questions were reader-friendly and as effortless as possible to answer (Leedy & Ormrod, 2001).
- During data analysis of questionnaires, the researcher herself exclusively coded the participants' responses, in order to avoid the possibility of inter-coder discrepancy which could affect the reliability of results (Leedy & Ormrod, 2001).
- The researcher attempted to take an unbiased stand during data recording and analysis in order to satisfy reliability criteria (Leedy & Ormrod, 2001).

Ensuring validity:

- Measurement is the tool of research, and validity is the attempt to determine whether a type of measurement actually measures what it is presumed to measure (Mouton & Marais, 1996). Absolute validity can never be achieved, because constructs are abstract ideas, that cannot be directly observed or isolated. Validity is part of a dynamic process of accumulating evidence, and without it, all measurement becomes meaningless (Neuman, 1997).
- The validity of responses obtained from the participants in the questionnaire survey was ensured by including a counter-test question in the questionnaire (Berg, 1998). Counter-test questions are those questions roughly equivalent to the essential questions, but worded slightly different, in order to determine the validity of the participant's responses (Berg, 1998). The third item of Question 18 was built in to counter-test the second item of Question 13. Statistical analysis revealed that 96% of participants answered the second item of Question 13 identical to the third item of Question 18 within the same questionnaire. These findings confirm the validity of participants' responses (Berg, 1998).
- The use of leading questions affects the construct validity of responses obtained from participants (Leedy & Ormrod, 2001). Therefore, a

question (See Appendix D, Question 22) determining which team members should be involved in the child's educational management deliberately omitted the option of *family*. Instead, an opportunity was provided for the participant to add this member in the space provided for members not specified. This ensured that participants did not blindly tick of the given options, but instead provided *their* true opinions on teamwork, and not those which the researcher might have anticipated.

- The content validity of the questionnaire was increased by selecting the most salient theoretical areas in the education of children with hearing loss, as well as by pre-testing the questionnaire content (Leedy & Ormrod, 2001)

* Qualitative research methods

Qualitative research methods were employed throughout the main thrust of the research study. In particular, focus group interviews were entirely qualitative in nature, and the questionnaire survey displayed qualitative characteristics.

In social sciences research, quality criteria, such as validity and reliability are better suited to mainly quantitative research (Moilanen, 2000). Criteria such as credibility, transferability, dependability and confirmability are used instead, to evaluate the trustworthiness of the main thrust of the research endeavour, and in particular the focus group interviews (Krefting, 1991; Moilanen, 2000).

Table 4.8 provides a brief definition of each qualitative term.

Table 4.8: Definition of trustworthiness criteria for evaluating qualitative research [compiled from: Poggenpoel (1998) and Reid & Gough (2000)].	
Trustworthiness criteria	Definition
Credibility	Authentic representation of the human phenomena
Transferability	Fit within contexts outside the study situation, i.e. applicability
Dependability	Minimisation of idiosyncrasies in interpretation and variability tracked to identifiable sources
Confirmability	Extent to which biases, motivations, interests or perspectives of the researcher influence interpretations

Strategies were employed to ensure trustworthiness throughout the main thrust of the research endeavour and the aspects that were taken into account are described below.

Ensuring credibility:

- A thorough literature review was conducted to ensure the credibility of the theoretical underpinnings of the study (Krefting, 1991).
- The research aim and objectives were carefully constructed in order to form clear unambiguous goals for the research study (Reid & Gough, 2000).
- The use of a combination of research methods, such as a questionnaire survey and focus group interviews, ensured credibility of the research design and outcomes (Krefting, 1991; Poggenpoel, 1998).
- Questionnaire items were accurately phrased, so as to elicit specific information sought from the participants (Reid & Gough, 2000).
- The credibility of focus group interview outcomes will be accounted for by ensuring that the researcher elicits the specific information sought from the participants during the interviews (Leedy & Ormrod, 2001; Reid & Gough, 2000).
- Conducting more than one focus group per school ensured credibility of the data obtained from focus group interviews (Reid & Gough, 2000).

- Throughout the research process, the researcher reflected on the possible influence of her own background, perceptions, experience and interests on the interpretation of findings, and thus cautioned against these biased influences (Krefting, 1991).

Ensuring transferability:

- The limitations of transferring focus group interview findings to the entire population of teachers in South Africa, were clearly stated in section 4.5.1.2, as the focus group interviews merely involved a small purposefully selected sample of teachers (Leedy & Ormrod, 2001).
- Detailed descriptions of the participants, data collection instruments, procedures and variables of this specific research were provided, in order to allow transferability judgements to be made to other contexts (Krefting, 1991). The anonymity of participants was, however, not compromised by these detailed descriptions (Berg, 1998).

Ensuring dependability:

- The exact methods of data collection, recording, analysis, and interpretation of results were described in order to provide information on the repeatability of the research (Krefting, 1991).
- The use of a combination of research methods, such as a questionnaire survey and focus group interviews ensured dependability of the research design (Krefting, 1991; Poggenpoel, 1998).
- Questionnaire survey outcomes were verified with findings in the literature (Poggenpoel, 1998; Reid & Gough, 2000).
- The specific terminology employed has a great influence on the dependability of responses obtained from participants (Reid & Gough, 2000; Neuman, 1997). Therefore, the term *professional* as opposed to the term *audiologist* was used in questions where participants had to indicate their need for support in various areas of development (See Appendix D, Questions 13 to 21). This was done, because teachers are not always aware of the various areas of support offered by educational audiologists (Pottas, 1998). Thus, if participants were not aware of the educational audiologists' role of support, they might not

have indicated the areas in which they required support, because they would have assumed it was the responsibility of another team member.

- The dependability of participants' responses was ensured by not including questions that revealed their identity, by assuring the anonymity of their school throughout the study and by portraying an unjudgmental attitude during participant contact (Reid & Gough, 2000). These measures ensured that participants felt free to state their true opinions and views about the topics of discussion.
- Great care was taken in the translation of focus group excerpts from Afrikaans to English as not to change the content or meaning of what was being said. A language editor served as an independent rater and verified that the translations were an accurate depiction of participants' discussions.
- The dependability of focus group responses were enhanced by discussing questions that were of particular interest and relevance to the participants (Reid & Gough, 2000).
- During data analysis, distinct steps as described by Stewart and Shamdasani (1990) were used in order to analyze and interpret data obtained from the focus group interviews. These distinct steps were critical in order to establish the dependability of data analysis (Reid & Gough, 2000).

Ensuring confirmability:

- The researcher attempted to take an unbiased stand during data recording and when drawing conclusions from the data in order to satisfy confirmability criteria (Reid & Gough, 2000).
- The provision of transcripts of focus group interviews and the documentation of all non-verbal gestures and facial expressions of participants within these transcripts ensured confirmability of the focus group findings (Reid & Gough, 2000).

Although complete reliability, validity and trustworthiness can never be achieved (Leedy & Ormrod, 2001; Moilanen, 2000), the above-mentioned strategies contributed to ensure quality measures in the present research.

4.9 ETHICAL CONCERNS

Ethical concerns are the issues, dilemmas, and conflicts that cross the pathway to conduct proper research with participants, employers, and others involved. Research ethics define what is legitimate and moral during research procedures (Neuman, 1997). According to Strydom (2002), ethical issues can be divided into harm to participants, informed consent, deception of participants, violation of privacy, researcher competence, cooperation with collaborators, and release of findings. The researcher attempted to conduct herself ethically in each of these areas.

Participants were not harmed in a physical and/or emotional manner during the research (Strydom, 2002). Participants were in no means disadvantaged if they chose not to participate in the research, and this was clearly stated to them.

A covering letter accompanied by a letter of informed consent (See Appendix C) was provided to all participants, explaining the aims of the research, the procedures to be followed, and stating that participation in the study was entirely voluntary (Strydom, 2002). Therefore, participants were not coerced or manipulated into volunteering, and had to give their informed consent in order to participate in the research project (Berg, 1998). Participants were also able to withdraw from the research whenever they chose to do so (Strydom, 2002).

The researcher ensured that participants were not deceived in any way as to the goal of the study, their real function, the experiences that they were subjected to, or the use of the data accumulated by clearly stipulating these points in a covering letter (Strydom, 2002).

It was essential that the researcher acted with the necessary sensitivity where privacy of participants was concerned. Therefore, respondents were not requested to reveal their names. In addition, the participants were ensured of

the confidentiality of their responses by removing from the research records any element that may have indicated the participant's identity (Berg, 1998).

The researcher assured all parties involved of her competence, skill and thorough preparation to undertake the investigation at hand (Strydom, 2002). The research design, data collection instruments, and procedures were reviewed by experienced research supervisors prior to the main study.

Prior to conducting the fieldwork, permission to carry out the research was obtained from the relevant authorities, namely: Research Ethics Committee: Faculty Humanities, University of Pretoria (Appendix G) by submitting a research proposal prior to the intended study. Permission was also obtained from the various departments of Education (Appendix F), the school principals (Appendix B), as well as the participants (Appendix C) (Strydom, 2002).

Questionnaires were distributed and completed during break-time so as not to interfere with regular school duties. Focus group interviews were conducted after school hours during a time allocated for in-service training so as not to have caused interference with participants' regular school hours.

The participants were informed that the information obtained from the research would only be used for research purposes and would not be misused or used to cause any harmful effects to the reputation of individual participants or to the professional groups involved (Neuman, 1997). After completion of the research, a summary of findings will be made available to the departments of education as well as the schools that participated in the research (Strydom, 2002). Scientific articles will also be published based on the research carried out.

Thus, the research was cautiously planned by taking the above-mentioned ethical concerns into account (Strydom, 2002).

4.10 CONCLUSION

Research pertaining to the needs of South African teachers of children with hearing loss regarding an educational audiology service delivery model within the inclusive educational system is, as far as known, non-existent to date. The evaluation of the service delivery system is the responsibility of the educational audiologist to ensure the efficacy of services within the educational system (EAA, 2002b). Therefore, research on best practices in supporting teachers in the audiological and educational management of children with hearing loss is of the utmost importance to render accountable services in accordance with current trends (ASHA, 1993). The empirical research was planned to obtain information from participants, in order to develop an educational audiology service delivery model for use within the inclusive educational system in South Africa that is based upon sound scientific findings (Berg, 1998).

4.11 SUMMARY

In this chapter the methodology used to execute empirical the research was described. In the introduction, a justification was provided for embarking on the research project. This was followed by the research aim and objectives, the research design, the participants, the data collection instruments and equipment, the pilot study, research procedures, reliability, validity and trustworthiness issues, and finally, ethical concerns during the research were stipulated. The pilot study was found to be a valuable tool for identifying aspects of the data collection instruments that needed refinement. It was concluded that the methodology described was the most suitable and therefore the main study could proceed. The chapter ends with a conclusion and summary.

CHAPTER 5

RESULTS AND DISCUSSION

“...audiologists, and educators, by virtue of their respective and mutual roles, share a responsibility toward the hearing impaired child, namely, that of preparing him for a responsible and fruitful life” (Brooks, 1981:19).

5.1 INTRODUCTION

The move towards an inclusive educational system in South Africa will create new challenges for teachers when educating children with hearing loss (Keith & Ross, 1998). An urgent need exists therefore, for the acquisition of information on the needs of teachers of children with hearing loss, and the subsequent development of an educational audiology service delivery model, in an attempt to support these teachers when addressing these new challenges. In order to obtain information on teachers' needs, research in this realm is crucial.

Different types of research in the field of educational audiology can contribute to knowledge of the needs of teachers of children with hearing loss in the inclusive educational system. In this study, primarily qualitative research methods were utilised that were descriptive and contextual in nature (Leedy & Ormrod, 2001; Mouton & Marais, 1996; Schurink, 1998). A descriptive questionnaire survey (Mouton & Marais, 1996) was employed in order to obtain the needs of teachers of children with hearing loss, and findings were supported by means of results obtained from focus group interviews (Stewart & Shamdasani, 1990).

The findings of this study will assist in the development of an educational audiology service delivery model for use within the inclusive educational

system. It is envisaged that this educational audiology service delivery model will ultimately attempt to address the needs of teachers of children with hearing loss in the inclusive educational system.

The presentation of results will include the origin of the results, graphic representation of the results in the form of figures or tables, as well as the discussion and interpretation of the results. A flow diagram depicting a presentation of results is provided in Figure 5.1.

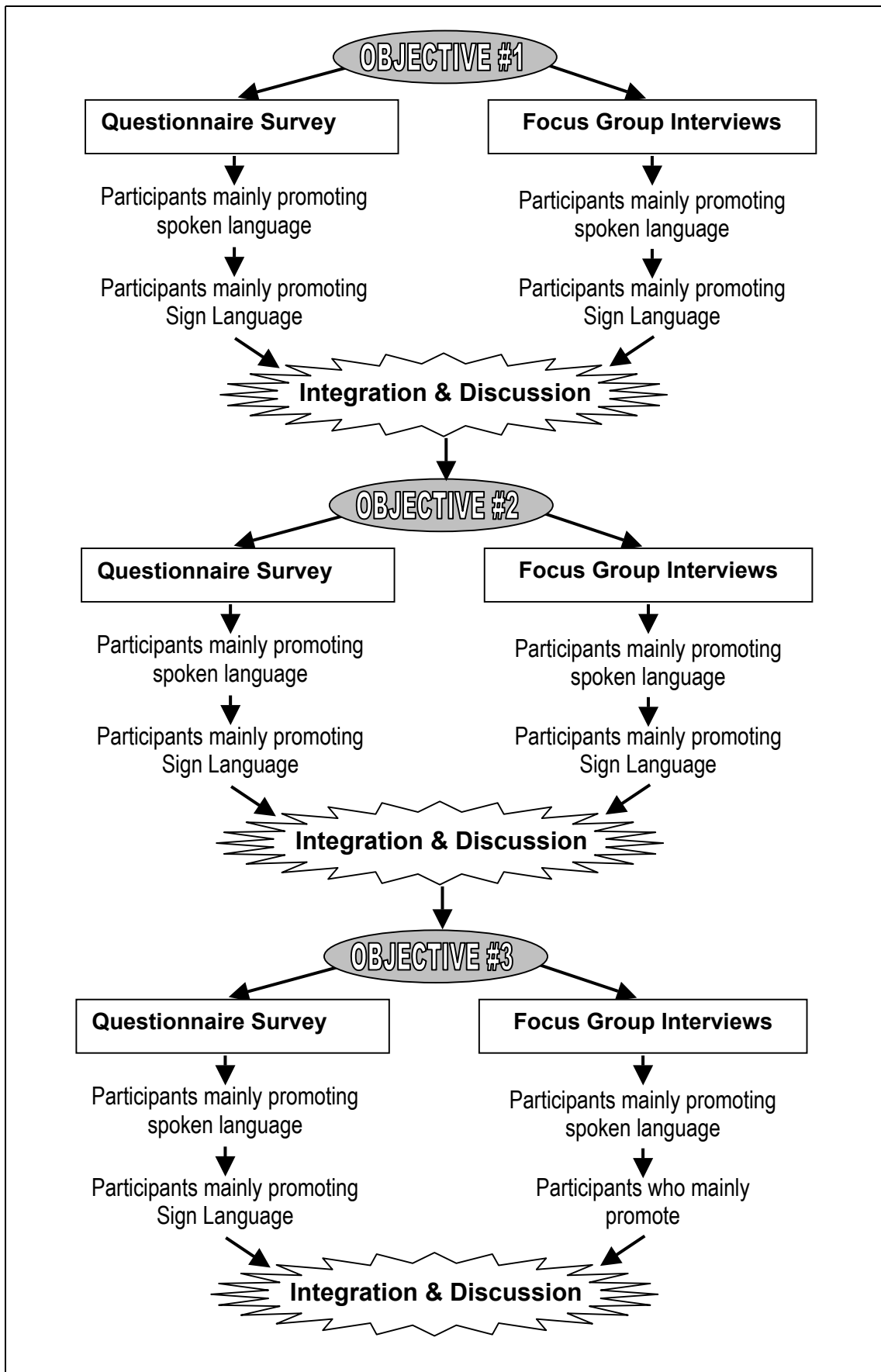


Figure 5.1: Flow diagram of the presentation of results

In addition to the above-mentioned graphic representation, the following should be considered in order to ease the interpretation of this chapter:

- * Although the main aim of the study was to determine the *needs* of teachers of children with hearing loss, additional information was also obtained that serves to illustrate or clarify these needs. For instance, during the questionnaire survey, participants had to recommend not only areas of **support** needed, but also the areas that teachers had to have **knowledge** in and the various **intervention steps** that teachers had to carry out. Information on the aforementioned was deemed necessary, because the need for support can best be understood if areas of importance to the participants were identified. However, the results and discussion focused mainly on the *needs* of teachers and additional information was solely utilised to clarify the identified needs of teachers.
- * The results of each of the respective sub-groups of participants, namely the group of participants who mainly promote *spoken language* and the group of participants who mainly promote *Sign Language*, was discussed separately. (See chapter 4 for clarification and justification of the categorisation of each sub-group of participants).
- * Dependency tests were utilised in order to demonstrate the influence of variables, such as qualifications, specialised training, teaching experience, teacher/learner ratio, and in-service training, on the needs of teachers of children with hearing loss. Only dependency tests that rendered statistically significant results during the interpretation of findings were included in the text of this chapter. However, results from *all* dependency tests are presented in Tables I1 to I10 in Appendix I.
- * During the presentation of results, all decimals were rounded off to the nearest integer.
- * Themes of focus group interviews were identified by selecting themes that corresponded to those of the questionnaire items and that clarified the needs of teachers of children with hearing loss. Since a combination of structured and less structured interview techniques were used during the focus group interviews (Morgan, 1997), responses were not elicited to

all themes. Thus, not all themes were necessarily present in all of the focus group discussions.

- * All excerpts from focus group interviews were translated from Afrikaans into English. Underlined words indicated that the participant spoke them with emphasis. Words in brackets were added to clarify the context of what the participant said. Non-verbal cues, such as gestures and facial expressions, were also added by means of brackets. Appendix H contains the unedited focus group transcriptions.
- * An interpretation and discussion of both the questionnaire survey and focus group interviews is provided at the end of each objective.

The aim of this chapter is to describe the needs of teachers of children with hearing loss in the inclusive educational system. The needs of participants who were probed by this study were determined by the objectives of the study, and these findings are presented according to these respective objectives.

5.2 RESULTS AND DISCUSSION OF OBJECTIVE #1: PARTICIPANTS' NEED FOR SUPPORT IN THE ACQUISITION OF KNOWLEDGE OF EDUCATIONAL AUDIOLOGY

The first objective of the study was to determine and describe teachers' need for support in the **acquisition of knowledge of educational audiology**. The responses obtained from the questionnaire survey of both sub-groups of participants are presented in the following order: **Firstly**, the support required; **secondly**, knowledge versus the support required; **thirdly**, the influence of variables; and **finally**, a comparison between the findings of the two sub-groups of participants. An interpretation and discussion of the general trend of this objective will conclude this section.

5.2.1 The need for support in learning about hearing loss

The areas that the participants recommended that teachers in the inclusive educational system have knowledge in were identified, as well as the areas in which teachers will require support in order to learn about hearing loss.

These results consist of responses obtained from the items in Question 13 of the questionnaire survey (See Appendix D). Supporting themes from the focus group interviews are included (Appendix E). The findings of the two sub-groups of participants are presented separately.

The results of **participants who mainly promote spoken language**, are illustrated in Figure 5.2.

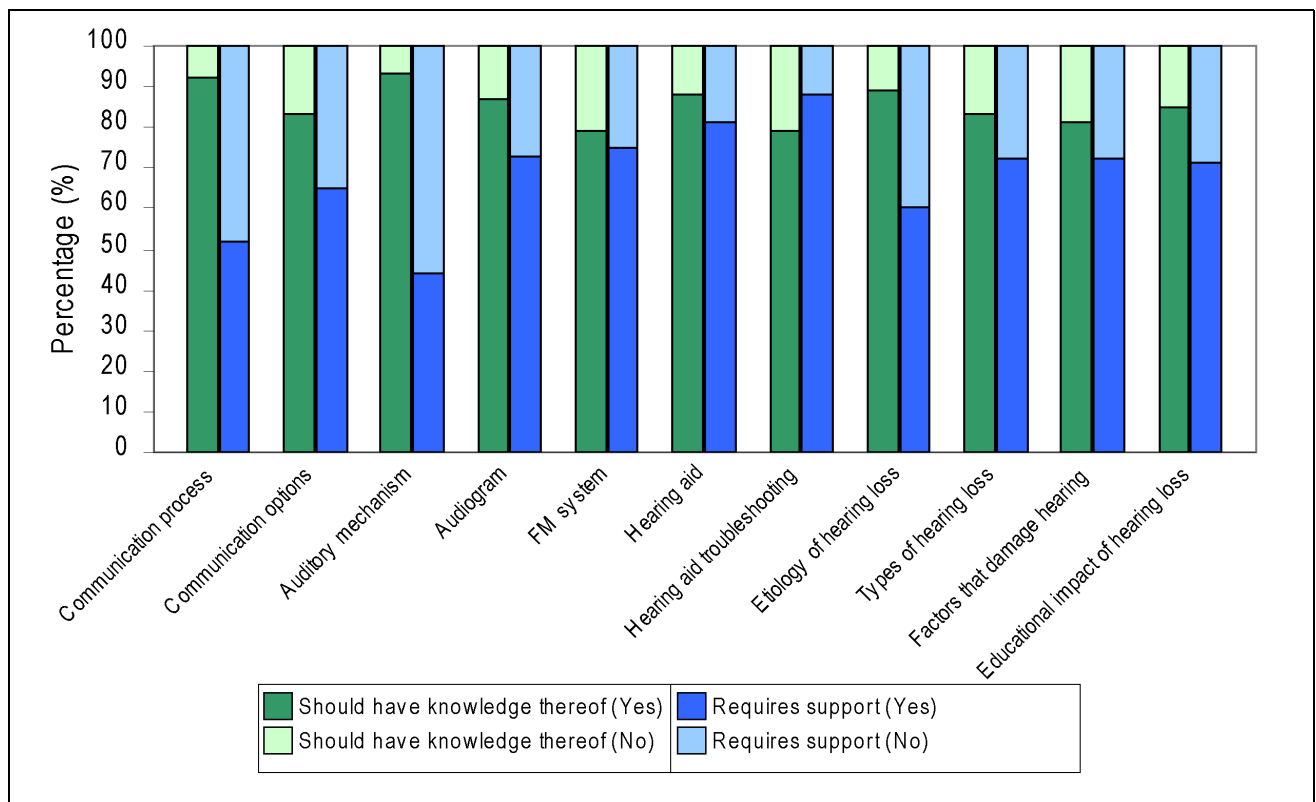


Figure 5.2: Need for support in learning about hearing loss

(Participants who mainly promote spoken language [n=75])

The above results clearly indicate participants' recommendations for teacher support regarding knowledge of hearing loss. Prominent findings are:

Firstly, Figure 5.2 illustrates that a large number of participants (88%) recommended that teachers receive support in order to acquire knowledge in the *trouble-shooting* of hearing aids. Furthermore, only a small number of participants (44%) recommended professional support in order to acquire knowledge about the *auditory mechanism*.

Secondly, on the whole, knowledge in the various aspects of hearing loss was recommended by a large number of participants (79%–93%). A large number of participants regarded knowledge of the anatomy and physiology of the *auditory mechanism* (93% of participants) as essential, and also knowledge of the *process of communication* interaction (92% of participants). However, as mentioned formerly, results reveal that only a few participants (44%) recommended professional support in order to acquire knowledge about the auditory mechanism, and 52% of participants recommended professional support in order to acquire knowledge about the communication process.

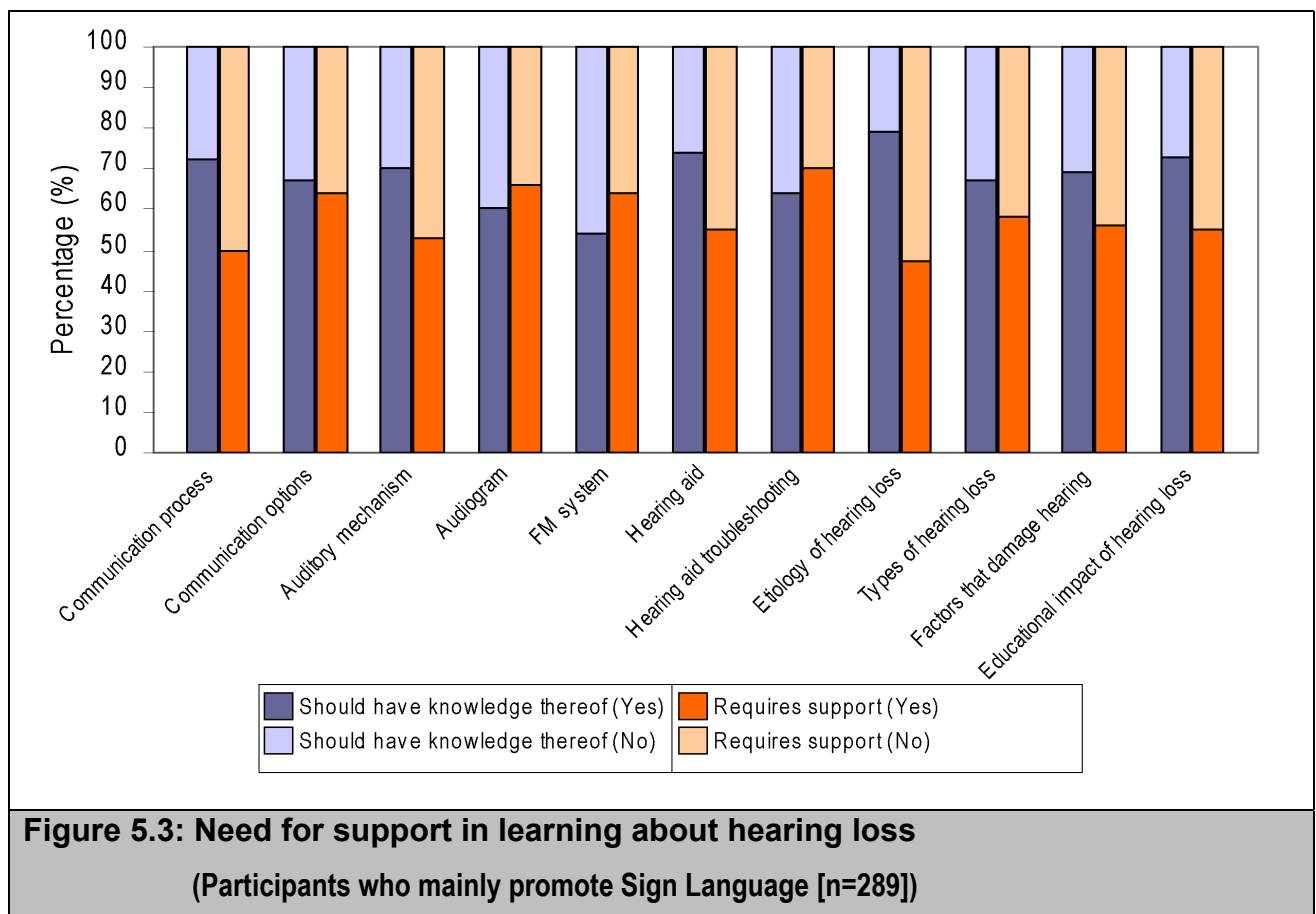
Thirdly, further statistical analysis of these results reveal that some of the variables rendered chi-squared (X^2) values greater than the critical value based on $p \# 0,05$ (See Appendix I, Tables I1 to I10). Chi-squared (X^2) values greater than the critical value meant that the variables had demonstrated a significant influence on the participants' need for support in learning about hearing loss, and are clarified in the following discussion.

Participants with no *specialised training* in hearing loss indicated a greater need for support in learning about the classification of the types of hearing loss than participants who had received specialised training (See Appendix I, Table I3). Participants with more than ten *learners* in their classrooms indicated a greater need for support in learning about the classification of the types of hearing loss, as well as a greater need for support in learning about factors that can further damage the hearing of the child with hearing loss (See Appendix I, Table I7). Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support in

learning about the interpretation of an audiogram (See Appendix I, Table I9). Similarly, participants who have received *in-service training* less frequently than once per month, also indicated a greater need for support in learning about the purpose and functioning of an FM system (See Appendix I, Table I9).

Finally, a comparison between findings of both sub-groups of participants will be provided after the presentation of findings of participants who mainly promote Sign Language.

The results of **participants who mainly promote Sign Language** are presented in Figure 5.3.



The above results indicate participants' recommendations for teacher support regarding knowledge about hearing loss. Prominent findings are:

Firstly, results from Figure 5.3 reveal that a large number of participants (70%) recommended that teachers receive professional support in order to acquire knowledge about the *trouble-shooting* of hearing aids. Furthermore, only less than half of the participants (47%) recommended support in order to acquire knowledge about the *etiology of hearing loss*.

Secondly, a high number of participants (79%) regarded knowledge about the *etiology of hearing loss* as fundamental for teachers in the inclusive educational system. However, as mentioned formerly, only less than half of the participants (47%) recommended support in order to acquire knowledge about the etiology of hearing loss.

Thirdly, further statistical analysis of these results reveal that only one of the variables rendered a chi-squared (X^2) value greater than the critical value based on $p \# 0,05$ (See Appendix I, Tables I1 to I10). A chi-squared (X^2) value greater than the critical value indicated that the respective variable had demonstrated a significant influence on the participants' need for support in learning about hearing loss, and a clarification thereof follows.

Participants with more than 20 *learners* in their classrooms indicated a greater need for support in learning about the trouble-shooting of a hearing aid (See Appendix I, Table I8).

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. A wide range of differences exist. However, findings reveal that the majority of both sub-groups of participants recommended that teachers receive professional support in order to acquire knowledge about the *trouble-shooting* of hearing aids.

* * *

Themes of focus group interviews were identified by selecting themes that corresponded to those of the questionnaire items. These themes corresponded to objective #1, namely participants' need for support in the

acquisition of knowledge regarding educational audiology. The findings of the two sub-groups of participants are presented separately.

The relevant themes extracted from the two focus group interviews conducted with the **participants who mainly promote spoken language** (n=10) are depicted in Table 5.1.

Table 5.1: Need for support in learning about hearing loss (Participants who mainly promote spoken language)
<p>Audiogram</p> <p>“...we are taught (by the educational audiologists) how to read an audiogram, we know exactly where the child is missing out, how we should manage him...”</p>
<p>FM system</p> <p>“...the audiologist is essential, she...continuously gives her input with...the handling of FM systems...”</p>
<p>Hearing aid</p> <p>“...hearing aids are of the <u>utmost</u> importance, a child cannot afford to be sitting in class without an aid for even <u>one single day</u>...”</p> <p>“...they (the educational audiologists) give you the support...she does the fitting of hearing aids..the moulds...”</p>
<p>Hearing aid trouble-shooting</p> <p>“...we have this routine...when he comes to class in the mornings you test the battery, you check if the aids are switched on, when he comes back from break-time we quickly run through this routine again...”</p> <p>“...the audiologist ...is also responsible for...the hearing aid, if something goes wrong, to check the aid regularly...”</p>
<p>Educational impact of hearing loss</p> <p>“...he must be able to cope on a social level, emotional level, ‘n physical level and <u>then</u> only on an academic level, you (the teacher) have a much more global outlook with this child...”</p>

Table 5.1 consists of five themes that corresponded to the aforementioned objective, and excerpts supporting these themes are provided. From the

excerpts, it becomes clear that participants realised the importance of being knowledgeable on these five themes, and they emphasised the importance of receiving support from an educational audiologist.

In Table 5.2, the relevant themes extracted from the two focus group interviews conducted with the **participants who mainly promote Sign Language** (n=9) are shown below.

Table 5.2: Need for support in learning about hearing loss (Participants who mainly promote Sign Language)
<p>Communication options</p> <p>“...they (the educational audiologists)...should be more aware of the different types of choices (of communication options) that are available...”</p> <p>“...in my experience they (the educational audiologists) are strictly opposed to any type of Sign Language, which I feel is not fair to the child...”</p>
<p>Audiogram</p> <p>“...we would have liked to know more about it (annual audiograms of pupils)..we do know how the audiogram works, but if we could compare it with the results of the previous year...”</p>
<p>Hearing aid</p> <p>“...we would have liked to know more about the latest technology, because some of our kids have these new hearing aids...”</p>
<p>Hearing aid trouble-shooting</p> <p>“...the children themselves are responsible for looking after their hearing aids and it’s just not happening...the earmoulds are blocked with wax and no sound is going through...”</p> <p>“...you just don’t have the time in class to take out all their hearing aids...this is really a <u>big</u> problem...”</p>
<p>Educational impact of hearing loss</p> <p>“...they don’t have general knowledge...the other children (hearing children) are continuously gathering information by listening to the television and radio...our children can’t...”</p> <p>“...you have to start at the very beginning...you can’t expect him to write and learn like the department expects him to, you first have to learn him the basics...”</p>

Table 5.2 reveals that, similar to the previous focus group interviews of participants who mainly promote spoken language, the need for support in learning about hearing loss was not specifically probed during the interviews, and therefore it did not represent a large part of the focus group interview. Five themes corresponded to objective #1 and excerpts supporting these themes are provided. From the excerpts, it became clear that participants realised the importance of being knowledgeable on these five themes. Although they valued the support from an educational audiologist in these areas, they perceived a lack of support from their educational audiologists, especially in relation to the use of *Sign Language* as a communication option. In addition, participants experienced a lack of support from their educational audiologist with regard to information-sharing of the results of annual *audiograms* of their learners, as well as the latest *hearing aid* technology.

5.2.2 The need for support in learning about the negative impact of a hearing loss

The areas for which participants indicated the negative impact of a hearing loss and consequently recommended that teachers be knowledgeable of these areas of impact, were elicited. In addition, the areas for which the participants recommended teachers receive support, in order to learn how to address the negative impact of a hearing loss, were identified.

These results include responses to the items in Question 14 of the questionnaire survey (Appendix D), and supporting themes from the focus group interviews (Appendix E) are added. The findings of the two sub-groups of participants are discussed separately.

The findings of **participants who mainly promote spoken language**, are presented in Figure 5.4.

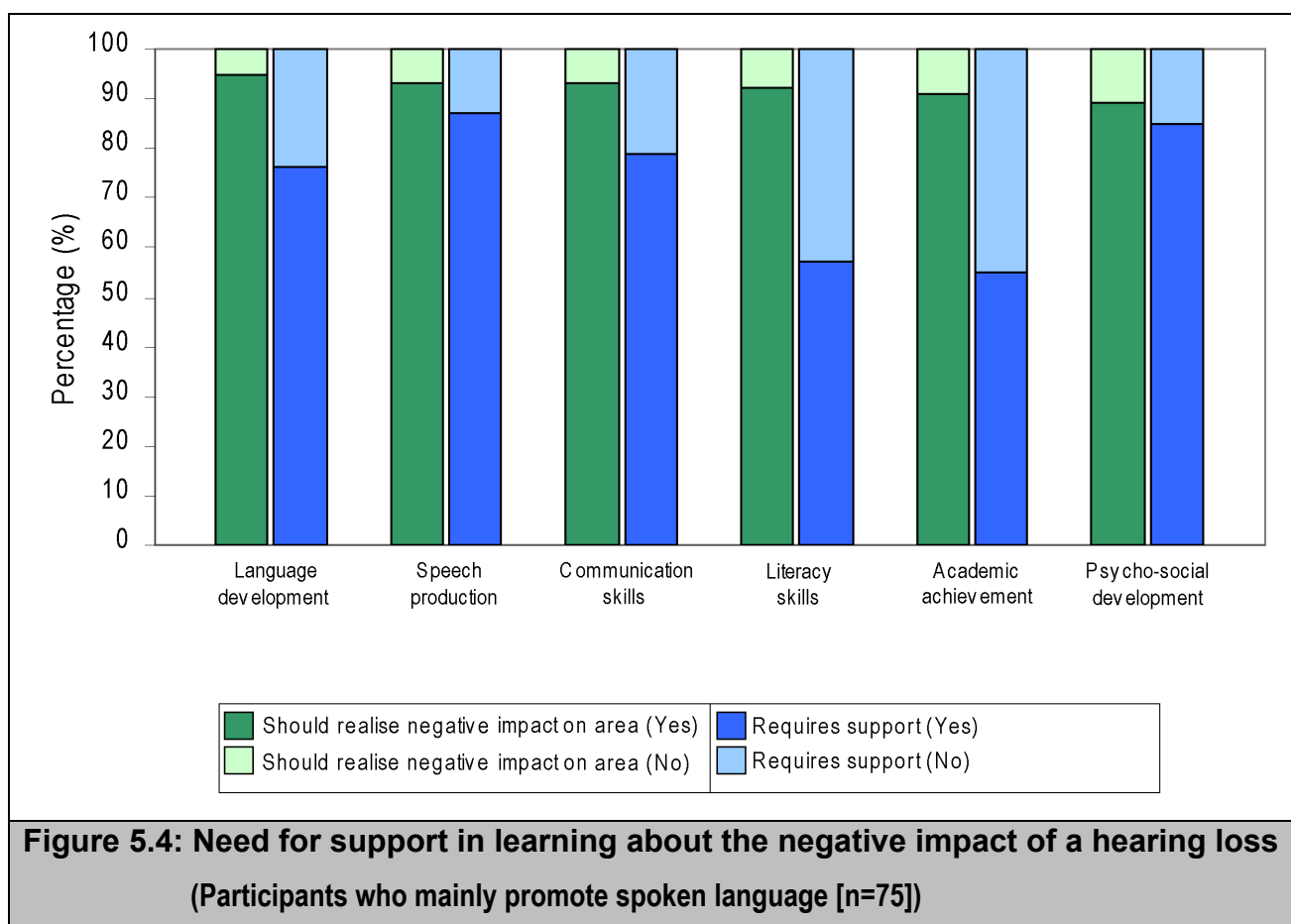


Figure 5.4: Need for support in learning about the negative impact of a hearing loss (Participants who mainly promote spoken language [n=75])

The above results indicate participants’ recommendations for teacher support regarding knowledge about the negative impact of a hearing loss. Prominent findings are:

Firstly, the above figure indicates that, on the whole, support in order to acquire knowledge about the negative impact of a hearing loss was recommended by a high number of participants (55%–87%). A large number of participants (87%) recommended that teachers receive support in order to learn how to address the negative impact of a hearing loss on *speech production* skills. Furthermore, only slightly more than half of the participants (57%) suggested support in order to learn how to address the negative impact of hearing loss on *literacy skills*.

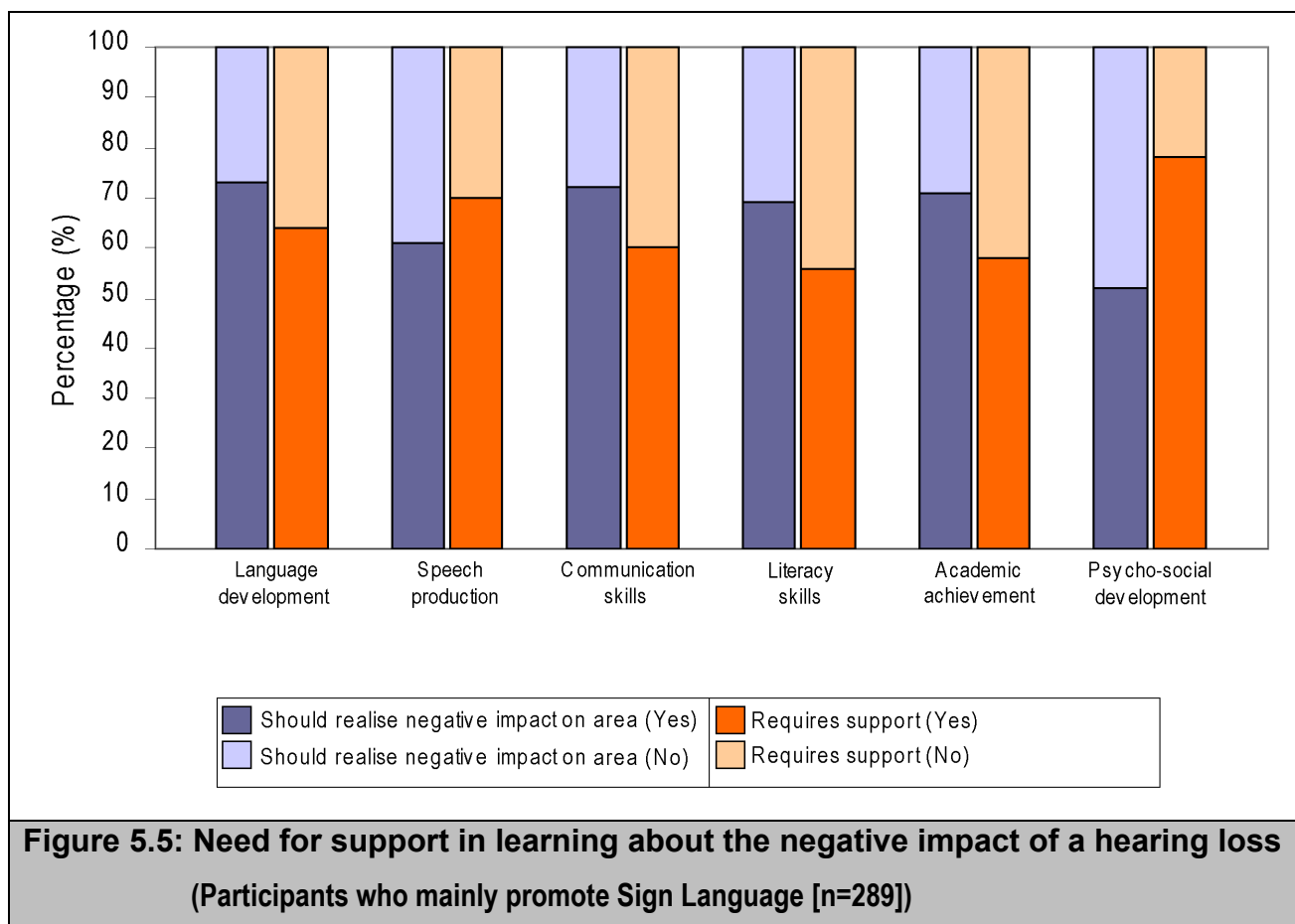
Secondly, on the whole, it was recommended by a high number of participants (89%–95%) that teachers realise the negative impact of hearing loss on various areas of development. A large number of participants (95%)

realised the negative impact of a hearing loss on *language development*, and therefore recommended that teachers in the inclusive educational system should have knowledge thereof. In addition, findings reveal that a large number of participants (76%) recommended professional support in order to learn how to address the negative impact of hearing loss on language development.

Thirdly, further statistical analysis of these results reveal that none of the variables rendered chi-squared (X^2) values greater than the critical value (See Appendix I, Tables I1 to I10). This meant that none of the variables had demonstrated a significant influence on the participants' need for support in learning how to address the areas of negative impact on hearing loss.

Finally, a comparison between findings of both sub-groups of participants will be provided after the presentation of findings of participants who mainly promote Sign Language.

The results of **participants who mainly promote Sign Language** are illustrated in Figure 5.5.



The above results indicate participants' recommendations for teacher support regarding knowledge about the negative impact of a hearing loss. Prominent findings are:

Firstly, the above figure indicates that a large number of participants (78%) recommended support in order to learn how to address the impact of a hearing loss on *psychosocial development*. Furthermore, only slightly more than half of the participants (56%) suggested support in order to learn how to address the negative impact of hearing loss on *literacy skills*.

Secondly, a high number of participants (73%) realised the negative impact of a hearing loss on *language development*, and thus recommended that teachers in the inclusive educational system should have knowledge thereof. In addition, results indicated that a fairly large number of participants (64%) recommended professional support in order to learn how to address the negative impact of hearing loss on language development.

Thirdly, further statistical analysis of these results reveal that none of the variables rendered chi-squared (X^2) values greater than the critical value (See Appendix I, Tables I1 to I10). This meant that none of the variables had demonstrated a significant influence on the participants' need for support in learning how to address the areas of negative impact.

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. A wide range of differences exist. However, findings reveal that the minority of both sub-groups of participants suggested support in learning how to address the negative impact of hearing loss on *literacy skills*. In addition, the majority of both sub-groups of participants realised the negative impact of a hearing loss on *language development* and therefore recommended that teachers in the inclusive educational system should have knowledge thereof. Comparisons of the results of dependency tests of both sub-groups revealed that none of the variables had demonstrated a significant influence on the participants' need for support in learning how to address the areas of negative impact (See Appendix I, Tables I1 to I10).

* * *

Themes of focus group interviews were identified by selecting themes that corresponded to those of the questionnaire items. These themes corresponded to objective #1, namely participants' need for support in learning about the negative impact of a hearing loss. The findings of the two sub-groups of participants are presented separately.

Table 5.3 indicates the relevant themes extracted from the two focus group interviews conducted with the **participants who mainly promote spoken language** (n=10).

Table 5.3: Need for support in learning about the negative impact of a hearing loss (Participants who mainly promote spoken language)
<p>Language</p> <p>“...with a hearing impaired child, <u>language</u> is an issue, it feels like you are working with a ball and chain attached to your leg, you struggle to get ahead...to make him understand, to teach him vocabulary and then to get it out of him...”</p>
<p>Speech production</p> <p>“...I had a child who I just couldn’t teach to say the [□] sound...I then sent the child to her (the educational audiologist)...the problem was solved...”</p>
<p>Communication skills</p> <p>“...during group-sessions (in class) we all talk simultaneously to each other, a hearing impaired child can’t work like this, the more people talk, the more he gets confused...this is a problem for him...”</p>
<p>Academic achievement</p> <p>“...our children have a big problem with abstract thinking...with Maths...they experience many difficulties...they don’t have insight, they are extremely bound by their concrete world...”</p>
<p>Psychosocial development</p> <p>“...when he works in a group he has to concentrate a lot, which can lead to tiredness...and it becomes too much for him and he expresses this as anger...he rebels...”</p> <p>“...emotion plays an important role...a child I know...her emotional hang-ups were so big, that she withdrew in the end and no learning could take place...”</p>

In the above table, five themes are provided that correspond to the objective and to excerpts supporting these themes. The excerpts reveal that the participants realised the negative impact of a hearing loss on language development, speech production skills, communication skills, academic achievement, and psychosocial development, and therefore recommended that teachers in the inclusive educational system be knowledgeable in these areas of impact. Participants also indicated a need for support by an educational audiologist to address these areas of impact. The participants did

not seem to encounter such a negative impact on their children’s acquisition of literacy skills and did not elaborate on this topic during the interviews.

Table 5.4 depicts the relevant themes extracted from the two focus group interviews conducted with the **participants who mainly promote Sign Language** (n=9).

Table 5.4: Need for support in learning about the negative impact of a hearing loss (Participants who mainly promote Sign Language)
<p>Language</p> <p>“...language is so delayed that you can’t even discuss topics with them in grade 4, oral work can’t be done...it creates a big problem...”</p>
<p>Speech production</p> <p>“...it might take a <u>year</u> before the child is able to say []...and <u>this</u> is a problem for me...”</p> <p>“...many times the children of Deaf parents <u>only</u> have Sign Language and no speech and this is also not right, because then you are confronted with the next problem: the child in the workplace can’t cope or one day he has hearing kids of his own...”</p>
<p>Communication skills</p> <p>“...he may get discouraged, because of his communication – it is an obstacle between him and the other (hearing) children...”</p>
<p>Literacy skills</p> <p>“...we are trying to put out so many fires (teacher laughs)...the children don’t know the sounds, they can’t read and I’m talking about <u>three lettered words</u>...then they are already ten, twelve years old...”</p>
<p>Academic achievement</p> <p>“...he doesn’t know anything about geography or history or anything about his country...it is too abstract...”</p>
<p>Psychosocial development</p> <p>“...ever so often he is embarrassed, because he didn’t do his work or know what is going on, because he didn’t hear...”</p> <p>“...even if he is in a regular school, he will feel left out from the Deaf Community...”</p>

In Table 5.4, six themes corresponded to the objective, and excerpts that support these themes are provided. From the excerpts, it was clear that the participants realised the negative impact of a hearing loss on language development, speech production skills, communication skills, literacy skills, academic achievement, and psychosocial development. The participants therefore suggested that teachers in the inclusive educational system should have knowledge of these areas of impact. The impact of hearing loss on *literacy skills* was a theme that enjoyed a large amount of attention, as opposed to the participants who mainly promote spoken language.

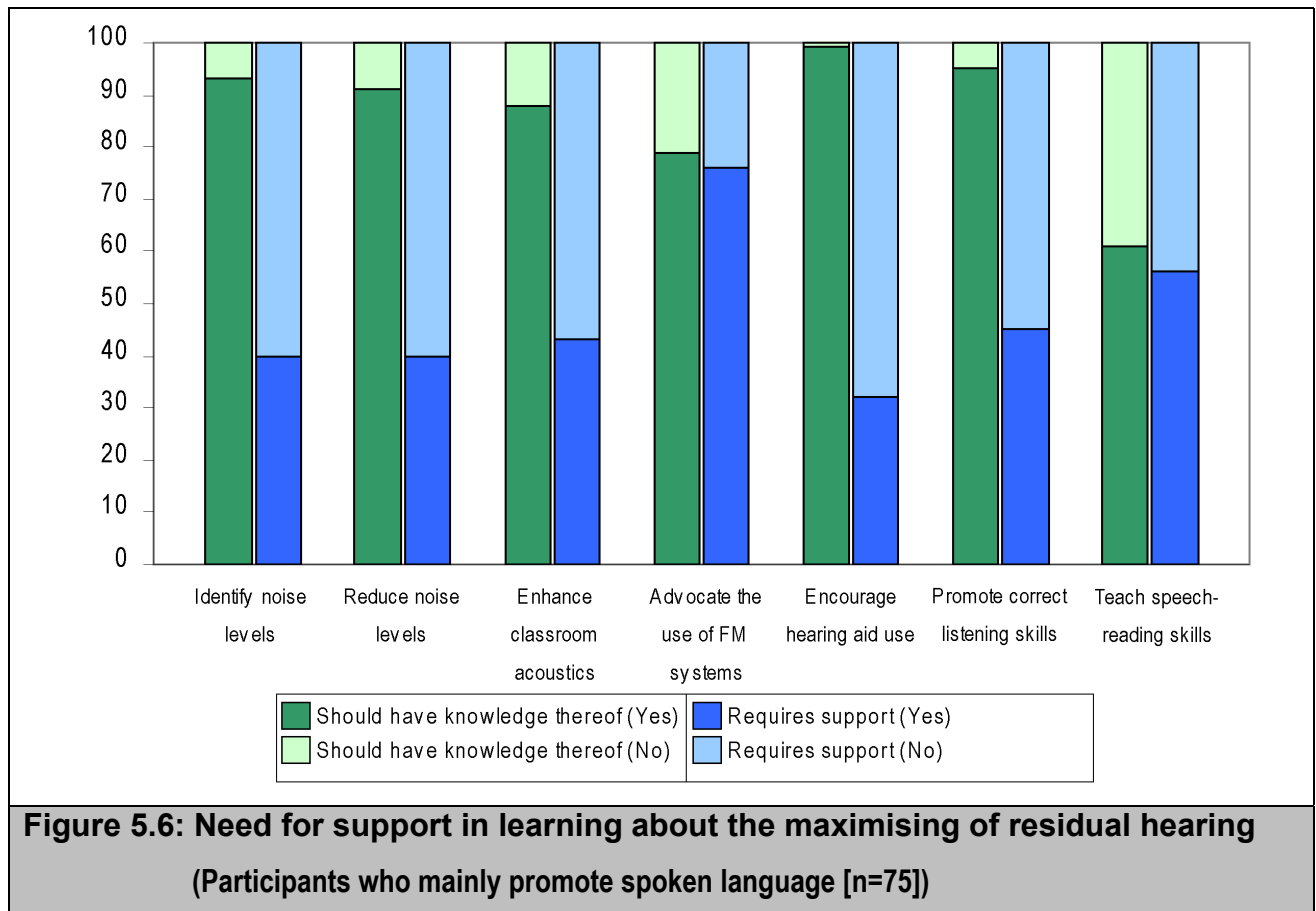
5.2.3 The need for support in learning about the maximising of residual hearing

The areas which the participants recommended teachers in the inclusive educational system know about in order to maximise the residual hearing of a child with hearing loss, were identified. In addition, the areas were elicited which the participants recommended that teachers require support in order to learn how to maximise residual hearing.

These results include responses to the items in Question 15 of the questionnaire survey (Appendix D) and supporting themes from the focus group interviews (Appendix E) are incorporated.

The results of the two sub-groups of participants are presented separately.

Results of **participants who mainly promote spoken language**, can be viewed in Figure 5.6.



The above results indicate participants' recommendations for teacher support regarding knowledge about the maximising of residual hearing. Prominent findings are:

Firstly, the above figure indicates that a large number of participants (76%) recommended that teachers receive support in order to learn how to advocate for an *FM system* in class. On the other hand, support required to learn about the encouragement of continuous *hearing aid use* among children, was selected only by a small number of participants (32%).

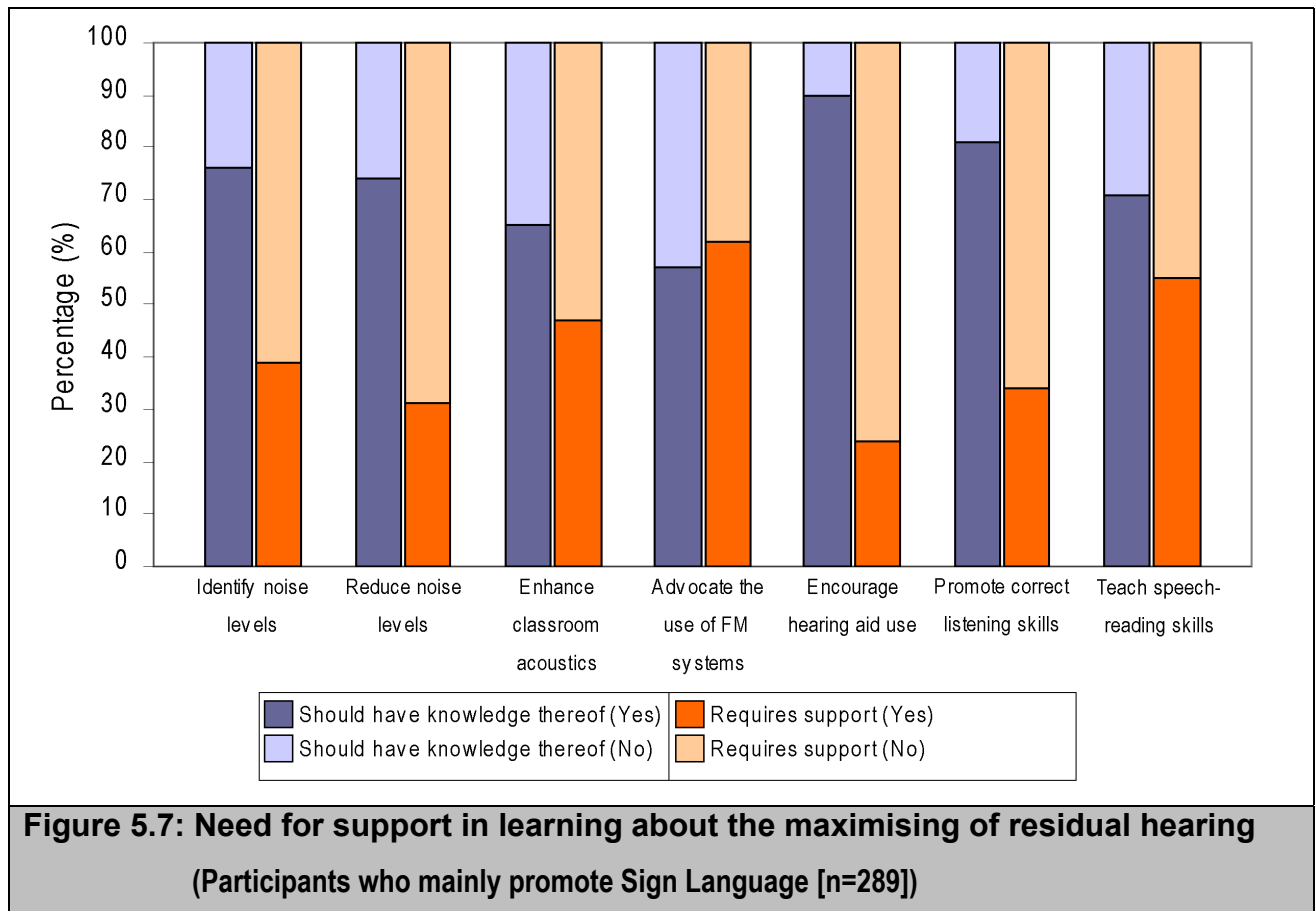
Secondly, nearly all of the participants (99%) recommended that teachers know how to encourage continuous *hearing aid use* among the children in order to maximise residual hearing. However, as mentioned formerly, support required in order to learn how to encourage continuous hearing aid use among children, was selected by only a few participants (32%).

Thirdly, statistical analysis of these results reveal that some of the variables rendered chi-squared (X^2) values greater than the critical value based on $p = 0,05$ (See Appendix I, Tables I1 to I10). Chi-squared (X^2) values greater than the critical value meant that the variables had demonstrated a significant influence on the participants' need for support in learning how to maximise residual hearing and are clarified in the following discussion.

Participants who had diplomas indicated a greater need for support in learning about the advocacy of FM systems in the school setting, than participants with higher *qualifications* (See Appendix I, Table I1). Participants with no *specialised training* in hearing loss indicated a greater need for support in learning about the instruction of speech-reading skills to children with hearing loss than participants with specialised training (See Appendix I, Table I3). Participants with more than ten *learners* in their classrooms indicated a greater need for support in learning about the enhancement of classroom acoustics (See Appendix I, Table I7). Similarly, participants with more than ten *learners* in their classrooms also indicated a greater need for support in learning about the instruction of speech-reading skills to children with hearing loss (See Appendix I, Table I7). Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support in learning about the identification of noise levels, as well as learning about the instruction of speech-reading skills (See Appendix I, Table I9).

Finally, a comparison between findings of both sub-groups of participants will be provided after the presentation of findings of participants who mainly promote Sign Language.

The results of **participants who mainly promote Sign Language** are depicted in Figure 5.7.



The above results indicate participants' recommendations for teacher support regarding knowledge about the maximising of residual hearing. Prominent findings are:

Firstly, the above figure reveals that a fairly large number of participants (62%) recommended that teachers receive support in order to learn how to advocate for an *FM system* in class. On the other hand, only a small number of participants (24%) recommended support in order to learn how to encourage continuous *hearing aid use* among children.

Secondly, a high number of participants (90%) recommended that teachers know how to encourage continuous *hearing aid use* among the children in order to maximise their residual hearing. However, as mentioned formerly, support required in order to learn how to encourage continuous hearing aid use among children was selected only by a few participants (24%).

Thirdly, further statistical analysis of these results reveal that some of the variables rendered chi-squared (X^2) values greater than the critical value based on $p \# 0,05$ (See Appendix I, Tables I1 to I10). Chi-squared (X^2) values greater than the critical value meant that the variables had demonstrated a significant influence on the participants' need for support in learning how to maximise residual hearing and are clarified in the following discussion.

Participants who had diplomas and no higher *qualifications* indicated a greater need for support in the acquisition of knowledge of the following: how to advocate the use of FM systems in the school setting, the enhancement of correct listening skills, as well as knowledge in the instruction of speech-reading skills (See Appendix I, Table I2). Participants with more than 20 *learners* in their classrooms indicated a greater need for support in learning about the instruction of speech-reading skills (See Appendix I, Table I8). Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support in learning about the identification of noise levels, as well as learning about the encouragement of continual hearing aid use (See Appendix I, Table I10).

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. A wide range of differences exist. However, findings reveal that the minority of both sub-groups of participants recommended support to obtain knowledge on how to encourage continuous hearing aid use among children. In addition, the majority of both sub-groups of participants recommended that teachers know how to encourage continuous *hearing aid use* among the children, in order to maximise residual hearing. Furthermore, comparative findings indicate that the majority of both sub-groups of participants recommended that teachers receive support in order obtain knowledge on how to advocate for an *FM system* in class. Comparisons of dependency tests revealed that both sub-groups of participants who had diplomas and no higher *qualifications* indicated a greater need for support in learning about the advocacy for FM systems in the school

setting (See Appendix I, Tables I1 and I2). Also, participants of both sub-groups that have received *in-service training* less frequently than once per month, indicated a greater need for support in learning about the identification of noise levels (See Appendix I, Tables I9 and I10).

* * *

Themes of focus group interviews were identified by selecting themes that corresponded to those of the questionnaire items. These themes corresponded to objective #1, namely participants' need for support in learning about the maximising of residual hearing. The findings of the two sub-groups of participants are presented separately.

Table 5.5 (below) depicts relevant themes extracted from the two focus group interviews conducted with **the participants who mainly promote spoken language** (n=10).

Table 5.5: Need for support in learning about the maximising of residual hearing (Participants who mainly promote spoken language)
<p>Identify and reduce noise levels</p> <p>“...she (the educational audiologist) should...advise on how the children should be seated in class...”</p>
<p>Enhance classroom acoustics</p> <p>“...she (the educational audiologist) should...address the noise levels...”</p> <p>“...the physical environment of the child should provide for his hearing impairment...”</p>
<p>Advocate the use of FM systems</p> <p>“...there should be resources...an FM system we can't do without...”</p>
<p>Encourage hearing aid use</p> <p>“...I have a child in my class, when I asked him: “Does your aid work?” he said: “Yes”...when I opened it there was no battery!...you have to physically check each aid yourself...”</p>
<p>Teach speech-reading skills</p> <p>“...a lot of <u>individual</u> help is needed to teach them speech-reading...”</p>

The need for support in learning how to maximise residual hearing was not specifically probed during the interviews, and therefore it did not represent a large part of the focus group interview. In Table 5.5, six themes are provided that correspond to the aforementioned objective, and to the excerpts. These excerpts reveal that the participants regarded knowledge as essential for teachers in order to maximise residual hearing in the inclusive educational system, and that they valued the support from an educational audiologist in this matter.

Table 5.6 depicts a relevant theme extracted from the two focus group interviews that were conducted with **the participants who mainly promote Sign Language** (n=9).

**Table 5.6: Need for support in learning about the maximising of residual hearing
(Participants who mainly promote Sign Language)**

Encourage hearing aid use

“...then you first have to send him back to the hostel to get his hearing aids...many of the older children have that don't-care attitude about their hearing aids...”

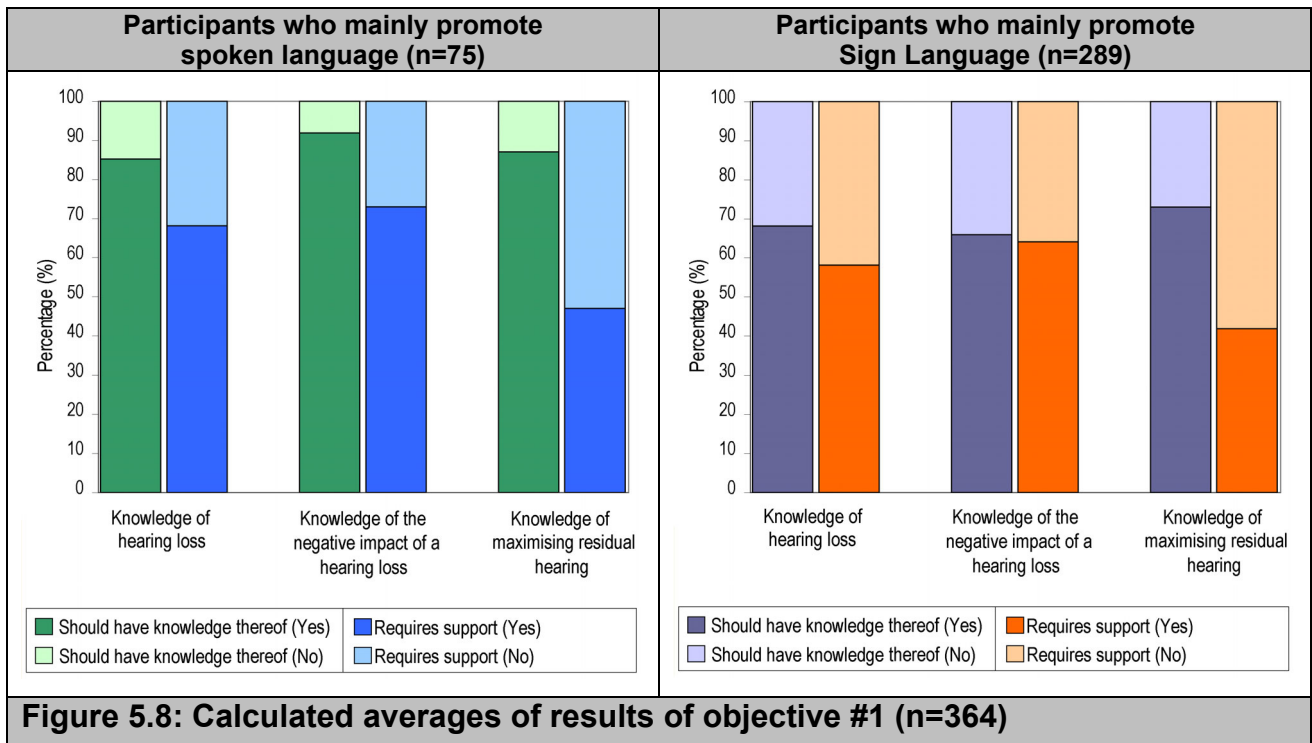
The need for support in learning how to maximise residual hearing was not specifically probed during interviews, and therefore it did not represent a large part of the focus group interview. In Table 5.6, only one theme corresponded to the aforementioned objective, and the excerpt supporting this theme is provided. The lack of excerpts on this theme may reveal that the participants did not consider the maximising of residual hearing a priority among their learners.

An interpretation and discussion follows, to conclude the findings of this section.

5.2.4 Interpretation and discussion of findings of objective #1

Participants' knowledge of educational audiology, as well as their need for support in the acquisition of this knowledge, is crucial in addressing the specific needs that may arise from the sensory impairment of children with hearing loss (Easterbrooks & Radaszewski-Byrne, 1995; Flexer, 1993). The differences in findings among the two sub-groups of participants should be clarified, as this has direct implications for the development of an educational audiology service delivery model, that aims to support both sub-groups of teachers in the acquisition of knowledge of educational audiology.

Averages of the results were calculated, in order to obtain a broad overview of findings of **both sub-groups of participants** obtained from the questionnaire survey. Averages were calculated for Figures 5.2 to 5.7 and are revealed in Figure 5.8 below:



A detailed interpretation and discussion of the various sub-sections of objective #1 follows. Findings from both sub-groups of participants are

presented in the following order. An overview of the broad findings is provided, followed by more detailed results, that are presented as follows: **Firstly**, the support required; **secondly**, knowledge versus the support required; **thirdly**, the influence of variables; and **finally**, findings of focus group interviews are discussed.

5.2.4.1 Interpretation and discussion of findings of objective #1: Support in learning about hearing loss

All participants (n=364) strongly recommended that teachers have knowledge of the various aspects of hearing loss, but, in contrast, only a small number of participants felt that teachers required support in the acquisition of this knowledge. This may indicate that participants generally did not realise the advantages of receiving support from a professional such as an educational audiologist (English, 1995; Johnson, Benson, & Seaton, 1997).

Therefore, an educational audiology service delivery model should continuously promote the benefits of receiving support from an educational audiologist when acquiring knowledge in the various aspects of hearing loss.

Furthermore, on the whole, participants who mainly promote Sign Language indicated less need for the acquisition of knowledge and support in the various aspects of hearing loss. Literature substantiates these findings, and can be explained by the differences in the communication instructional approaches followed by the two sub-groups (Lynas, 1994; Moores, 1996). Participants who mainly promote Sign Language were less interested in acquiring knowledge in the various aspects of hearing loss, such as the anatomy and functioning of the auditory mechanism, the aim and interpretation of an audiogram, the purpose and functioning of an FM system and hearing aid, et cetera. Reasons for their disinterest can be found in literature which indicates that participants who mainly promote Sign Language often view knowledge in the aforementioned areas as the approaching of hearing loss as a *pathology*, whereas they tend to regard hearing loss as a social identity and

sub-culture that does not necessarily have to be corrected (DEAFSA, 2001c; Lynas, 1994; Moores, 1996).

These issues remain a sensitive point of discussion, and the educational audiologist should take cognisance of the influence of various communication instructional approaches. The educational audiologist should continue to render accountable services within the framework of an educational audiology service delivery model that will assist each child with hearing loss to develop his/her full potential.

Prominent findings about the need for support in the acquisition of knowledge regarding hearing loss, are discussed forthwith.

Firstly, results revealed that the majority of participants of both sub-groups recommended that teachers receive support in order to learn about the trouble-shooting of hearing aids.

Findings in research confirm the importance of receiving support in order to learn about the trouble-shooting of hearing aids (Bentler, 1993; Berg, Blair & Benson, 1996; Crandell & Smaldino, 2000). The trouble-shooting of the hearing aid ensures that the child's hearing aid is in optimal working condition in order for the child to benefit from all auditory input received in the classroom (Bentler, 1993). Only then can the hearing aid fulfil its purpose, namely to help the child to optimally utilise his/her residual learning, and consequently to benefit from educational efforts by the teacher (Crandell & Smaldino, 2000).

It is clear that educational audiologists should provide support and assistance to teachers in order to acquire knowledge in the trouble-shooting of hearing aids, to ultimately benefit the child with hearing loss. An educational audiology service delivery model should include teacher training that will encourage the expansion of teachers' knowledge about the trouble-shooting of hearing aids.

Secondly, findings relating to knowledge versus support required, indicated that participants of the two sub-groups had different views on the importance of knowledge and support in various aspects of hearing loss. The majority of participants who mainly promote spoken language, regarded knowledge in the anatomy and physiology of the auditory mechanism as essential, as well as knowledge of the process of communication interaction, as necessary. On the other hand, the majority of participants who mainly promote Sign Language considered knowledge in the etiology of hearing loss as essential for teachers in the inclusive educational system. These specific differences in participants' views on the importance of knowledge in various aspects of hearing loss cannot readily be clarified by literature or by differences in communication instructional approaches followed. However, the importance of acquiring knowledge in these aspects of hearing loss is confirmed by the literature-based discussion that follows.

Knowledge of the anatomy and physiology of the auditory mechanism (Tweedie, 1987), as well as knowledge of the process of communication interaction (Northern & Downs, 1984), is indispensable to the teacher of the child with hearing loss. Knowledge in the anatomy and physiology of the auditory mechanism is fundamental in order for teachers to gain insight into auditory disorders and malfunctioning, so as to identify and address any concerns that may arise from the child's auditory mechanism (Tweedie, 1987). Similarly, knowledge of the process of communication interaction is essential, because it enables the teacher to use the normal model of communication to evaluate the child's communication skills and shortcomings in order to plan for more appropriate strategies to enhance the child's communication skills and to prevent future communication breakdowns (Northern & Downs, 1984).

However, results reveal that less than half of the participants who mainly promote spoken language, recommended support in order to learn about the auditory mechanism and only approximately half of the participants who mainly promote spoken language recommended support to learn about the process of communication interaction. These findings may indicate that participants felt that teachers had sufficient knowledge in these areas and

therefore did not require support to acquire knowledge in these areas. However, findings from a South African study (Pottas, 1998), indicates that teachers had varying degrees of knowledge of the anatomy and physiology of the auditory mechanism, as well as the process of communication interaction that were mostly deemed insufficient to appropriately manage the child with hearing loss.

Furthermore, literature indicates that knowledge in the etiology of hearing loss is important for teachers to differentiate between the various strategies and outcomes of intervention when managing the child with hearing loss (Kenworthy, 1993). In addition, knowledge in the etiology of hearing loss enables teachers to be aware of the factors that can further damage residual hearing, and to subsequently minimise further damage to the child's hearing mechanism (Tweedie, 1987).

However, very few participants who mainly promote Sign Language recommended support in order to acquire knowledge in the etiology of hearing loss. This may indicate that participants felt that teachers had sufficient knowledge in the etiology of hearing loss and therefore did not require support to acquire knowledge in this area. Evidence to the contrary is found in a study among South African teachers that indicated that teachers had insufficient knowledge with regard to the etiology of hearing loss (Pottas, 1998).

An educational audiology service delivery model should include teacher training that will encourage the expansion of teachers' knowledge about the anatomy and physiology of the auditory mechanism, the process of communication interaction, as well as knowledge about the etiology of hearing loss.

Thirdly, dependency tests revealed that the following variables increased participants' need for support in the acquisition of knowledge in the various aspects of hearing loss, namely absence of specialised training in hearing loss, unfavourable teacher/learner ratio, and infrequent in-service training. Unfortunately, these unfavourable scenarios are often found among teachers

of children with hearing loss in South Africa (Pottas, 1998). Furthermore, results indicated that teachers who mainly promote Sign Language tended to have an even more unfavourable teacher/learner ratio in their classrooms than teachers who mainly promote spoken language, which would no doubt increase their need for support.

It is clear that educational audiologists should offer added support and assistance to teachers with these unfavourable attributes or circumstances. An educational audiology service delivery model should provide teacher training that will encourage the expansion of teachers' knowledge about the various areas of hearing loss, in order to appropriately manage the child with hearing loss. Teachers and educational authorities should also be informed on the importance of obtaining specialised training in hearing loss, as well as the benefits of receiving more frequent in-service training. Information sessions should also be tailored in order to address the challenges of managing the child with hearing loss in a classroom with an unfavourable teacher/learner ratio.

Finally, discussions in focus group interviews confirm the above-mentioned findings (See Tables 5.1 and 5.2). The foremost difference between discussions of the two sub-groups was their perceptions of the current educational audiology support services rendered. Although both sub-groups of participants valued the support from educational audiologists to obtain knowledge in the aforementioned areas, participants who mainly promote Sign Language perceived a lack of support from their school-based educational audiologists. Areas in which participants who mainly promote Sign Language specifically experienced a lack of support, were information-sharing about Sign Language as a communication option, results of learners' annual audiograms, and the latest hearing aid technology. Moores (1996) states that educational audiologists sometimes fail to address areas that teachers value as important, because they tend to enter the school setting with a pre-set agenda that leaves little room for addressing teachers' individual needs. It is essential therefore, to provide support in areas that teachers value as important, because teachers play a fundamental role on the

child's educational team (English, 1995). It becomes clear that an educational audiology service delivery model should be flexible in order to adapt certain roles and responsibilities of the educational audiologist, in order to fulfil in the unique needs of teachers.

5.2.4.2 Interpretation and discussion of findings of objective #1: Support in learning about the negative impact of a hearing loss

All participants (n=364) recommended that teachers have knowledge about the negative impact of a hearing loss on the various areas of development. In contrast, very few of the participants felt that teachers required support in the acquisition of this knowledge. This may indicate that participants generally did not realise the importance of receiving support from a professional such as an educational audiologist (English, 1995; Johnson, Benson, & Seaton, 1997). Therefore, an educational audiology service delivery model should continuously increase teachers' awareness of the importance of receiving support from an educational audiologist when acquiring knowledge about the negative impact of a hearing loss on the various areas of development.

An overview of results indicated that participants who mainly promote Sign Language indicated less need for the acquisition of knowledge and support in the various areas of impact relating to hearing loss. Literature substantiates these findings, and the aforementioned can be explained by the differences in the communication instructional approaches followed by the two sub-groups. Teachers who mainly promote Sign Language, as mentioned formerly, generally do not regard hearing loss as a condition that needs to be habilitated or which negatively influences all areas of development (DEAFSA, 2001c; Lynas, 1994; Moores, 1996). Furthermore, the acquisition of Sign Language is not negatively affected by the presence of a hearing loss (Moores, 1996). It therefore becomes clear why participants who mainly promote Sign Language indicated less need for the acquisition of knowledge and support in the various areas of impact relating to hearing loss.

Prominent findings on the need for support in learning about the negative impact of a hearing loss will be discussed.

Firstly, results revealed that participants of the two sub-groups had different views on the need for support relating to the negative impact of a hearing loss on the various areas of development. In addition, results indicated that the majority of participants who mainly promote spoken language, recommended that teachers receive support in learning about how to address the negative impact of a hearing loss on speech production skills. On the other hand, the majority of participants who mainly promote Sign Language recommended support in order to learn how to address the negative impact of a hearing loss on the psychosocial well-being of the child with hearing loss. These differences in participants' opinions can be attributed to the different communication instructional approaches they adhere to. Literature clarifies these findings as it is well-known that teachers who mainly promote spoken language are primarily concerned with the child's development of receptive language and speech production skills in inclusive settings (Jamieson, 1994; Paul & Quigley, 1994; Sanders, 1988). Therefore, it becomes apparent why they would indicate a greater need for support in learning how to address the negative impact of a hearing loss on speech production skills. Similarly, findings in research indicate that teachers who mainly promote Sign Language are very concerned about the psychosocial impact of inclusion on the child with Sign Language among his/her hearing peers (Lynas, 1994; Moores, 1996). Children who mainly use Sign Language are sometimes excluded or teased by their hearing peers, because they use signing as a method of communication (Lynas, 1994; Moores, 1996). This clearly testifies why participants who mainly promote Sign Language would indicate a greater need for support in order to address the negative impact of a hearing loss on the psychosocial well-being of the child with hearing loss within the inclusive setting.

Literature substantiates participants' views on the importance of receiving support in the acquisition of knowledge on how to address the negative impact of a hearing loss on speech production skills as well as the psychosocial well-

being of the child with hearing loss (Cappelli, Daniels, Durieux-Smith, McGrath & Neuss, 1995; Sanders, 1988; Stinson & Lang, 1994) and is discussed forthwith.

The leading consequence of deficits in speech production is that the child in an inclusive classroom is not clearly understood by the teacher and hearing classmates, causing communication breakdown, which in turn negatively influences the child's ability to be educated (Sanders, 1988). Therefore, knowledge on how to address the negative impact of a hearing loss on speech production skills is imperative for successful educational outcomes for teachers who mainly promote spoken language (Sanders, 1988).

Findings in research have found that the psychosocial development of children with hearing loss in inclusive educational settings is more troublesome than children with hearing loss in special schools due to unfavourable social ratings of peers and teachers in inclusive settings (Cappelli, Daniels, Durieux-Smith, McGrath & Neuss, 1995; Stinson & Lang, 1994). The main consequence of troublesome psychosocial development is that the child is less likely to benefit from educational attempts than children who have confidence, good self-esteem, and who are socially integrated (Froehlinger & Bryant, 1981; Northern & Downs, 1984). Therefore, knowledge on how to address the negative impact of a hearing loss on psychosocial development is imperative for successful educational outcomes (Sanders, 1988).

Educational audiologists should therefore provide support and assistance to teachers, in order to acquire knowledge about the negative impact of a hearing loss on a child's development of speech production skills and psychosocial well-being, in order to ultimately benefit the child with hearing loss. An educational audiology service delivery model should include teacher training that will encourage the expansion of teachers' knowledge in these areas of development.

Furthermore, findings revealed that only a small number of both sub-groups of participants suggested support, in order to obtain knowledge on how to

address the negative impact of a hearing loss on literacy skills. This may imply that participants did not realise the full consequences of diminished hearing and its effect on the development of literacy skills. In addition, the fact that only a small number of participants recommended support in the acquisition of knowledge in this area, may be attributed to the fact that participants felt that teachers already possessed sufficient knowledge about this topic. In the case of teachers who mainly promote spoken language, this can be ascribed to the fact that conventional approaches to literacy instruction (that utilise the child's auditory skills) generally tend to favour children who mainly use spoken language (Moores, 1996). Despite these explanations, numerous studies have indicated a need for support and have found that the literacy skills of children with hearing loss are generally poor and often plateau with age, which directly influences their mastery of all other written academic content (English, 1995; Johnson, Benson, & Seaton, 1997; Paul & Quigley, 1994; Sanders, 1988). The greatest consequence of poor literacy skills is that the child does not successfully master one of the critical foundations of education, namely to read and write, and this can negatively impact on the child's ability to be educated further (Paul & Quigley, 1994; Sanders, 1988).

It is clear that, in the inclusive educational system, teachers of children with hearing loss simply have to receive continued support in learning how to address the negative impact of a hearing loss on literacy skills. Such support should be provided by educational audiologists, so that the child with hearing loss will benefit in the end. An educational audiology service delivery model should include the opportunity for teacher training that will encourage the expansion of teachers' knowledge about the negative impact of a hearing loss on the development of literacy skills.

Secondly, findings relating to knowledge versus support required, indicated that the majority of both sub-groups of participants realised the negative impact of a hearing loss on language development and recommended that teachers in the inclusive educational system should have knowledge thereof. In addition, a large number of participants recommended support in order to

learn how to address the negative impact of a hearing loss on language development.

Literature attests to the importance of receiving support in order to learn how to address the negative impact of a hearing loss on language development and is subsequently discussed.

Deprivation of the sense of hearing forms a barrier to the normal development of language, which in turn is reflected as a barrier to learning in school (Bess & McConnell, 1981). The main educational consequence of delayed language skills is that the child has diminished comprehension and means of expression during lessons, which negatively influences the child's ability to master academic content (McAnally, Rose & Quigley, 1987). Therefore, knowledge of the negative impact of a hearing loss on language development is crucial for the teacher when planning appropriate language intervention strategies in class (Sanders, 1988).

It is clear that educational audiologists should provide support and assistance to teachers in order to acquire knowledge about the negative impact of a hearing loss on a child's language development, in order to ultimately benefit the child with hearing loss. An educational audiology service delivery model should include teacher training that will encourage the expansion of teachers' knowledge about the negative impact of a hearing loss on a child's language development.

Thirdly, dependency tests revealed that none of the variables had demonstrated a significant influence on participants' need for support in learning about the negative impact of a hearing loss on various areas of development. This applies to both sub-groups, and these results cannot readily be explained by findings in literature.

Finally, discussions in focus group interviews attest to these findings (See Tables 5.3 and 5.4). The main difference between discussions of the two sub-groups was that the impact of hearing loss on literacy skills was a theme that

enjoyed more attention from participants who mainly promote Sign Language. Literature confirms the aforementioned, and teachers' frustration in the education of literacy skills is explained by the numerous challenges that prevent children who mainly use Sign Language from easily acquiring literacy skills. Of these challenges are: traditional literacy instructional approaches generally tend to favour hearing children, a discrepancy exists between the grammatical structures of written language and Sign Language, and less emphasis on the utilisation of hearing aids causes diminished auditory feedback, which in turn negatively influences the acquisition of literacy skills (Lynas, 1994; McAnally, Rose & Quigley, 1987; Moores, 1996).

For these reasons, educational audiologists should provide assistance to teachers in order for teachers to acquire knowledge about the negative impact of a hearing loss on the development of a child's literacy skills in order to ultimately benefit the child with hearing loss. An educational audiology service delivery model should include the opportunity for teacher training that will encourage the expansion of teachers' knowledge about this area of development.

5.2.4.3 Interpretation and discussion of findings of objective #1: Support in learning about the maximising of residual hearing

All participants (n=364) recommended that teachers have knowledge about the maximising of residual hearing, however, very few participants felt that teachers required support in the acquisition of this knowledge. This may imply that participants generally did not realise the importance of receiving support from a professional such as an educational audiologist (English, 1995; Johnson, Benson, & Seaton, 1997). Therefore, an educational audiology service delivery model should continuously promote the advantages of receiving support from an educational audiologist when learning how to maximise residual hearing.

Furthermore, results revealed in general, that participants who mainly promote Sign Language indicated less need for the acquisition of knowledge and

support relating to the maximising of residual hearing. Literature confirms these findings, and this can be clarified by the differences in the communication instructional approaches of the two sub-groups (DEAFSA, 2001c; Lynas, 1994; Moores, 1996). Participants who mainly promote Sign Language were less motivated to learn about the various aspects relating to the maximising of residual hearing such as identification and reduction of noise levels, enhancement of classroom acoustics, advocating the use of FM systems, et cetera. Participants who mainly promote Sign Language were less motivated in acquiring this knowledge, because they primarily rely on signing (a visual modality) in order to educate children with hearing loss (Lynas, 1994). Children who mainly use Sign Language generally do not utilise their residual hearing for educational purposes, and this explains why teachers who mainly promote Sign Language are less motivated to acquire knowledge and support in the maximising of residual hearing (DEAFSA, 2001c; Lynas, 1994; Moores, 1996). Educational audiologists therefore should respect differences in teaching practices due to the differences in communication instructional approaches. Educational audiologists should continue to render accountable services within the framework of an educational audiology service delivery model that will assist each child with hearing loss to develop his/her full potential.

The prominent findings regarding the need for support in learning how to maximise residual hearing, are discussed.

Firstly, results reveal that the majority of both sub-groups of participants recommended that teachers receive support in order to learn how to advocate for an FM system in class. Literature has stressed the importance of receiving support in this aspect, in order to maximise the residual hearing of the child with hearing loss in the inclusive setting. In the inclusive classroom, information is primarily conveyed from the teacher to the child through soundwaves. If these soundwaves are diminished or stifled due to poor classroom acoustics, the child will be unable to receive auditory information in the class in order to learn and achieve academically (Berg, Blair & Benson, 1996). Assistive listening devices, such as an FM system enables the child to

optimally utilise his/her residual learning and consequently to benefit from educational efforts by the teacher (Crandell & Smaldino, 2000). Children with hearing loss who do not have access to these devices are denied their basic right to hearing, and consequently their opportunities for learning in an inclusive classroom (Crandell & Smaldino, 2000). Unfortunately, an unfavourable scenario exists within the South African context where many schools do not have the financial resources to afford assistive devices (Penn & Reagan, 1995). This can, however, not be accepted as a reason for not advocating for FM systems, and it is the shared responsibility of the teacher and the educational audiologist to advocate for the use of these assistive devices in inclusive classrooms, in order to benefit the child with hearing loss.

Educational audiologists therefore should support and assist teachers in obtaining knowledge in order to advocate the use of FM systems in classrooms. An educational audiology service delivery model should provide opportunity for teacher training that would assist teachers to learn how to advocate for FM systems in the classroom.

Secondly, findings relating to knowledge versus support required, indicated that the majority of participants of both sub-groups recommended that teachers know how to encourage continuous use of hearing aids among the children in order to maximise residual hearing. Literature often highlights the importance of continuous use of hearing aids among children with hearing loss, and subsequently confirms that teachers should know how to encourage continuous use of hearing aids in order to maximise residual hearing. Children with hearing loss who do not continually utilise their hearing aids diminish their opportunities for learning through their auditory pathways in the classroom (Bentler, 1993). Children with hearing loss need encouragement to wear their hearing aids, because like most children they are not always aware of what is beneficial to them, and they often rebel against the wearing of hearing aids that are not visually “attractive” to their hearing peers (Brooks, 1981).

However, results indicated that only a minority of participants of both sub-groups recommended support in order to learn how to encourage continuous use of hearing aids among the children in order to maximise residual hearing. This may indicate that participants are of the opinion that teachers had sufficient knowledge on how to encourage continuous use of hearing aids among the children with hearing loss. However, findings in research reveal that children with hearing loss often discard their hearing aids or seldomly use them when among their hearing peers (English, 1995; Moores, 1996). The educational audiologist can provide additional information to teachers about the encouragement of the use of hearing aids in an inclusive setting and provide support with the trouble-shooting of hearing aids, and with training in listening skills. An educational audiology service delivery model should provide teacher training that will encourage the expansion of teachers' knowledge on the maximising of residual hearing of the child with hearing loss.

Thirdly, dependency tests revealed that the following variables increased participants' need for support in learning how to maximise residual hearing, namely: absence of higher qualifications, absence of specialised training in hearing loss, unfavourable teacher/learner ratios, and infrequent in-service training. Unfortunately, these unfavourable scenarios are often found among teachers of children with hearing loss in South Africa (Pottas, 1998).

Educational audiologists should offer added support and assistance to teachers with these unfavourable attributes or circumstances. An educational audiology service delivery model should provide teacher training that will encourage the expansion of teachers' knowledge of how to maximise residual hearing in order to appropriately manage the child with hearing loss. Teachers should also be informed of the advantages of obtaining higher qualifications with respect to their management of children with hearing loss. Furthermore, the importance of obtaining specialised training in hearing loss, and the benefits of receiving more frequent in-service training, should be stressed to teachers as well as educational authorities. Information sessions should also be tailored in order to address the challenges of developing the

residual hearing of the child with hearing loss in a classroom with an unfavourable teacher/learner ratio.

Finally, discussions in focus group interviews confirm these findings (See Tables 5.5 and 5.6). The main difference between the excerpts of participants of the sub-groups was that participants who mainly promote Sign Language did not excessively discuss the topic of maximising residual hearing. As mentioned above, the lack of interest in this theme may reveal that participants did not regard the maximising of residual hearing a priority among their learners who mainly use Sign Language as a mode of communication. Children who mainly use Sign Language are generally not required to utilise their residual hearing when lessons are presented by means of Sign Language (Moores, 1997).

The above findings illustrate that educational audiologists should be cautioned against identifying issues of importance that teachers do not regard as equally important (Moores, 1996). Educational audiologists should be sensitive to the unique needs of teachers with regard to maximising residual hearing. Thus, an educational audiology service delivery model should take note of the varying needs of teachers with regard to support, and teacher training should not blindly include topics, but should include topics most relevant to teachers that follow different communication instructional approaches.

5.3 RESULTS AND DISCUSSION OF OBJECTIVE #2: PARTICIPANTS' NEED FOR SUPPORT IN THE AUDIOLOGICAL AND EDUCATIONAL MANAGEMENT OF THE CHILD WITH HEARING LOSS

The second objective of the study was to determine and describe teachers' need for support in the **audiological and educational management of the child with hearing loss**. This objective is further divided into five categories, namely the development of language skills, speech production skills, communication skills, literacy skills and academic achievement, and

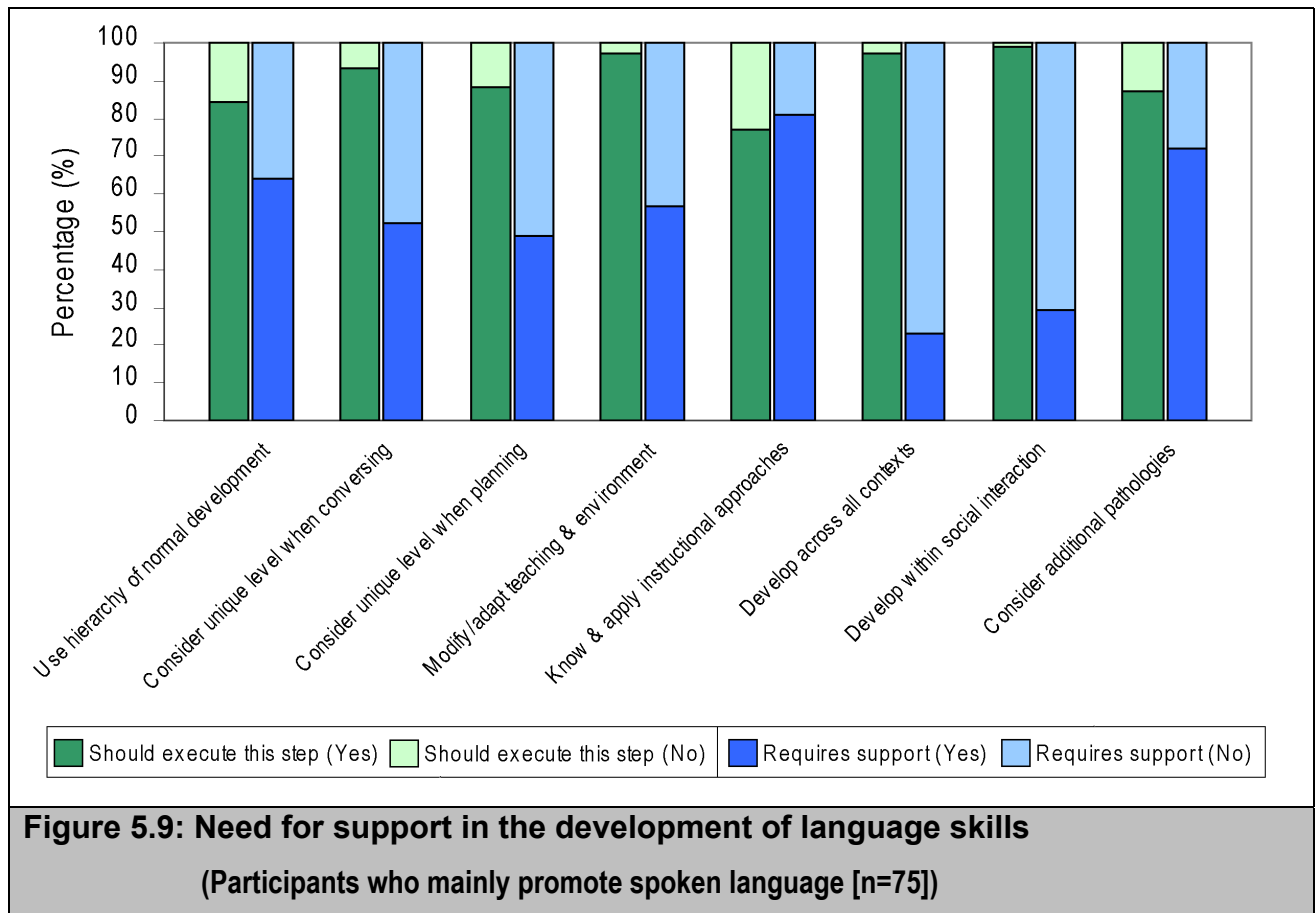
psychosocial well-being. Data obtained for these categories are discussed in sections 5.3.1 to 5.3.5. The responses obtained from the questionnaire survey of both sub-groups of participants are presented in the following order. **Firstly**, the support required; **secondly**, intervention steps versus the support required; **thirdly**, the influence of variables; and **finally**, the correspondence between the two sub-groups of participants. An interpretation and discussion of the general trend of this objective will conclude this section.

5.3.1 The need for support in the development of language skills

The intervention steps were identified that the participants recommended for teachers in the inclusive educational system to carry out in order to develop the language skills of a child with hearing loss. In addition, it was established whether the participants suggested professional support for teachers in order to carry out these steps.

These results include responses to the items in Question 16 of the questionnaire survey (Appendix D), and supporting themes from the focus group interviews (Appendix E) are presented. The findings of the two sub-groups of participants are presented separately.

Findings of participants **who mainly promote spoken language**, are revealed in Figure 5.9.



The above results indicate participants' recommendations for teacher support in the development of language skills. Prominent findings are:

Firstly, the above figure indicates that a high number of participants (81%) recommended professional support in order to acquire knowledge about various language *instructional approaches* and to subsequently apply the best-suited approach. Furthermore, only a small number of participants (23%) recommended support in order to develop language *across all school contexts*.

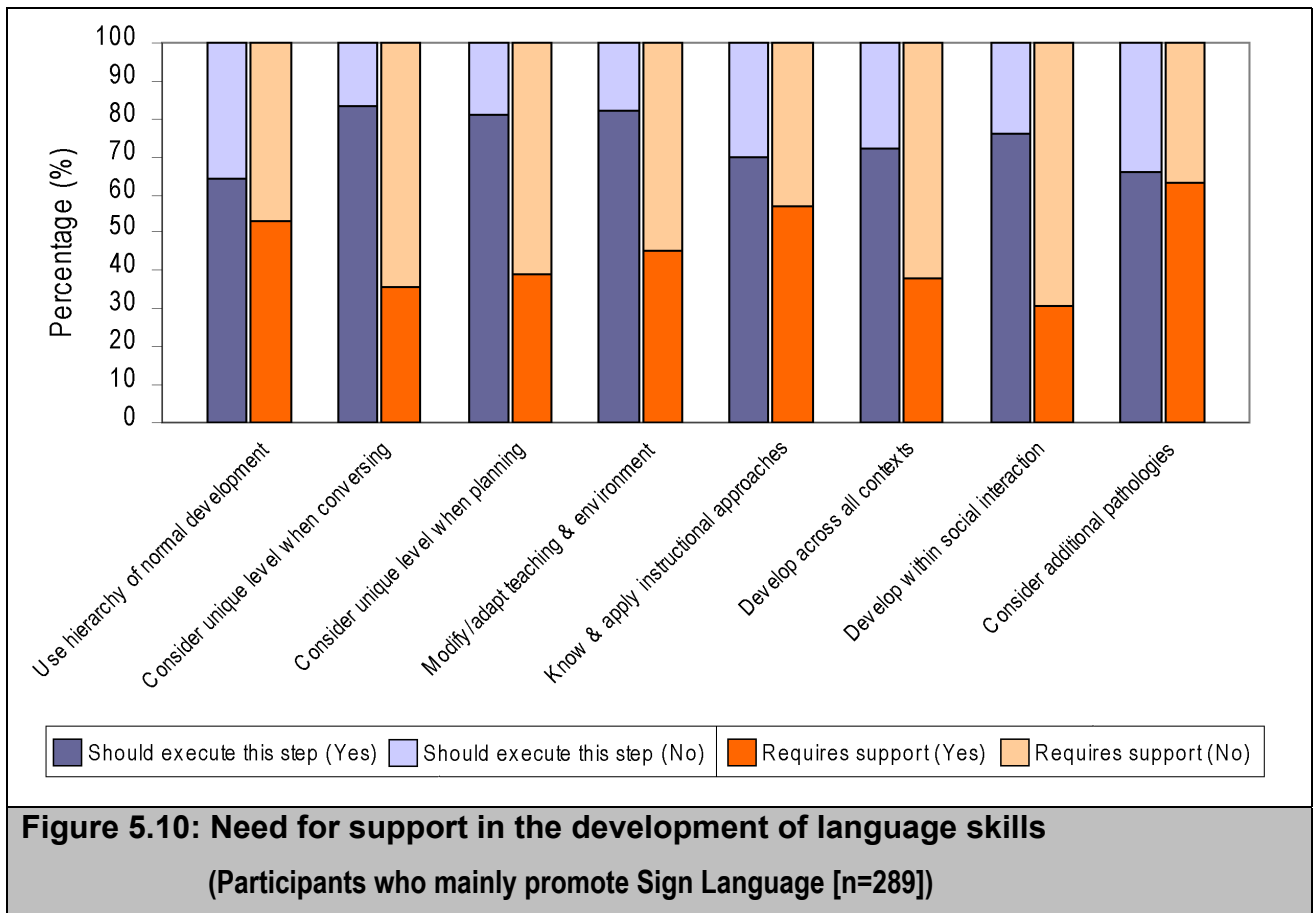
Secondly, on the whole, intervention steps were recommended by a large number of participants (77%–99%). Almost all of the participants (99%) recommended that teachers develop language skills within activities of *social interaction*. In contrast, results reveal that only a few participants (29%) recommended professional support in order to develop language skills within activities of social interaction.

Thirdly, further statistical analysis of these results reveal that some of the variables rendered chi-squared (X^2) values greater than the critical value based on $p \# 0,05$ (See Appendix I, Tables I1 to I10). Chi-squared (X^2) values greater than the critical value meant that the variables had demonstrated a significant influence on the participants' need for support in the development of language skills, and are clarified in the following discussion.

Participants who had diplomas indicated a greater need for support in the development of language within activities of social interaction than participants with higher *qualifications* (See Appendix I, Table I1). Participants with no *specialised training* in hearing loss indicated a greater need for support in the use of the hierarchy of normal language development as well as support regarding the awareness of additional language pathologies (See Appendix I, Table I3). Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support in the planning of teaching content by considering the child's unique language level (See Appendix I, Table I9).

Finally, a comparison between findings of both sub-groups of participants will be provided after the presentation of findings of participants who mainly promote Sign Language.

The results of participants **who mainly promote Sign Language** is presented in Figure 5.10.



The above results indicate participants' recommendations for teacher support in the development of language skills. Prominent findings are:

Firstly, the above figure indicates that a fairly large number of participants (63%) recommended professional support in order to consider the possibility of *additional language pathologies*. Furthermore, only a small number of participants (31%) recommended support in order to develop language within activities of *social interaction*.

Secondly, a large number of participants (83%) recommended that teachers consider the child's *unique level* of language functioning when conversing with the child. In contrast, results reveal that only a few participants (36%) recommended professional support in order to consider the child's *unique level* of language functioning.

Thirdly, further statistical analysis of these results reveal that some of the variables rendered chi-squared (X^2) values greater than the critical value based on $p \# 0,05$ (See Appendix I, Tables I1 to I10). Chi-squared (X^2) values greater than the critical value meant that the variables had demonstrated a significant influence on the participants' need for support in the development of language skills and are clarified in the following discussion.

Participants who had diplomas and no higher *qualifications* indicated a greater need for support in the development of language across all contexts as well as the development of language within activities of social interaction (See Appendix I, Table I2). Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support in the following areas of language development: considering the child's unique language level when conversing with the child, the modification and/or adaptation of teaching materials, techniques, and the environment to meet the language needs of the child, knowledge and application of language instructional approaches, the development of language skills across all contexts, and the development of language within activities of social interaction (See Appendix I, Table I10)

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. A wide range of differences exist, however, findings reveal that both sub-groups of participants who had diplomas indicated a greater need for support in the development of language within activities of social interaction, than participants with higher *qualifications* (See Appendix I, Tables I1 and I2).

* * *

Themes of focus group interviews were identified by selecting themes that corresponded to those of the questionnaire items. These themes corresponded to objective #2, namely participants' need for support in the

development of language skills. The findings of the two sub-groups of participants are presented separately.

Table 5.7 (below) depicts some of the relevant excerpts extracted from the two focus group interviews conducted with **the participants who mainly promote spoken language** (n=10).

Table 5.7: Need for support in the development of language skills

(Participants who mainly promote spoken language)

“...we are specifically trained to know where language starts, in other words, we know a small little thing such as eye contact...is a form of language...”[1]

“...in our case everything is presented through (teacher shows with hands that are interwoven) language, for instance our playtime, our art...when we eat...”[2]

“...it is not always their home language...this is another incoming factor...is this his second language?...or third language that he is learning?...is he receiving stimulation throughout?...at home, at church, in the community?, or does he only get it at school?...”[3]

Table 5.7 depicts excerpts that corresponded to the theme of language development and reveal that the participants were especially aware of the *hierarchy of normal language development* [1], the development of language *across all contexts* [2], as well as taking into account that some children may have *additional language problems*, such as second language confusion [3]. Throughout the focus group interviews, the participants emphasised the benefits of receiving support from an educational audiologist, and it can thus be deduced that they recommended support by an educational audiologist to develop the language skills of a child with hearing loss.

Table 5.8 depicts some of the relevant excerpts extracted from the two focus group interviews conducted with **the participants who mainly promote Sign Language** (n=9).

Table 5.8: Need for support in the development of language skills

(Participants who mainly promote Sign Language)

“...she (the educational audiologist) and I decide: pronouns, we divided them, pronouns for grade four we do this, for grade five we do this, grade six we do this...then we build the syntax and reading comprehension and vocabulary further upon this...”[1]

“...definitely in the area of language they (the educational audiologists)...can make more contributions in terms of planning the language lessons...”[2]

“...then she (the educational audiologist) is trying to tell the teacher about language structures that must be taught to the children (teacher looks upset), such as grammar...instead of functional language that the children want...”[3]

The above table contains excerpts that corresponded to the theme of language development. These excerpts reveal that one of the participants in the focus group interview was especially aware of *adapting teaching* techniques to meet the language needs of the child with hearing loss [1]. One of the participants was also concerned that they are not receiving adequate support from the educational audiologist in terms of planning in order to *adapt and modify teaching* materials [2] as well as support to develop functional language across activities of *social interaction* [3].

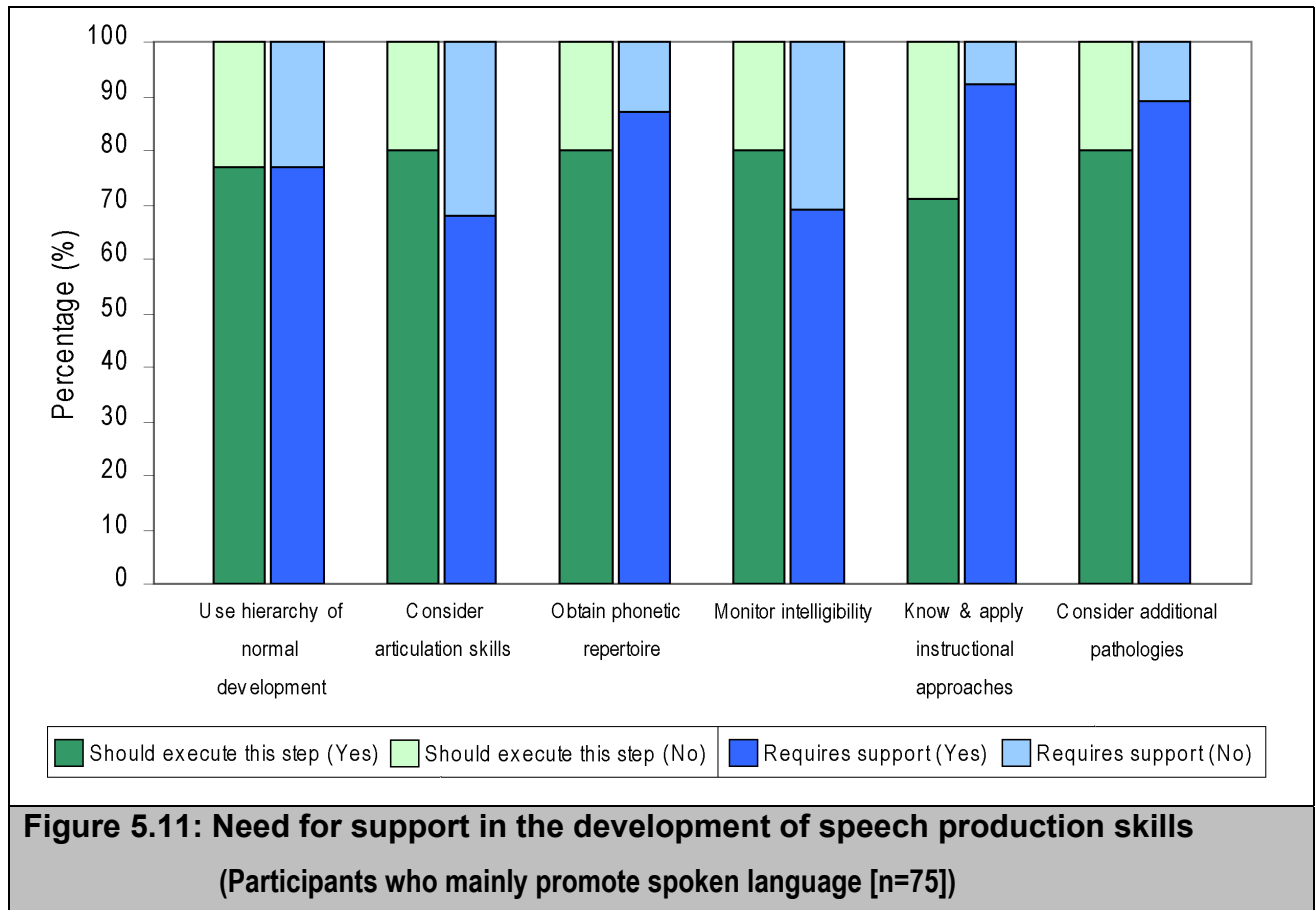
5.3.2 The need for support in the development of speech production skills

The intervention steps were identified that the participants recommended for teachers in the inclusive educational system to take, in order to develop the speech production skills of a child with hearing loss. In addition, it was established whether the participants suggested professional support for teachers in order to carry out these steps.

These results include responses to the items in Question 17 of the questionnaire survey (Appendix D) and supporting themes from the focus group interviews (Appendix E) are added.

The results of the two sub-groups of participants are presented separately.

The results of **participants who mainly promote spoken language**, are illustrated in Figure 5.11.



The results indicate participants' recommendations for teacher support in the development of speech production skills. Prominent findings are:

Firstly, the aforementioned figure indicates that, on the whole, support was recommended by a high number of participants (68%–92%). A large number of participants (92%) recommended professional support in order to acquire knowledge about various speech *instructional approaches* and to apply the best-suited approach. Furthermore, a fairly large number of participants (68%) recommended support in order to consider the child's *articulation skills*.

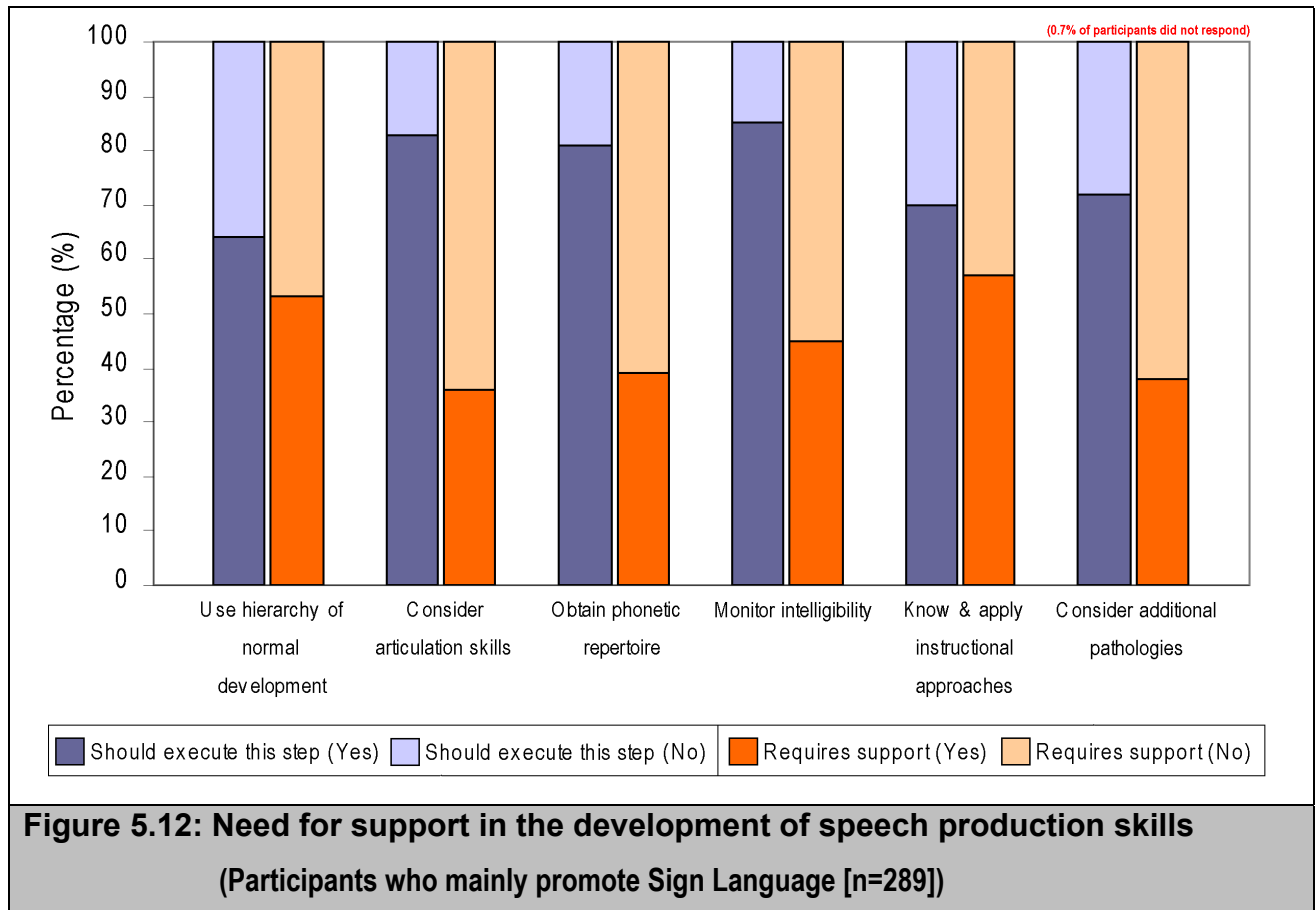
Secondly, on the whole, various intervention steps were recommended by a large number of participants (71%-80%). A large number of participants (80%) selected the first, second, third, fourth and sixth item concurrently. The results indicate, therefore, that a large number of participants (80%) recommended the following: teachers should use the *hierarchy of normal speech development* to plan speech production activities, consider the child's *articulation skills*, obtain the child's *phonetic repertoire*, monitor changes in *speech intelligibility*, and take into account *additional speech pathologies* such as voice problems. In addition, results reveal that more than half of the participants, with percentages respectively ranging from 68 % up to 89%, recommended professional support in order to carry out the above-mentioned steps.

Thirdly, further statistical analysis of these results reveal that some of the variables rendered chi-squared (X^2) values greater than the critical value based on $p \neq 0,05$ (See Appendix I, Tables I1 to I10). Chi-squared (X^2) values greater than the critical value meant that the variables had demonstrated a significant influence on the participants' need for support in the development of speech production skills, and are clarified in the following discussion.

Participants who had diplomas indicated a greater need for support in the acquisition of the child's phonetic repertoire than participants with higher *qualifications* (See Appendix I, Table I1). Participants with no *specialised training* in hearing loss indicated a greater need for support in the monitoring of speech intelligibility (See Appendix I, Table I3). Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support in the consideration of the child's articulation skills when planning speech production activities as well as the monitoring of speech intelligibility (See Appendix I, Table I9).

Finally, a comparison between findings of both sub-groups of participants will be provided after the presentation of findings of participants who mainly promote Sign Language.

The results of **participants who mainly promote Sign Language** are presented in Figure 5.12. Two of the participants (0,7%) did not respond to this question.



The above results indicate participants' recommendations for teacher support in the development of speech production skills. Prominent findings are:

Firstly, the above figure indicates that, on the whole, support was recommended by only a small number of participants (36%–58%). Slightly more than half of the participants (58%) recommended professional support in order to know and apply various *instructional approaches* for speech development. Furthermore, only a small number of participants (36%)

recommended professional support in order to consider the child's *articulation skills*.

Secondly, a large number of participants (85%) recommended that teachers monitor changes in the child's *speech intelligibility*. In contrast, results reveal that only a small number of participants (45%) recommended professional support in order to monitor changes in the child's speech intelligibility.

Thirdly, further statistical analysis of these results reveal that some of the variables rendered chi-squared (X^2) values greater than the critical value based on $p \neq 0,05$ (See Appendix I, Tables I1 to I10). Chi-squared (X^2) values greater than the critical value meant that the variables had demonstrated a significant influence on the participants' need for support in the development of speech production skills and are clarified in the following discussion.

Participants who had diplomas indicated a greater need for support in the consideration of the child's articulation skills when planning activities for speech production than participants with higher *qualifications* (See Appendix I, Table I2). Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support in the consideration of the child's articulation skills when planning speech production activities, as well as for taking into account additional speech pathologies (See Appendix I, Table I10).

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. A wide range of differences exist. However, findings reveal that the majority of both sub-groups of participants recommended professional support in order to know and apply various *instructional approaches* for speech development. Furthermore, only the minority of both sub-groups of participants recommended support in order to consider the child's *articulation skills*. Comparisons between the results of dependency tests indicated that both sub-groups of participants who have

received *in-service training* less frequently than once per month, indicated a greater need for support in the consideration of the child's articulation skills when planning speech production activities (See Appendix I, Tables I9 and I10).

* * *

Themes of focus group interviews were identified by selecting themes that corresponded to those of the questionnaire items. These items corresponded to objective #2, namely participants' need for support in the development of speech production skills. The findings of the two sub-groups of participants are presented separately.

Table 5.9 depicts some of the relevant excerpts extracted from the two focus group interviews conducted with the **participants who mainly promote spoken language** (n=10).

**Table 5.9: Need for support in the development of speech production skills
(Participants who mainly promote spoken language)**

“...I'll ask her (the educational audiologist)...am I going too fast?, am I going too slow?...otherwise you don't know where you're heading and if you're making any progress...”[1]

“...we want them (the educational audiologists) to...motivate the children to speak, it will be a great help if there is someone to make sure each child gets his turn...”[2]

The above table reveals excerpts that corresponded to the theme of the development of speech production skills and reveal that one of the participants was especially aware of the child's unique level of *articulation skills* when planning activities for improvement of speech intelligibility [1]. The participant in the focus group interview also revealed a need for support regarding the *motivation* of children to develop their speech production skills [2]. Throughout the focus group interviews the participants emphasised the benefits of receiving support from an educational audiologist and it can

therefore be deduced that they recommended support by an educational audiologist to develop the speech production skills of a child with hearing loss.

Table 5.10 contains some of the relevant excerpts extracted from the two focus group interviews conducted with the **participants who mainly promote Sign Language** (n=9).

**Table 5.10: Need for support in the development of speech production skills
(Participants who mainly promote Sign Language)**

“...people feel children should receive speech training and then they mix it with gestures...the children aren’t learning one of the two properly and this is definitely not a natural (teacher raises eyebrows) language...”[1]

“...speech should be taught with gestures from an early age...”[2]

“...they (the educational audiologists) could help...with the pronunciation and forming of words in subjects, where they have to know big words...”[3]

Table 5.10 contains excerpts that corresponded to the theme of the development of speech production skills. These excerpts reveal that there was discrepancy among the participants in focus group interviews with relation to the simultaneous *instruction* of speech and Sign Language [1,2]. One participant claimed that simultaneous instruction caused confusion and that gestures should be taught separately from speech [1]. Another participant felt that simultaneous instruction from an early age was the most effective strategy to follow [2]. One of the participants suggested support from an educational audiologist in order to improve the pronunciation of subject vocabulary by children with hearing loss [3].

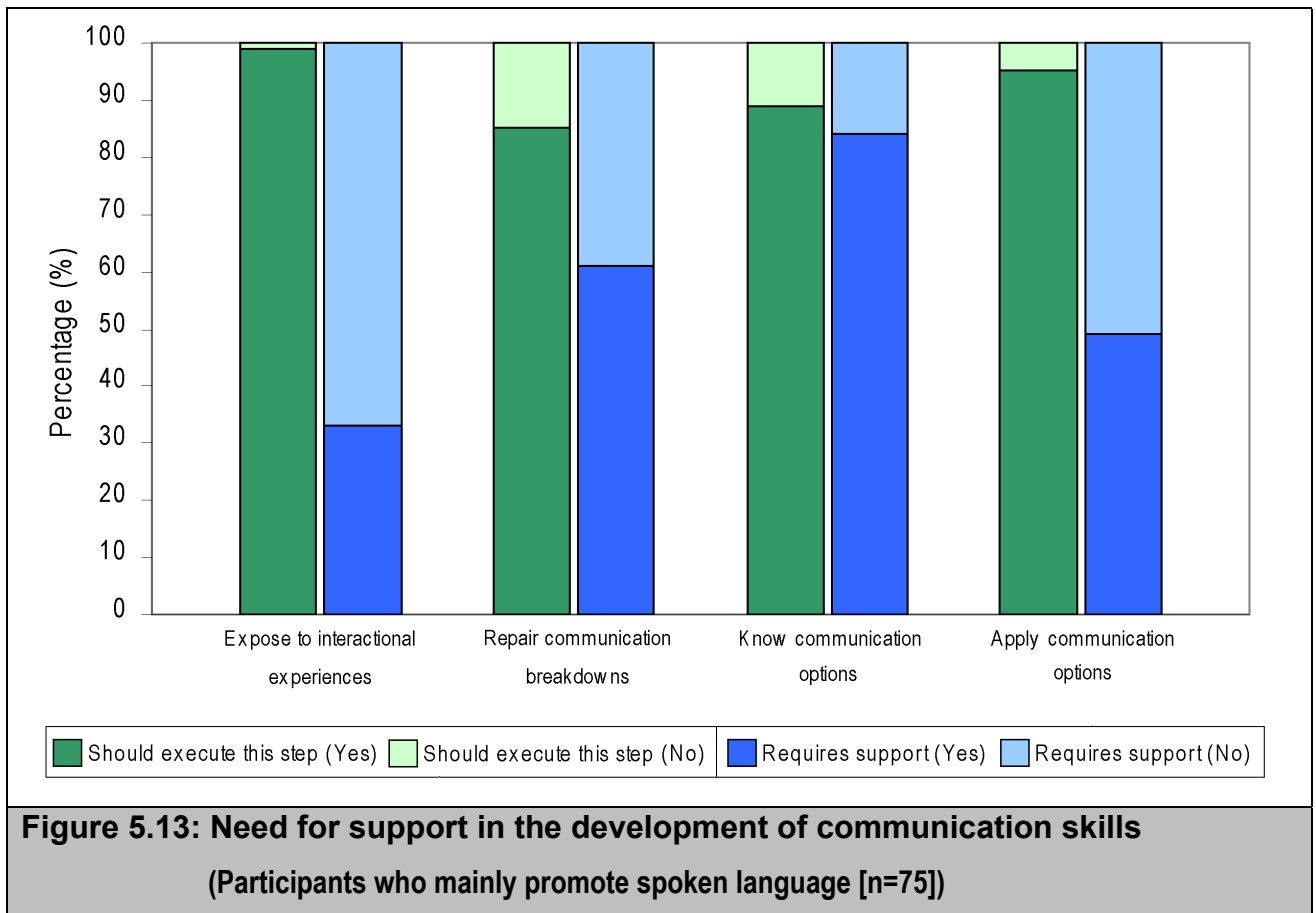
5.3.3 The need for support in the development of communication skills

The intervention steps were identified that participants recommended for teachers in the inclusive educational system to take in order to develop the communication skills of a child with hearing loss. In addition, it was

established whether the participants suggested professional support for teachers in order to carry out these steps.

These results include responses to the items in Question 18 of the questionnaire survey (Appendix D) and supporting themes from the focus group interviews (Appendix E) are presented. The findings of the two sub-groups of participants are presented separately.

The results of **participants who mainly promote spoken language**, are presented in Figure 5.13.



The above results indicate participants' recommendations for teacher support in the development of communication skills. Prominent findings are:

Firstly, the above figure indicates that, on the whole, varying degrees of support was recommended in order to develop communication skills

(33%-84%). A large number of participants (84%) recommended professional support in order to acquire knowledge about the different *communication options* available. Furthermore, only a small number of participants (33%) recommended professional support in order to expose children to *interactional experiences*.

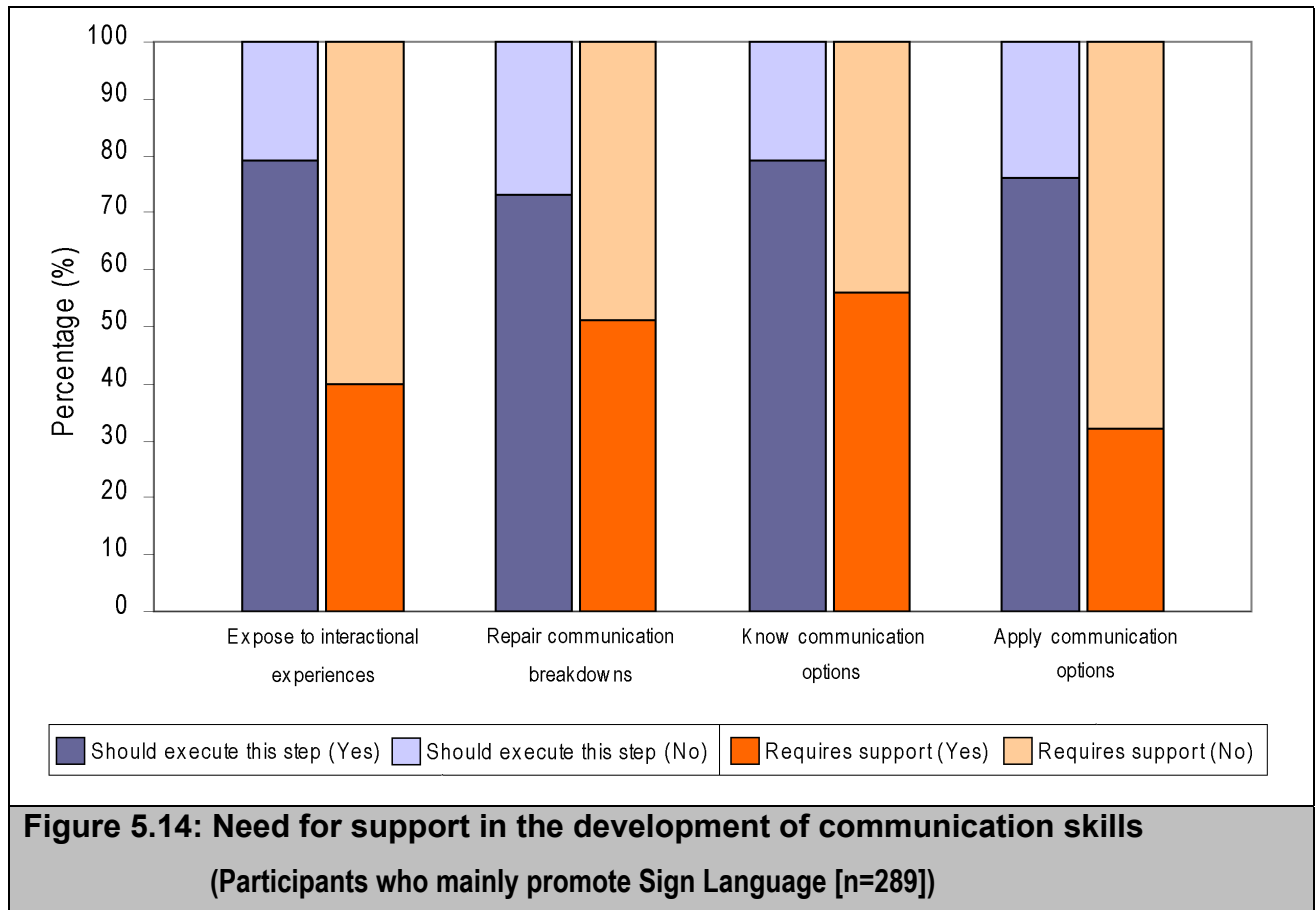
Secondly, on the whole, intervention steps were recommended by a large number of participants (85%–99%). Almost all of the participants (99%) recommended that teachers expose children to *interactional experiences* in order to motivate and develop communication skills. In contrast, as mentioned formerly, results reveal that only a few participants (33%) recommended professional support in order to expose children to *interactional experiences*.

Thirdly, further statistical analysis of these results reveal that some of the variables rendered chi-squared (X^2) values greater than the critical value based on $p \neq 0,05$ (See Appendix I, Tables I1 to I10). Chi-squared (X^2) values greater than the critical value meant that the variables had demonstrated a significant influence on the participants' need for support in the development of communication skills and are clarified in the following discussion.

Participants who had diplomas indicated a greater need for support regarding the exposure of the child to interactional experiences than participants who had higher *qualifications* (See Appendix I, Table I1). Participants with less than 5½ years of *experience* in teaching indicated a greater need for support in the application of a suitable communication option (See Appendix I, Table I5). Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support regarding the exposure of the child to interactional experiences as well as the repair of communication breakdowns in the classroom (See Appendix I, Table I9).

Finally, a comparison between findings of both sub-groups of participants will be provided after the presentation of findings of participants who mainly promote Sign Language.

The results of **participants who mainly promote Sign Language** are illustrated in Figure 5.14.



The above results indicate participants' recommendations for teacher support in the development of communication skills. Prominent findings are:

Firstly, the above figure indicates that, on the whole, support was recommended by only a small number of participants (32%–56%). More than half of the participants (56%) recommended professional support in order to acquire *knowledge* about the different *communication options* available. Furthermore, only a small number of participants (32%) recommended support in order to *apply* one of the *communication options*.

Secondly, a large number of participants (79%) selected the first and third item concurrently. Thus, results reveal that 79% of participants recommended that teachers expose children to *interactional experiences* in order to motivate and develop communication skills and that teachers should be knowledgeable on the various *communication options* available. Findings reveal that 40% and 56% of participants respectively recommended professional support in order to carry out the above-mentioned.

Thirdly, further statistical analysis of these results reveal that only one of the variables rendered a chi-squared (X^2) value greater than the critical value based on $p \# 0,05$ (See Appendix I, Tables I1 to I10). A chi-squared (X^2) value greater than the critical value meant that the respective variable had demonstrated a significant influence on the participants' need for support in the development of communication skills, and a clarification thereof follows.

Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support regarding knowledge of various communication options available (See Appendix I, Table I10).

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. A wide range of differences exist. However, findings reveal that a large number of both sub-groups of participants recommended professional support in order to acquire *knowledge* about the various *communication options* available. In addition, a large number of both sub-groups of participants recommended that teachers expose children to *interactional experiences* in order to motivate and develop communication skills.

* * *

Themes of focus group interviews were identified by selecting themes that corresponded to those of the questionnaire items. These themes

corresponded to objective #2, namely participants' need for support in the development of communication skills. The findings of the two sub-groups of participants are presented separately.

Table 5.11 depicts one of the relevant excerpts extracted from the two focus group interviews conducted with **the participants who mainly promote spoken language** (n=10).

Table 5.11: Need for support in the development of communication skills
(Participants who mainly promote spoken language)

“...the continuous stimulation of (spoken) language all around him causes the child to speak sooner, because there is no signing...the child has to cope, he must be able to read the situation ...”

The above table contains an excerpt that corresponded to the theme of the development of communication skills and reveals that the participant favoured spoken language as a *communication option* and included Sign Language during strategies of communication development. Throughout the focus group interviews, the participants emphasised the benefits of receiving support from an educational audiologist, and it can therefore be deduced that they recommended support by an educational audiologist to develop the communication skills of a child with hearing loss.

Table 5.12 contains some of the relevant excerpts extracted from the two focus group interviews conducted with **the participants who mainly promote Sign Language** (n=9).

Table 5.12: Need for support in the development of communication skills
(Participants who mainly promote Sign Language)

“...most of the teachers working in the foundation phase aren't fluent in Sign Language, until this hasn't been sorted out all is a joke, I mean it's a waste of precious money and time...”[1]

“...every audiologist/speech therapist I have ever spoken to says “no” (teacher shakes

head) to gestures...”[2]

“...if teachers at schools for the Deaf are making use of Sign Language interpreters why can't the speech therapist also make use of them?...”[3]

Table 5.12 contains excerpts that corresponded to the theme of the development of communication skills. The first excerpt reveals that the participant in the focus group interview felt that colleagues should receive better training in the *communication option* used at their school, namely Sign Language [1]. Some of the participants felt that their educational audiologists were not supportive of Sign Language [2] and suggested they utilise Sign Language interpreters in order to further promote this *communication option* at their school [3].

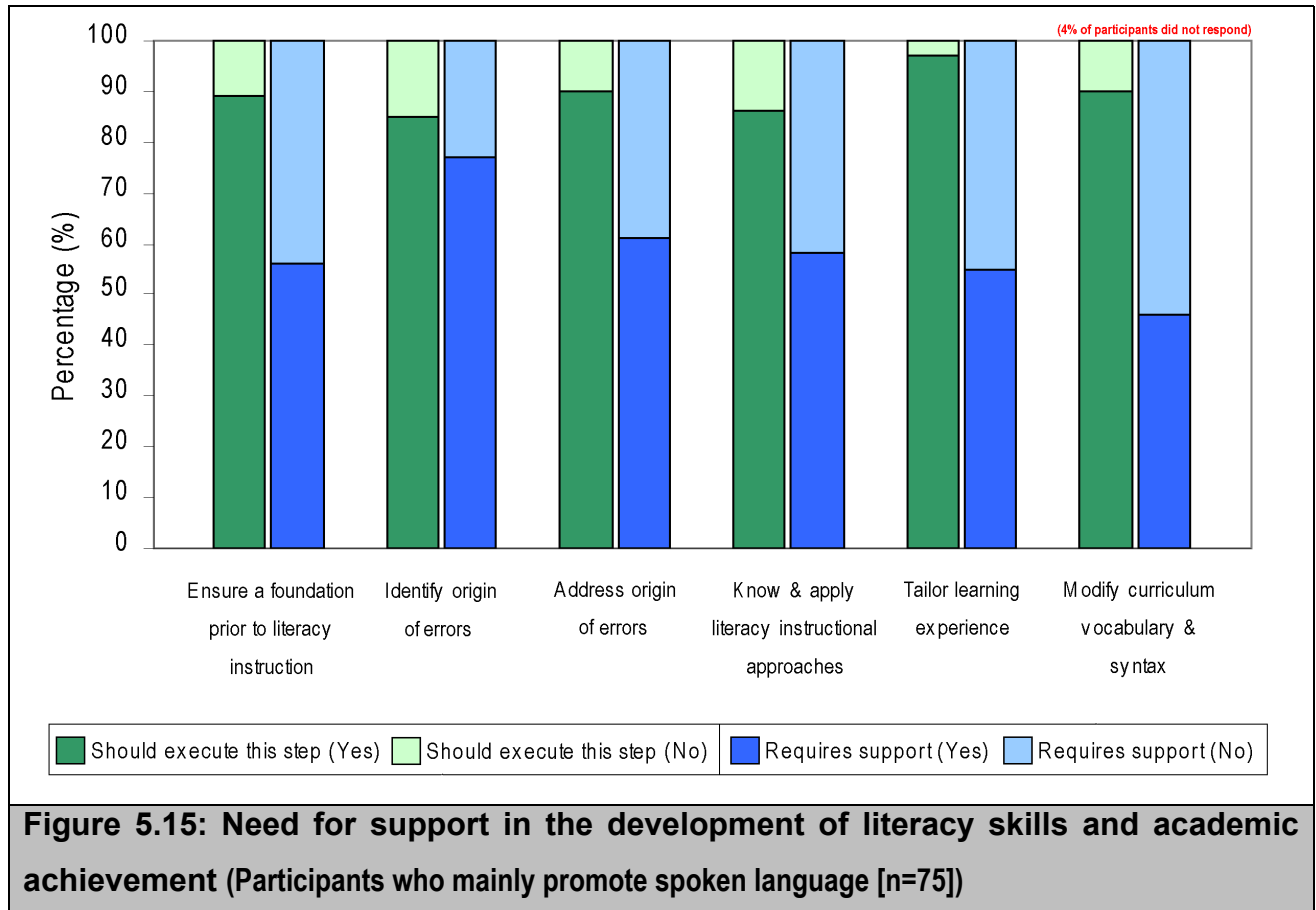
5.3.4 The need for support in the development of literacy skills and academic achievement

The intervention steps were identified that the participants recommended for teachers in the inclusive educational system to take in order to develop the literacy skills and academic achievement of a child with hearing loss. In addition, it was established whether the participants suggested professional support for teachers in order to carry out these steps.

The findings of questions on literacy skills and questions on academic achievement are combined in order to ease the representation as well as the discussion thereof. The results therefore include responses to the items in Question 19 and Question 20 of the questionnaire survey (Appendix D) and supporting themes from the focus group interviews (Appendix E) are presented.

The results of the two sub-groups of participants are discussed separately.

Findings of **participants who mainly promote spoken language**, are presented in Figure 5.15 below. Three of the participants (4%) did not respond to this question.



The above results indicate participants' recommendations for teacher support in the development of literacy skills and academic achievement. Prominent findings are:

Firstly, the above figure indicates that a large number of participants (77%) recommended professional support in order to *identify the origin of literacy errors*. Furthermore, only a small number of participants (46%) recommended that teachers receive support in order to *modify the curriculum vocabulary and syntax*.

Secondly, on the whole, intervention steps were recommended by a high number of participants (85%–97%). A large number of participants (97%)

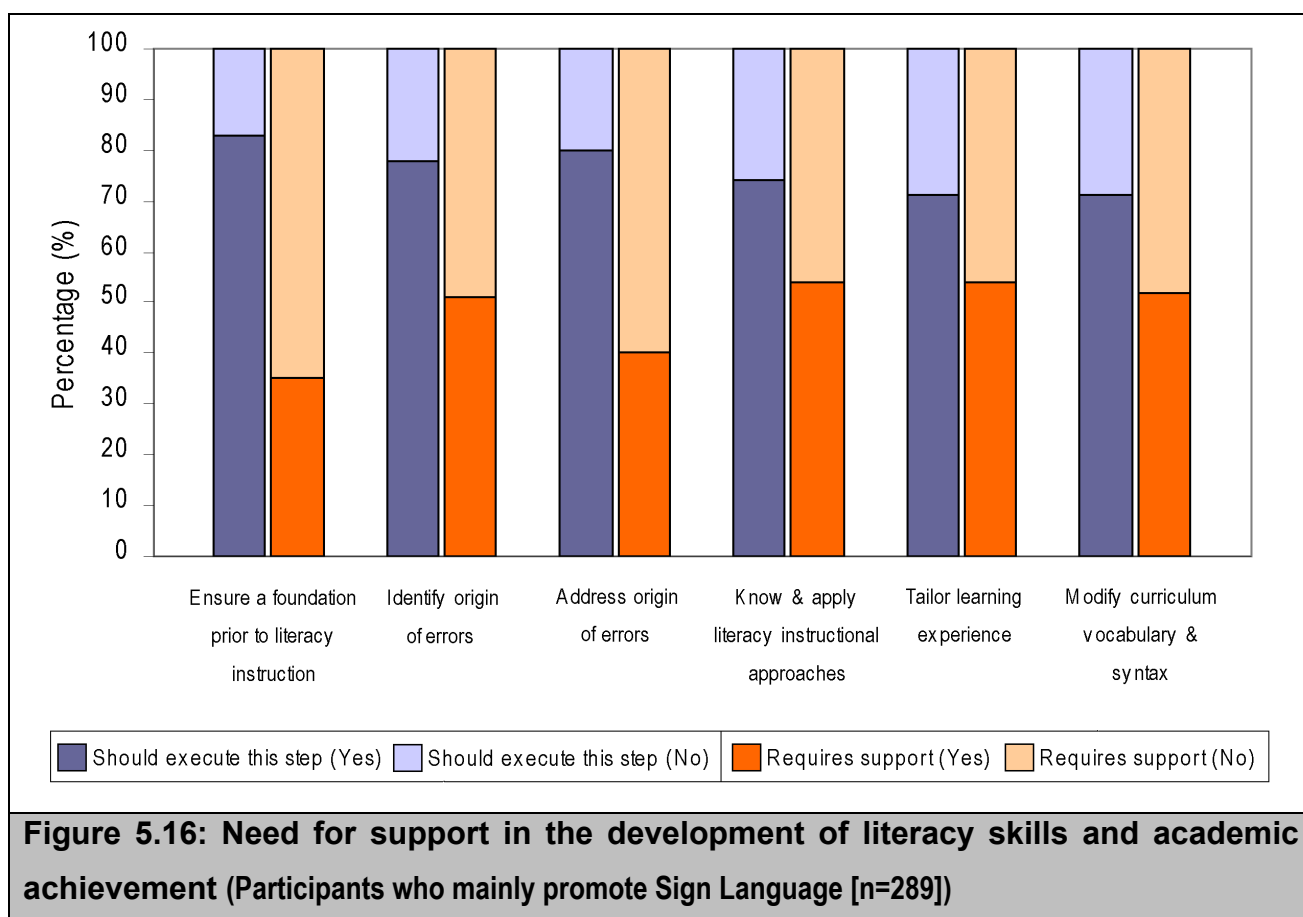
recommended that teachers *tailor the learning experience* of the child with hearing loss in order to match the child's cognitive, physical, socio-emotional, and cultural level. Findings reveal that 55% of the participants recommended professional support in order to *tailor the learning experience* of the child with hearing loss.

Thirdly, further statistical analysis of these results reveal that some of the variables rendered chi-squared (X^2) values greater than the critical value based on $p \# 0,05$ (See Appendix I, Tables I1 to I10). Chi-squared (X^2) values greater than the critical value meant that the variables had demonstrated a significant influence on the participants' need for support in the development of literacy skills and academic achievement. These variables are clarified in the following discussion.

Participants with no *specialised training* in hearing loss indicated a greater need for support in the following: ensuring a basic language foundation prior to literacy instruction, addressing the origin of literacy errors, and knowing and applying literacy instructional approaches (See Appendix I, Table I3). Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support in the modification of vocabulary and syntax of the curriculum (See Appendix I, Table I9).

Finally, a comparison between findings of both sub-groups of participants will be provided after the presentation of findings of participants who mainly promote Sign Language.

The results of **participants who mainly promote Sign Language** are indicated in Figure 5.16.



The above results indicate participants' recommendations for teacher support in the development of literacy skills and academic achievement. Prominent findings are:

Firstly, the above figure indicates that, on the whole, support was recommended by only a small number of participants (35%–54%). More than half of the participants (54%) recommended professional support in order to know and apply the various *instructional approaches* in literacy and to *tailor the learning experience*. Furthermore, only a small number of participants (35%) recommended support in order to ensure a good *foundation of language prior to literacy instruction*.

Secondly, a large number of participants (83%) recommended that teachers ensure a good *foundation of language prior to literacy instruction*. In contrast, as mentioned above, only a few participants (35%) recommended support in order to ensure a good foundation of language prior to literacy instruction.

Thirdly, further statistical analysis of these results reveal that only one of the variables rendered a chi-squared (X^2) value greater than the critical value based on $p \# 0,05$ (See Appendix I, Tables I1 to I10). A chi-squared (X^2) value greater than the critical value meant that the respective variable had demonstrated a significant influence on the participants' need for support in the development of literacy skills and academic achievement. A clarification of this variable follows.

Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support in the following: identifying the origin of literacy errors, knowing and applying literacy instructional approaches, as well as tailoring of the child's learning experience to his/her cognitive, physical, socio-emotional, and cultural level (See Appendix I, Table I10).

Finally, differences and similarities between the two sub-groups of participants were evaluated. A wide range of differences exist, and none of the results of the sub-groups corresponded on the need for support in the development of literacy skills and academic achievement.

* * *

Themes for focus group interviews were identified by selecting themes that corresponded to those of the questionnaire items. These themes corresponded to objective #2, namely participants' need for support in the development of literacy skills and academic achievement. The findings of the two sub-groups of participants are presented separately.

Table 5.13 reveals some of the relevant excerpts extracted from the two focus group interviews conducted with the **participants who mainly promote spoken language** (n=10).

Table 5.13: Need for support in the development of literacy skills and academic achievement (Participants who mainly promote spoken language)

“...parents who don’t share the same culture as us...OBE (outcomes-based education) is a problem for them...parents of our culture can use the internet, they can help with projects...they will see how they can help the child...the other parents don’t...”[1]

“...with subjects you must zoom-in individually, you must explain the terminology...because their vocabulary is poor, their world experiences are poor...”[2]

The above table contains excerpts that corresponded to the theme of the development of literacy skills and academic achievement. The first excerpt reveals that one of the participants in the focus group interview was aware that the *learning experience* of a child with hearing loss should, inter alia, be *tailored* according to his/her cultural environment [1]. The second excerpt shows that the participant knew that the vocabulary of the subject *curriculum needs to be modified* for the child with hearing loss [2]. Throughout the focus group interviews, the participants emphasised the benefits of receiving support from an educational audiologist, and it can therefore be deduced that they recommended support by an educational audiologist to develop the literacy skills and academic achievement of a child with hearing loss.

Table 5.14 contains some of the relevant excerpts extracted from the two focus group interviews conducted with the **participants who mainly promote Sign Language** (n=9).

Table 5.14: Need for support in the development of literacy skills and academic achievement (Participants who mainly promote Sign Language)

“...if they (the educational audiologists)...can overcome that bridge between Sign Language and written language, they will be worth their weight in gold...”[1]

“...my problem is this: they can’t read, in other words I can’t give them a project to do, the moment he sits at his bench...then he once again doesn’t know what has been written down...”[2]

“...it would be ideal if the audiologists/speech therapists could help the children with these projects, because they have the know-how...”[3]

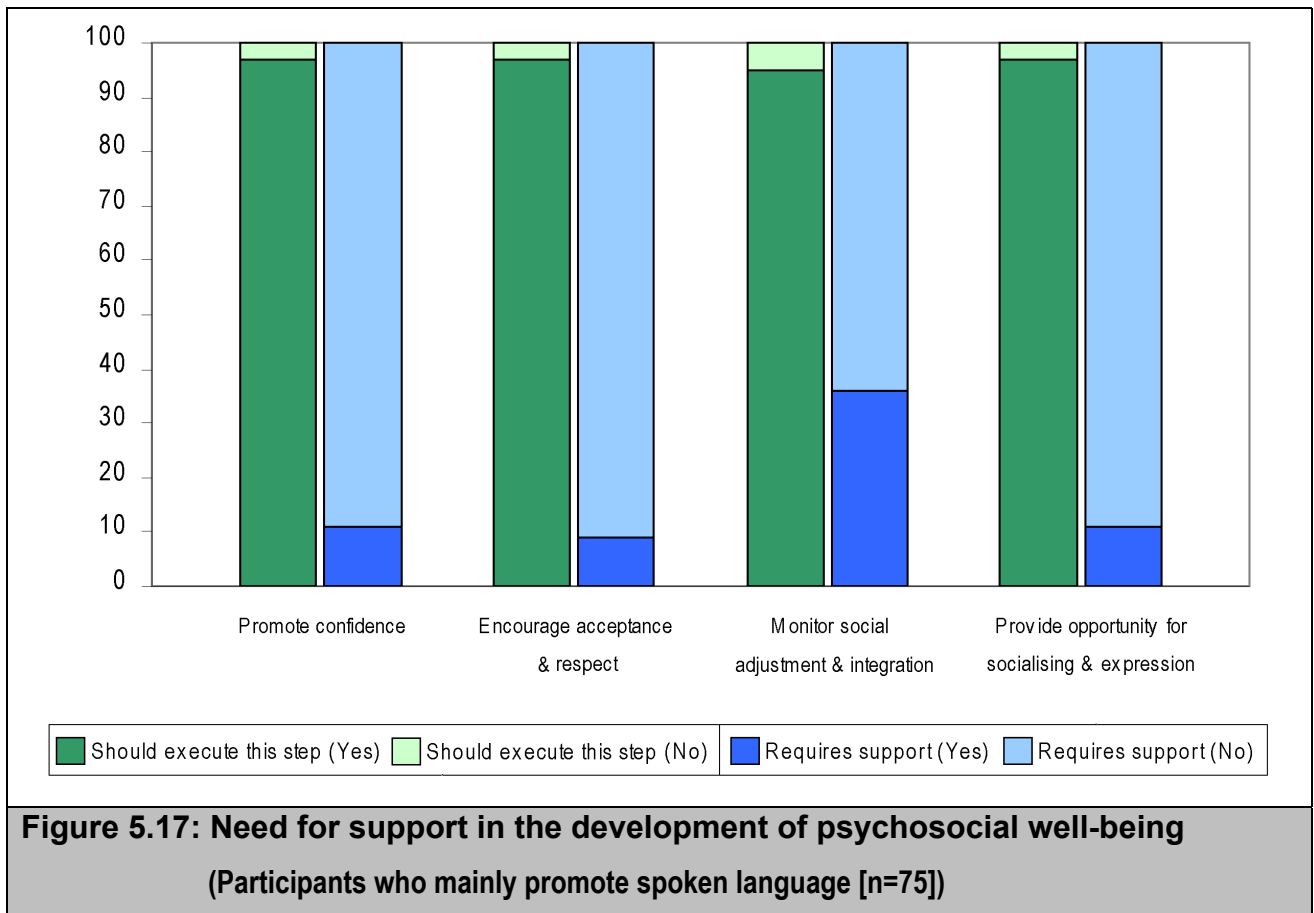
Table 5.14 depicts excerpts that correspond to the theme of the development of literacy skills and academic achievement. The first excerpt reveals that the participant in the focus group interview would have liked to receive the support of the educational audiologist in order to aid *literacy instruction* when teaching children who mainly use Sign Language [1]. The second excerpt indicates that the participant realised that the *subject curriculum should be modified* by controlling the vocabulary [2]. The last excerpt reveals that another participant would have liked support from the audiologist/speech therapist in order to help the children complete their projects, seeing that they have the specialised knowledge [3].

5.3.5 The need for support in the development of psychosocial well-being

The intervention steps were identified that the participants recommended for teachers in the inclusive educational system to take in order to develop the psychosocial well-being of a child with hearing loss. In addition, it was established whether the participants suggested professional support in order to carry out these steps.

These results include responses to the items in Question 21 of the questionnaire survey (Appendix D) and supporting themes from the focus group interviews (Appendix E) are presented. The findings of the two sub-groups of participants are presented separately.

The results of **participants who mainly promote spoken language**, are indicated in Figure 5.17.



The above results indicate participants' recommendations for teacher support in the development of psychosocial well-being. Prominent findings are:

Firstly, the above figure indicates that, on the whole, support was recommended only by a small number of participants (9%–36%). A small number of participants (36%) recommended professional support in order to *monitor the social adjustment and integration* of the child with hearing loss. Furthermore, even fewer participants (9%) recommended that teachers receive support in order to encourage hearing peers to *accept and respect* the child with hearing loss.

Secondly, on the whole, intervention steps were recommended by a high number of participants (95%–97%). A large number of participants (97%) concurrently selected the first, second and fourth items. This reveals that a large number of participants (97%) recommended that teachers *promote the child's confidence* in class, encourage hearing peers to *accept and respect*

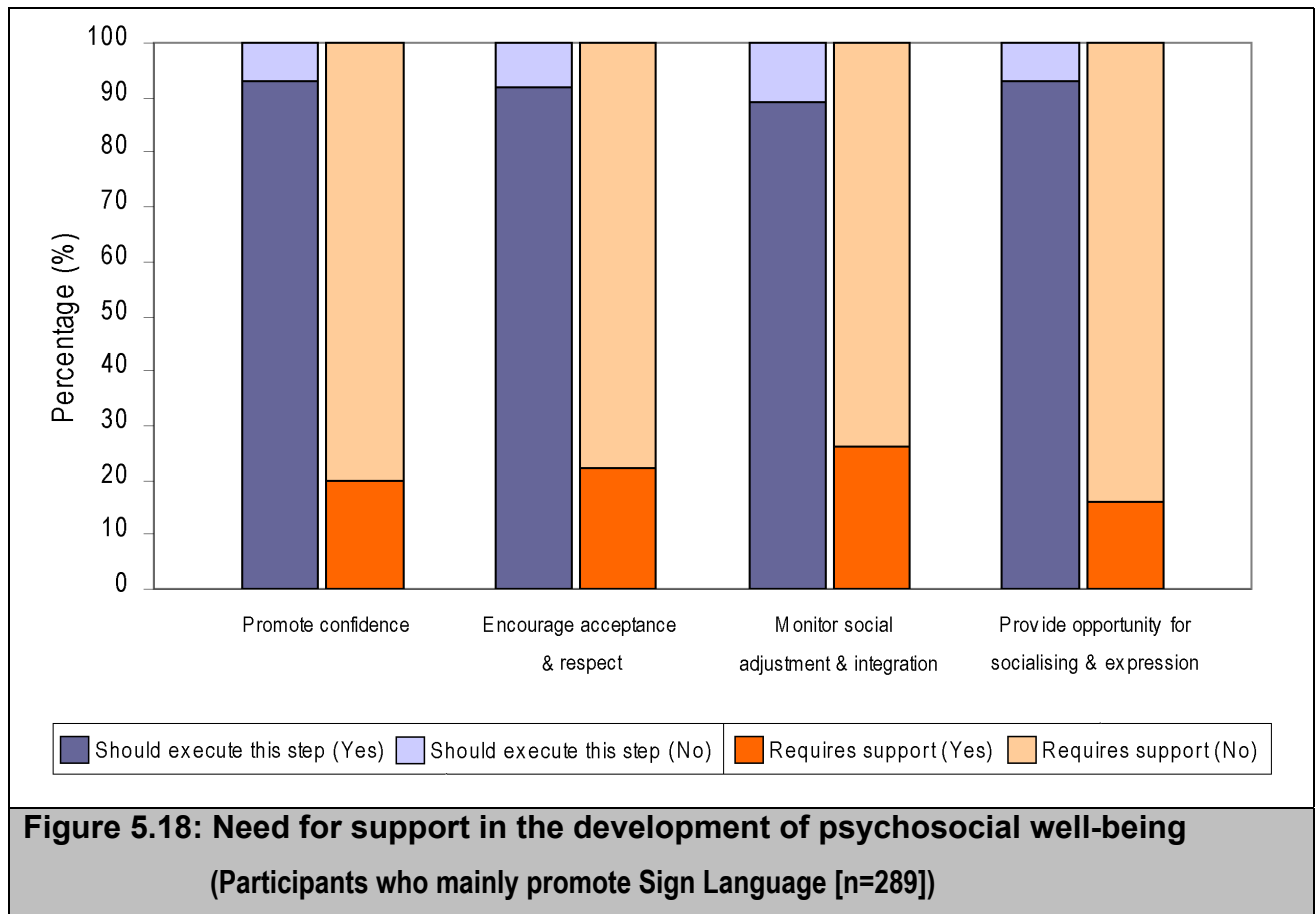
the child, and provide *opportunities for socialising and expression* in class. In contrast, only 11%, 9%, and 11% of the participants respectively recommended professional support in order to carry out the above.

Thirdly, further statistical analysis of these results reveal that some of the variables rendered chi-squared (X^2) values greater than the critical value based on $p \# 0,05$ (See Appendix I, Tables I1 to I10). Chi-squared (X^2) values greater than the critical value meant that the variables had demonstrated a significant influence on the participants' need for support in the development of psychosocial well-being, and are clarified in the following discussion.

Participants who had diplomas and no higher *qualifications* indicated a greater need for support in the following: promoting the child's confidence in the classroom, encouraging acceptance and respect from hearing peers, as well as providing opportunity for socialising and expression in the classroom (See Appendix I, Table I1). Participants with no *specialised training* in hearing loss indicated a greater need for support in the monitoring of social adjustment and interaction in the classroom, and intervening where necessary (See Appendix I, Table I3). Participants with more than ten *learners* in their classrooms indicated a greater need for support in promoting the child's confidence in the classroom, encouraging acceptance and respect from hearing peers, as well as the monitoring of social adjustment and interaction and intervening where necessary (See Appendix I, Table I7). Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support in providing opportunity for socialising and expression in the classroom (See Appendix I, Table I9).

Finally, a comparison between findings of both sub-groups of participants will be provided after the presentation of findings of participants who mainly promote Sign Language.

The results of **participants who mainly promote Sign Language** are indicated in Figure 5.18.



The above results indicate participants' recommendations for teacher support in the development of psychosocial well-being. Prominent findings are:

Firstly, the above figure indicates that, on the whole, support was recommended by only a small number of participants (16%–26%). A small number of participants (26%) recommended professional support in order to *monitor the social adjustment and integration* of the child with hearing loss in class. Furthermore, even fewer participants (16%) recommended support in order to provide *opportunities for socialising and expression* in class.

Secondly, on the whole, intervention steps were recommended by a high number of participants (89%–93%). A large number of participants (93%) recommended that teachers *promote the child's confidence* in class and provide *opportunities for socialising and expression* in class. However, only

20% and 16% of the participants respectively recommended professional support in order to carry out the above.

Thirdly, further statistical analysis of these results reveal that only one of the variables rendered a chi-squared (X^2) value greater than the critical value based on $p \# 0,05$ (See Appendix I, Tables I1 to I10). A chi-squared (X^2) value greater than the critical value meant that the respective variable had demonstrated a significant influence on the participants' need for support in the development of psychosocial well-being, and a clarification thereof follows.

Participants who have received *in-service training* less frequently than once per month, indicated a greater need for support in the following: promoting the child's confidence in class, encouraging acceptance and respect from the child's hearing peers, and providing opportunity for socialising and expression in the classroom (See Appendix I, Table I10).

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. A wide range of differences exist. However, findings reveal that the majority of both sub-groups of participants recommended professional support in order to *monitor the social adjustment and integration* of the child with hearing loss in class. In addition, the majority of both sub-groups of participants recommended that teachers *promote the child's confidence* in class as well as provide *opportunities for socialising and expression* in class. Comparisons of results of dependency tests indicated that both sub-groups of participants who have received *in-service training* less frequently than once per month, indicated a greater need for support in providing opportunity for socialising and expression in the classroom (See Appendix I, Tables I9 and I10).

* * *

Themes of focus group interviews were identified by selecting themes that corresponded to those of the questionnaire items. These themes corresponded to objective #2, namely participants' need for support in the

development of psychosocial well-being. The findings of the two sub-groups of participants are presented separately.

Table 5.15 depicts some of the relevant excerpts extracted from the two focus group interviews conducted with the **participants who mainly promote spoken language** (n=10).

**Table 5.15: Need for support in the development of psychosocial well-being
(Participants who mainly promote spoken language)**

“...he needs to have a solid foundation, because if he’s not emotionally strong, he’ll drop out...”[1]

“...do you know what hearing impaired children do if they are among...hearing pupils in a group socially, in the outside world?, many take out their hearing aids, because they are embarrassed by it, it’s just not sexy (teacher smiles emphatically)...”[2]

“...the child (with hearing loss) may have negative experiences in a regular school...they can’t partake in sport...he can’t sing...and sports and cultural activities are important for a child’s emotional development...”[3]

Table 5.15 contains excerpts that corresponded to the theme of the development of psychosocial well-being. The first excerpt reveals that the participant in the focus group interview was aware of *promoting the child’s confidence* in class, in order for the child to benefit from educational efforts [1]. The second excerpt indicates that the participant realised that the child is in need of *acceptance and respect from his/her hearing peers* [2]. The last excerpt shows that the participant realised that the *social adjustment and integration* of a child with hearing loss should be *monitored* in a regular school to ensure that the child with hearing loss equally participates in sports and other cultural activities [3]. Throughout the focus group interviews, the participants emphasised the benefits of receiving support from an educational audiologist, and it can therefore be deduced that they recommended support by an educational audiologist to develop the psychosocial well-being of a child with hearing loss.

Table 5.16 depicts some of the relevant excerpts extracted from the two focus group interviews conducted with the **participants who mainly promote Sign Language** (n=9).

**Table 5.16: Need for support in the development of psychosocial well-being
(Participants who mainly promote Sign Language)**

“...I don't like the idea of saying: we are going to shove this little group of Deaf kids into a group of hearing children, because then they will immediately be different...”[1]

“...not many of our children are disciplined at home...so we tend to have difficulties at school...”[2]

“...I think there will be much more understanding of the Deaf in regular schools...other (hearing) children will be exposed to find a way to communicate with them and interact with them...”[3]

Table 5.16 contains excerpts that corresponded to the theme of the development of psychosocial well-being. The first two excerpts reveal that some of the participants felt it was important to monitor the *social adjustment and integration* of a child with hearing loss [1,2]. The last excerpt shows that the participant realised that children with hearing loss should be given *opportunities for socialising and expression*, and, in this case, especially with their hearing peers, to create a better understanding of each others way of communication [3].

An interpretation and discussion follows to conclude the findings of this section.

5.3.6 Interpretation and discussion of findings of objective #2

Providing support to participants in the audiological and educational management of the child with hearing loss is essential in order to ensure that all facets of the child with hearing loss are developed (Sanders, 1988). Teachers should develop all the relevant areas in order to ensure that the child reaches his/her full potential as a scholar and a human being (Sanders, 1988). Information about the differences between the two sub-

groups' need for support in the audiological and educational management of the child with hearing loss is crucial, in order to plan for appropriate support structures in the inclusive educational system.

Averages of the results were calculated in order to obtain a broad overview of findings of **both sub-groups of participants** as obtained from the questionnaire survey. Averages were calculated for Figures 5.9 to 5.18, and are presented in Figure 5.19 below:

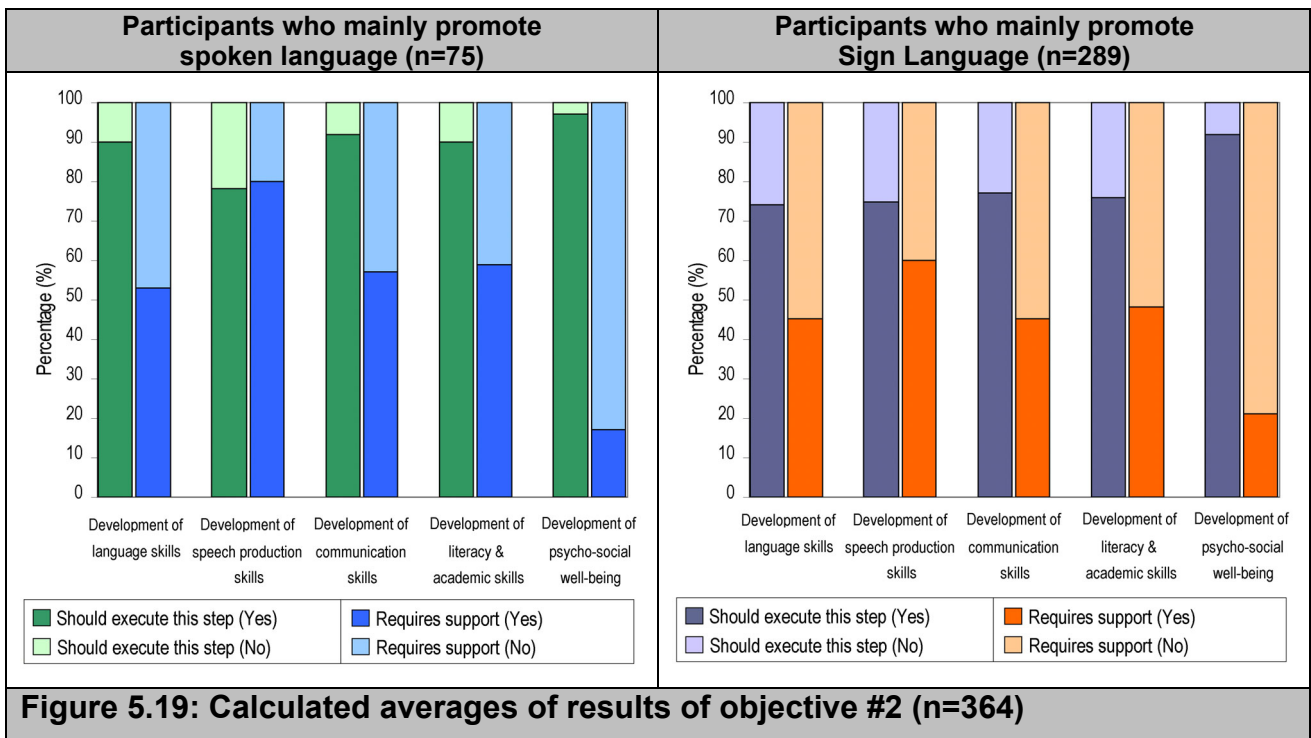


Figure 5.19: Calculated averages of results of objective #2 (n=364)

A vast number of results were obtained under the various sub-sections of objective #2, namely development of language skills, speech production skills, communication skills, literacy skills and academic achievement, and the development of psychosocial well-being. The averages of these results (See Figure 5.19) were therefore utilised in order to interpret and discuss findings of objective #2. Findings from both sub-groups of participants are presented in the following order: **Firstly**, the support required versus intervention steps; **secondly**, the influence of variables; and **finally**, findings of focus group interviews.

**5.3.6.1 Interpretation and discussion of findings of objective #2:
Support in the audiological and educational management of
the child with hearing loss**

Firstly, the majority of participants of both sub-groups recommended that teachers receive professional support in order to develop the speech production skills of the child with hearing loss. All participants (n=364) recommended strongly (>75%) that teachers take various intervention steps in order to develop the speech production skills of the child with hearing loss. Results revealed on the whole that participants who mainly promote spoken language generally indicated a greater need for support in this area than participants who mainly promote Sign Language did.

Literature substantiates these findings (Jamieson, 1994; Lynas, 1994; Moores, 1996; Paul & Quigley, 1994; Sanders, 1988) and this relates to the differences in the communication instructional approaches followed by the two sub-groups. It is well-known that teachers who mainly promote spoken language are primarily concerned with, inter alia, the child's development of speech production skills in an oral environment or in inclusive settings as this is often a prerequisite for educational success (Jamieson, 1994; Paul & Quigley, 1994; Sanders, 1988). On the other hand, teachers who mainly promote Sign Language tend to focus on the development of Sign Language skills, and the development of speech production skills is usually not a priority (Lynas, 1994; Moores, 1996). Therefore, it becomes apparent why participants who mainly promote spoken language would indicate a greater need for support in the development of speech production skills.

More specifically, results revealed that participants of both sub-groups strongly recommended professional support in order to acquire knowledge about various speech instructional approaches and suggested support to subsequently apply the best-suited approach. These findings are confirmed

by a recent study among South African teachers of children with hearing loss. This study revealed that the majority of teachers experienced speech instruction as a difficult task and that they themselves felt incompetent in their abilities to address deficits in speech production (Isaacson, 2000).

Various methods used for teaching correct speech production skills are available, such as analytical versus whole, formal versus informal, and unisensory versus multisensory (Moores, 1996). Being knowledgeable in these, will ensure that each child's unique speech production deficits are addressed by the best-suited approach (Moores, 1996).

In addition, both sub-groups of participants recommended that teachers monitor changes in speech intelligibility. Changes in speech intelligibility should be monitored, in order to target the appropriate sounds that the child with hearing loss is learning to pronounce correctly (Froehlinger & Bryant, 1981). However, results indicate that only a small number of participants recommended professional support in order to monitor changes in the child's speech intelligibility. These findings may indicate that participants were of the opinion that teachers had sufficient skills in this area. A study among South African teachers found, however, that teachers often neglected to monitor the individual changes of each child's speech intelligibility (Isaacson, 2000). The fact that participants did not feel a need for support in this area can therefore not be taken as indicative of sufficient skills.

For these reasons, educational audiologists should address teachers' needs in the development of speech production skills. Educational audiologists, together with speech-language therapists, are the most suitable professionals to offer the teacher support in areas of speech assessment and intervention (English, 1995; Johnson, Benson & Seaton, 1997; Sanders, 1988). In order to address speech deficits in children with hearing loss, the teacher will need essential information on the child's phonological repertoire, as well as audiological information such as the type and degree of hearing loss, response with amplification, speech discrimination performance, listening skills, and the child's speech-reading skills (Johnson, Benson & Seaton,

1997). The educational audiologist can provide support and training in these areas. An educational audiology service delivery model should provide varying degrees of support in the development of speech production skills that will depend on the communication instructional approach followed by the teacher.

Furthermore, results indicated that participants of both sub-groups recommended only an average amount of support in the development of language skills, communication skills, literacy skills, and academic achievement. However, all participants (n=364) strongly recommended (>74%) that teachers should take various intervention steps in order to develop these areas. On the whole, participants who mainly promote spoken language generally indicated a greater need for support in these areas than participants who mainly promote Sign Language did.

Participants' failure to recommend support proportionally to the intervention steps suggested in these various developmental areas, may indicate that participants generally did not realise the importance of receiving support from a professional such as an educational audiologist in order to develop the language skills, communication skills, literacy skills, and academic achievement of the child with hearing loss (English, 1995; Johnson, Benson, & Seaton, 1997). Therefore, an educational audiology service delivery model should continuously promote the benefits of receiving support from an educational audiologist in order to develop these skills of the child with hearing loss.

Results revealed that, on the whole, participants who mainly promote Sign Language indicated less need for the application of various intervention steps to develop the child's language skills, communication skills, literacy skills, and academic achievement. This could not be readily clarified by literature. These findings cannot be explained by the differences in the communication instructional approaches followed by the two sub-groups, because, although teachers who mainly promote Sign Language follow approaches to language instruction that differ from those of teachers who mainly promote spoken

language, intervention steps such as: considering the child's unique level of language functioning when conversing, modifying and adapting teaching materials, techniques and the classroom environment to suit the child's needs, developing language across all school contexts, developing language within activities of social interaction, et cetera, are principles that are also applicable when providing instruction in Sign Language (Lynas, 1994; Moores, 1996). This also applies to the recommendation of intervention steps for the development of communications skills. No indication could be found in literature as to why participants who mainly promote Sign Language did not recommend this area of development as strongly as participants who mainly promote spoken language. Although teachers who mainly promote Sign Language follow approaches to communication instruction that differ from those of teachers who mainly promote spoken language, intervention steps such as: exposing the child to interactional experiences, repairing communication breakdowns, having knowledge of different communication options, and applying various communication instructional approaches, are principles that should also be adhered to when providing instruction in Sign Language (Lynas, 1994; Moores, 1996). Similarly, although teachers who mainly promote Sign Language may follow different approaches to literacy and academic instruction than teachers who mainly promote spoken language, intervention steps such as: ensuring a sound language foundation prior to literacy instruction, identifying and addressing the origin of literacy errors, knowing and applying various literacy instructional approaches, et cetera, are fundamental principles that should also be applied when providing instruction to children who mainly use Sign Language (Lynas, 1994; Moores, 1996).

However, literature does provide some explanations for why participants who mainly promote Sign Language indicate less need for *support* in the development of language skills, communication skills, literacy skills, and academic achievement (DEAFSA, 2001c; Lynas, 1994; Moores, 1996). Teachers who mainly promote Sign Language often feel that educational audiologists approach hearing loss within the framework of a *pathology* that should be habilitated (DEAFSA, 2001c; Lynas, 1994; Moores, 1996). It may

therefore be that they can be hesitant to involve professionals that may want to change their philosophies or ways of instruction in the development of language, communication, literacy, and academic skills. However, the questionnaire did not explicitly mention the *educational audiologist* as the professional who provides support in these areas. Participants could therefore have still indicated a need for support without assuming it to be from an educational audiologist.

It is clear that educational audiologists should take cognisance of these perceptions and thus assure teachers of their unbiased approach towards the various instructional approaches. The educational audiologist is trained to consider the child with hearing loss within his/her unique context (Johnson, Benson, & Seaton, 1997) and should therefore be able to render quality services that will assist both teacher and child with hearing loss to develop his/her full potential, regardless of his/her communication instructional approach. An educational audiology service delivery model should attempt to clearly demonstrate that the services of educational audiologists are for all teachers and children with hearing loss, and that one communication instructional approach is not favoured above the other.

Prominent findings of the need for support in the development of the child's (a) language skills, (b) communication skills, (c) literacy skills and academic achievement, will be discussed.

a) Results reveal that participants of the two sub-groups had different opinions on the need for support in the development of language skills. Results indicate that the majority of participants who mainly promote spoken language recommended professional support in order to acquire knowledge about the various language instructional approaches and to subsequently apply the best-suited approach. On the other hand, the majority of participants who mainly promote Sign Language recommended professional support in order to consider the possibility of additional language pathologies. These differences in participants' views cannot be attributed to the differences in the communication instructional approach they follow and are not explained by

literature. Literature does however confirm the importance of these intervention steps in order to successfully develop the language skills of the child with hearing loss (Bunch, 1987; Froehlinger & Bryant, 1981; Johnson, Benson, & Seaton, 1997). For instance, it has been stated that teachers should be knowledgeable about the various language instructional approaches in order to make appropriate decisions on the best-suited approach for each child with hearing loss. Furthermore, teachers must be trained to apply the most suitable language instructional approach for the child with hearing loss (Bunch, 1987; Froehlinger & Bryant, 1981). This will ensure that each child's unique barrier to learning language is addressed by the most suitable approach (Bunch, 1987).

In addition, teachers of children with hearing loss should consider the possibility of additional language pathologies. Language confusion, phonological processes, and aphasia are some of the language pathologies that can be found in association with hearing loss (McAnally, Rose & Quigley, 1987). If these language pathologies are left unidentified, the child will not receive appropriate intervention, and his/her already delayed language skills will be further impeded by the additional pathology (McAnally, Rose & Quigley, 1987).

Educational audiologists should therefore support and assist teachers in order to obtain knowledge about various language instructional approaches, provide assistance in the application of these approaches in accordance with each child's individual needs, and support teachers in identifying and addressing additional language pathologies, in an attempt to develop the language skills of the child with hearing loss. Teachers and educational audiologists should work closely to develop the language skills of the child with hearing loss. When the teacher and educational audiologist work in isolation and they do not integrate their approaches with regard to language development, the child will not maximally benefit from these intervention attempts. An educational audiology service delivery model should include teacher training which will encourage the expansion of teachers' knowledge and skills in the aforementioned areas of language development.

b) Results reveal that the majority of participants of both sub-groups recommended professional support in order to acquire knowledge about the various communication options available. Literature confirms the importance of receiving support in order to acquire knowledge about the various communication options available (Lynas, 1994; Moores, 1996) and will be discussed.

Teachers should be knowledgeable about the various communication options available, in order to make appropriate decisions on the best-suited approach for each child with hearing loss (Moores, 1996). This will ultimately ensure that each child's barrier to communication is addressed appropriately within the inclusive educational system (Moores, 1996).

Educational audiologists should support teachers in order to obtain knowledge about the various communication options available. An educational audiology service delivery model should include the opportunity for teacher training that will encourage the expansion of teachers' knowledge of communication instruction.

c) Results reveal that participants of the two sub-groups had different views on the need for support in the development of literacy skills and academic achievement. The results indicated that the majority of participants who mainly promote spoken language recommended professional support in order to identify the origin of literacy errors. On the other hand, the majority of participants who mainly promote Sign Language recommended professional support in order to know and apply the various instructional approaches in literacy and to tailor the child's learning experience. These differences in participants' views are not clarified by literature, and cannot readily be attributed to the different communication instructional approaches they adhere to. However, literature does confirm the importance of receiving support in these areas in order to successfully develop the child's literacy skills and academic achievement and is discussed below (Froehlinger & Bryant, 1981; Johnson, Benson, & Seaton, 1997).

It is vital that the teacher receives support in order to identify the origin of literacy errors. Literacy errors may occur due to a number of causes such as auditory discrimination problems, language deficits, dyslexia, et cetera. (Froehlinger & Bryant, 1981). Teachers can only address literacy errors by addressing the underlying causes of the literacy errors.

In addition, it is important that the teacher receives support in order to know and apply the various instructional approaches in literacy, as well as to tailor the child's learning experience. Various approaches to literacy instruction exist, such as the top-down or bottom-up approaches (Moore, 1996). Teachers should be knowledgeable on these approaches, and should have the skill to apply these approaches, in order to ensure that each child's barrier to acquiring literacy skills, is addressed (Sanders, 1988). Tailoring the child's learning experience is an important intervention step when developing the child's literacy skills and academic achievement. The foremost consequence of poor literacy skills is the child's inability to successfully complete his/her academic career, which will negatively influence the child's vocational opportunities (Sanders, 1988). Teachers should therefore adapt the curriculum, teaching materials, and teaching methods to suit the child's unique cognitive, physical, socio-emotional, and cultural needs (Johnson, Benson, & Seaton, 1997; Tucker & Nolan, 1984).

Educational audiologists (together with remedial teachers) should help teachers to identify the origin of literacy errors and to address these barriers, in order to help the child develop his/her literacy skills (Sanders, 1988). Furthermore, these professionals should support teachers in order to obtain knowledge about the various literacy instructional approaches and to provide assistance in the application of these approaches in accordance with each child's individual needs. An educational audiology service delivery model should include teacher training that will encourage the expansion of teachers' knowledge and skill in these areas of development.

Regarding the above-mentioned, the following question arises: if teachers of children with hearing loss, who will serve as important resources in the inclusive educational system (Education White Paper no 6, 2001), have indicated only an average need for support in the development of language skills, communication skills, literacy skills, and academic achievement, how will this affect the educational audiologist's task to utilise these teachers to appropriately manage the child with hearing loss?

Furthermore, results revealed that participants of both sub-groups to a much lesser degree (<21%) felt that teachers required support in order to develop the psychosocial well-being of the child with hearing loss. However, all participants (n=364) recommended very strongly (>82%) that teachers should take various intervention steps in order to develop the psychosocial well-being of the child with hearing loss in the inclusive setting.

These findings may indicate that participants generally did not realise the importance of receiving support from professionals such as educational audiologists, social workers, and/or psychologists in order to develop the psychosocial well-being of the child with hearing loss (English, 1995; Johnson, Benson, & Seaton, 1997). Therefore, an educational audiology service delivery model should continuously promote the importance of receiving support from professionals such as an educational audiologist in order to develop the of the psychosocial well-being of the child with hearing loss.

The importance of receiving support in the development of psychosocial skills of the child with hearing loss is confirmed by literature (Anderson, 1991; Brooks, 1981; English, 1995; Heimgartner, 1982; Sanders, 1988). The child's social adjustment and integration in the inclusive setting can be negatively affected by various factors (Anderson, 1991; Brooks, 1981; English, 1995; Heimgartner, 1982; Sanders, 1988), such as: they may be unaware of subtle conversational clues, and therefore appear socially inappropriate, they use amplification devices, which cause them to be viewed as "different" by hearing peers, and they tend to have communication difficulties, therefore these children become irritated and exhibit challenging behaviour during

communication breakdowns. In order to appropriately manage the child with hearing loss in the inclusive setting, teachers should promote the child's confidence in the classroom. The main consequence of poor confidence is that the child is less likely to participate in educational and social activities in the classroom, which in turn affects the child's academic progress and social integration (Northern & Downs, 1984; Sanders, 1988). Therefore, teachers must promote the child's confidence in order to benefit the child's educational development as a whole (Sanders, 1988). Literature also indicates that children with hearing loss in inclusive educational settings have less favourable social ratings by their peers, and these children are more likely to be rejected by their hearing peers than their peers with hearing loss (Cappelli, Daniels, Durieux-Smith, McGrath & Neuss, 1995; Stinson & Lang, 1994). Therefore, teachers should encourage the hearing peers to accept and respect the child with hearing loss (Northern & Downs, 1984).

These findings illustrate that educational audiologists (together with support personnel such as psychologists) should continue to support teachers to promote the child's psychosocial well-being. The educational audiologist, with his/her specialist knowledge in the area of the school-going child with hearing loss, can, in collaboration with the psychologist and/or social worker, provide information on psychosocial development to the teacher, parents and child (English, 1995). In addition, the educational audiologist can facilitate group discussion among children with hearing loss about social appropriateness and other pragmatic skills (English, 1995). The educational audiologist can also indirectly help reduce troublesome psychosocial development by offering guidelines to the child, teacher, and the child's family for effective communication and strategies for repairing communication breakdowns (English, 1995; Johnson, Benson & Seaton, 1997; Kricos, 1993).

Secondly, dependency tests revealed that the following variables increased participants' need for support in the development of language skills, speech production skills, communication skills, literacy skills and academic achievement, and psychosocial well-being of the child with hearing loss, namely absence of higher qualifications, absence of specialised training in

hearing loss, and infrequent in-service training. Unfortunately, these unfavourable conditions are often found among teachers of children with hearing loss in South Africa (Pottas, 1998).

For these reasons, educational audiologists should offer added support and assistance to teachers with these unfavourable attributes or circumstances. The educational audiologist should form the link between the teacher and the various methods of teacher training. An educational audiology service delivery model should provide teacher training that will encourage the expansion of teachers' knowledge and skills regarding the development of language skills, in order to appropriately manage the child with hearing loss. Teachers should also be informed about the advantages of obtaining higher qualifications with respect to their management of children with hearing loss. Furthermore, the importance of obtaining specialised training in hearing loss and the benefits of receiving more frequent in-service training should be emphasised to teachers and educational authorities.

Finally, excerpts from focus group interviews verified the above findings. Discussions of focus group interviews that correspond to the need for support in the development of speech production skills, are presented first, followed by focus group discussions on the need for support in the development of language skills, communication skills, literacy skills, and academic achievement. Lastly, focus group discussions on the need for support in the development of psychosocial well-being, will be presented.

Development of speech production skills: discussions in focus group interviews verify the findings of the need for support in the development of speech production skills (See Tables 5.9 and 5.10). The most prominent feature of the focus group interviews was that participants who mainly promote Sign Language revealed a discrepancy among themselves regarding their opinions on the simultaneous instruction of speech and Sign Language. Some of the participants did not want to include speech when instructing children in Sign Language, whereas some of the participants recommended simultaneous instruction of speech and Sign Language. Teachers of children

with hearing loss often differ on instructional approaches of speech and Sign Language (Lynas, 1994). It is important to consider each child's unique situation, which includes his home language and the child's own preference for instruction in speech and/or signing (Lynas, 1994; Moores, 1996).

Educational audiologists should therefore be aware of differences in speech instructional approaches, even among teachers of the same school, and should respect their views and provide support and assistance where needed. An educational audiology service delivery model should embrace differences in speech instructional approaches and should continue to provide support in the development of speech production skills of the child with hearing loss.

Development of language skills, communication skills, literacy skills, and academic achievement: discussions in focus group interviews confirm the findings of the need for support in the development of language skills, communication skills, literacy skills and academic achievement (See Tables 5.7, 5.8, and Tables 5.11 to 5.14). The most prominent difference between the discussions of the two sub-groups was that participants who mainly promote Sign Language perceived a lack of support from their school-based educational audiologists in terms of planning of the adaptation and modification of teaching materials, as well as a lack of support in the development of functional language across activities of social interaction. Teachers should have skills in these areas of language development in order to provide quality intervention to the child with hearing loss (Johnson, Benson, & Seaton, 1997).

With respect to the need for support in the development of communication skills, the most prominent feature of the focus group interviews was that participants who mainly promote Sign Language felt that their educational audiologists were not supportive of Sign Language.

The most prominent feature of the focus group interview discussions on the development of literacy skills and academic achievement, was that both sub-groups of participants emphasised the benefits of receiving support from an

educational audiologist and they recommended continued support by an educational audiologist to develop the literacy skills and academic achievement of a child with hearing loss.

The above findings indicate that educational audiologists should be aware of the emotional issues surrounding Sign Language instruction and should offer support and assistance to teachers in the development of the child's Sign Language if requested. Findings of the focus group interviews may also suggest that participants did not receive adequate support from the educational audiologists based at their school. It would seem that the educational audiologists were not always aware of the specific needs of the participants. The graduate training of educational audiologists should accentuate the importance of determining teachers' unique needs before rendering services at the school. An educational audiology service delivery model should provide ongoing teacher support, to ensure that teachers are aware of the various communication options available to the child with hearing loss in the inclusive educational system. Furthermore, an educational audiology service delivery model should support teachers in the development of the child's language skills, communication skills, literacy skills, and academic achievement.

Development of psychosocial well-being: discussions in focus group interviews resonate the findings of the need for support in the development of psychosocial well-being (See Tables 5.17 and 5.18). The most prominent feature of the focus group interviews was that both sub-groups of participants emphasised that the inclusion of children with hearing loss will bring about challenges in the child's psychosocial well-being.

Educational audiologists should consequently continue to support teachers in acquiring skills in the development of literacy skills and academic achievement. An educational audiology service delivery model should provide ongoing support in these areas of development.

5.4 RESULTS AND DISCUSSION OF OBJECTIVE #3:

PARTICIPANTS' NEED FOR SUPPORT REGARDING THE STRUCTURE OF SERVICE DELIVERY TO CHILDREN WITH HEARING LOSS

The third objective of the study was to determine and describe teachers' need for support regarding **the structure of service delivery to children with hearing loss within the inclusive educational system**. This objective includes ten sub-items of service delivery to the child with hearing loss, namely members of the team, team co-ordinator, in-service training as a method of support, methods of in-service training, service delivery system, roles and responsibilities of the educational audiologist, necessity of educational audiology services, greatest challenges of inclusion, possible solutions to anticipated challenges, and the advantages and disadvantages of inclusion practices. The responses obtained from both sub-groups of participants are presented quantitatively and qualitatively. All responses to open-ended questions were summarised into the main ideas expressed by the participants. An interpretation and discussion of the general trend of this objective follows at the end of this section.

5.4.1 The need for support regarding the structure of service delivery to children with hearing loss

The questionnaire consisted of ten different questionnaire probes to elicit information from the participants in order to determine their need for support regarding the structure of service delivery to children with hearing loss within the inclusive educational system. The discussion of these sub-items follows below.

5.4.1.1 Members of the service delivery team

All team members were identified who should be involved in order to plan the educational programme of the child with hearing loss. In addition, participants

were asked to specify members who had not been mentioned and whom they regarded as essential to serve on the team.

These results included responses to items in Question 22 of the questionnaire survey (Appendix D). Supporting themes from the focus group interviews (Appendix E) are provided at the end of section 5.4.1. The findings of the two sub-groups of participants are discussed separately.

The results of **participants who mainly promote spoken language**, are presented in Figure 5.20.

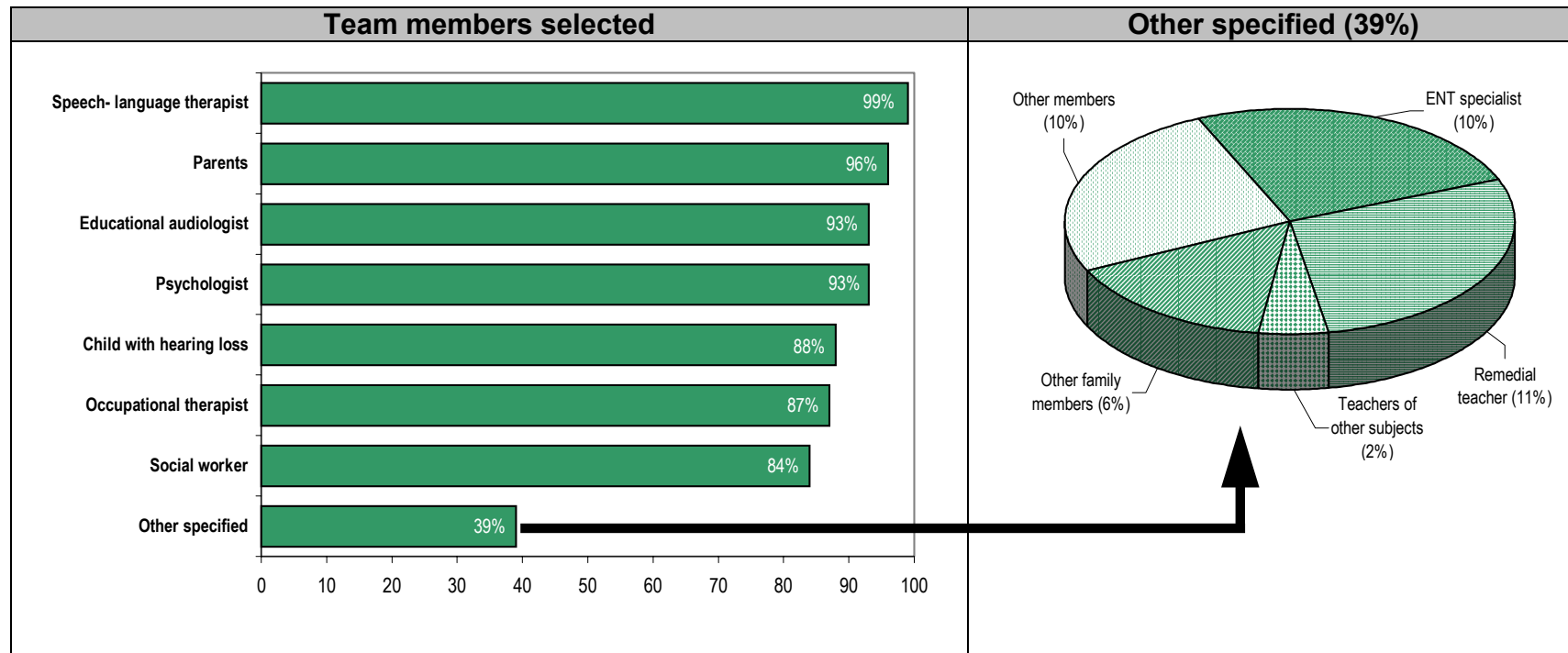


Figure 5.20: Members of the service delivery team (Participants who mainly promote spoken language [n=75])

Figure 5.20 represents, on the left-side, the various team members selected by the participants and on the right-side it depicts additional team members who were specified by the participants.

This figure indicates that almost all the participants (99%) recommended a speech-language therapist on the team. A large number of participants (96%) selected the parents of the child with hearing loss. An educational audiologist was recommended by 93% of participants. A social worker was the least selected person (84%), however, it remains a large percentage. A large number of participants selected all the items, which indicates that all these persons were valued as team members and were therefore recommended to serve on the team. Furthermore, the figure illustrates additional members that were specified by 39% of the participants. Of these participants, 11% revealed a need for a Remedial Teacher on the educational team of the child with hearing loss. Only 6% of the participants recommended the involvement of family members (other than parents) on the team. Additional members who were specified by the remaining 10% of subjects included a physiotherapist, hearing aid technician, and a representative of the department of Education.

The results of **participants who mainly promote Sign Language** are indicated in Figure 5.21. One of the participants (0,3%) did not respond to this question.

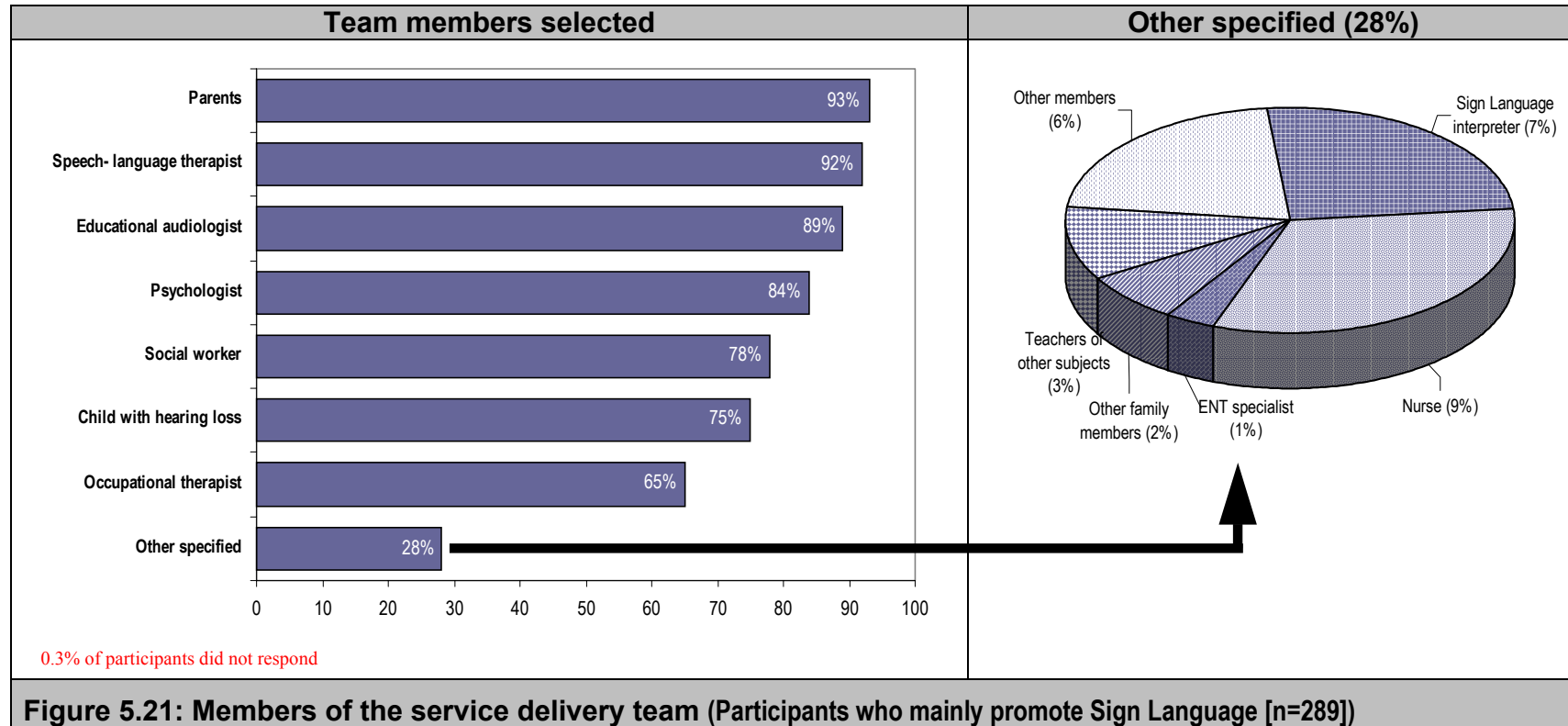


Figure 5.21 represents, on the left-side, the various team members selected by the participants and on the right-side it depicts additional team members that were specified by the participants.

This figure indicates that a large number of participants (93%) recommended that the parents of the child with hearing loss serve on the team. An educational audiologist was recommended by 89% of the participants. An occupational therapist was the least selected person (65%), although it remains a fairly large percentage. All the items were selected by a large number of participants, which indicates that all these persons were valued and were therefore selected to serve on the team. Furthermore, the figure illustrates additional members that were specified by 28% of the participants. Of these participants, 9% revealed a need for a school nurse on the educational team of the child with hearing loss. Only 2% of the participants recommended the involvement of family members (other than the parents) on the team. Other members that were specified by the remaining 6% of subjects included other teachers with experience in teaching children with hearing loss, caregivers in the hostel, a music therapist, and teaching assistants.

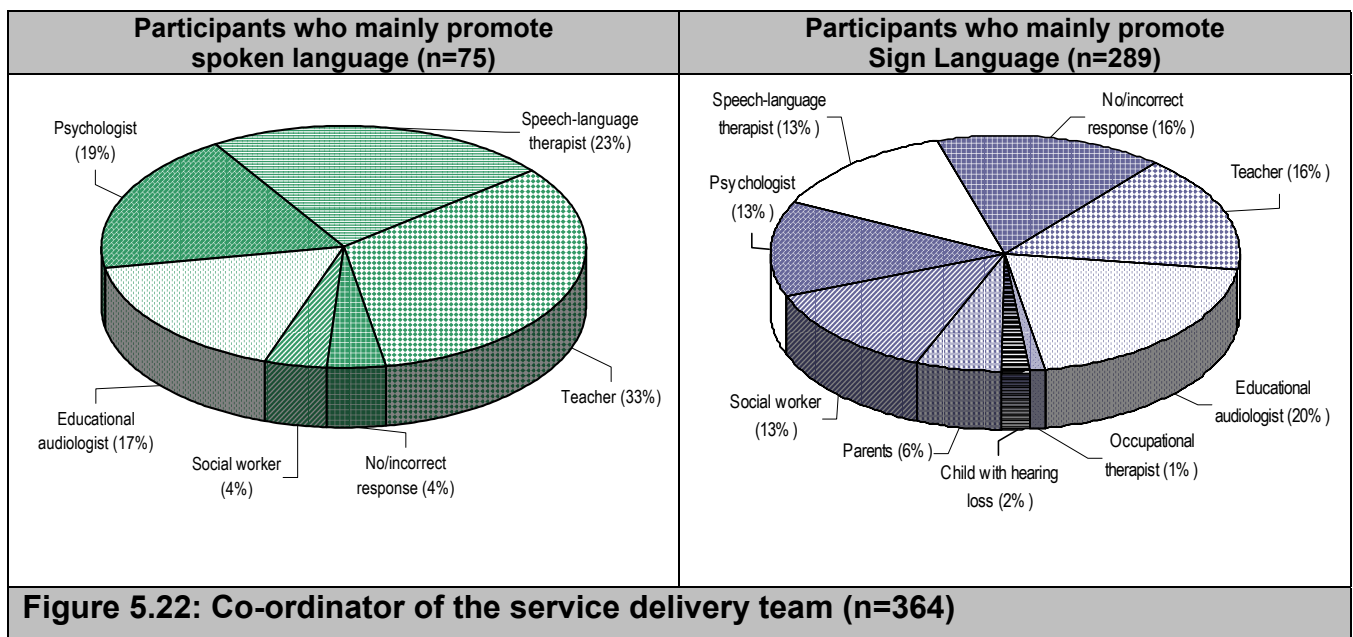
Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. A wide range of differences exist. However, findings reveal the following similarities between the two sub-groups of participants. A large number of participants recommended that the parents of the child with hearing loss serve on the team of the child with hearing loss. All seven team members were selected by fairly large percentages to serve on the team. Furthermore, only a very small percentage of the participants recommended the involvement of family members (other than the parents) on the team.

5.4.1.2 Co-ordinator of the service delivery team

The team member was identified who had been recommended as a co-ordinator of the educational team of the child with hearing loss.

These results included responses to the items in Question 23 of the questionnaire survey (Appendix D). Supporting themes from the focus group interviews (Appendix E) are provided at the end of section 5.4.1.

The results of the two sub-groups of participants are discussed separately, although findings of **both sub-groups of participants** are depicted in Figure 5.22.



The left-side of Figure 5.22 represents the participants who mainly promote spoken language and the right-side depicts the participants who mainly promote Sign Language. Three of the participants (4%) who mainly promote spoken language selected more than one item, and 46 of the participants (16%) who mainly promote Sign Language selected more than one item, and therefore these responses were disregarded.

The above figure illustrates that the teacher was selected the most (33%) by participants who mainly promote spoken language, to co-ordinate the team. An educational audiologist as team co-ordinator was only recommended by 17% of the participants who mainly promote spoken language. Furthermore, this figure reveals that the educational audiologist was selected the

most (20%) by participants who mainly promote Sign Language to co-ordinate the team.

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. Findings reveal that participants of the two sub-groups differed on all aspects relating to the selection of a team co-ordinator.

5.4.1.3 In-service training as a method of teacher support

It was determined whether participants valued in-service training as a method of support. In addition, the main benefits of in-service training were identified as described by the participants.

These results included responses to the items in Question 12 of the questionnaire survey (Appendix D). All responses to this **open-ended** question were categorised into the main ideas expressed by the participants of each sub-group. In the presentation of results, some of the responses of the two sub-groups appear closely related, all responses are however not identical. Supporting themes from the focus group interviews (Appendix E) are provided at the end of section 5.4.1.

The results of the two sub-groups of participants are discussed separately, although findings of **both sub-groups of participants** are depicted in Figure 5.23.

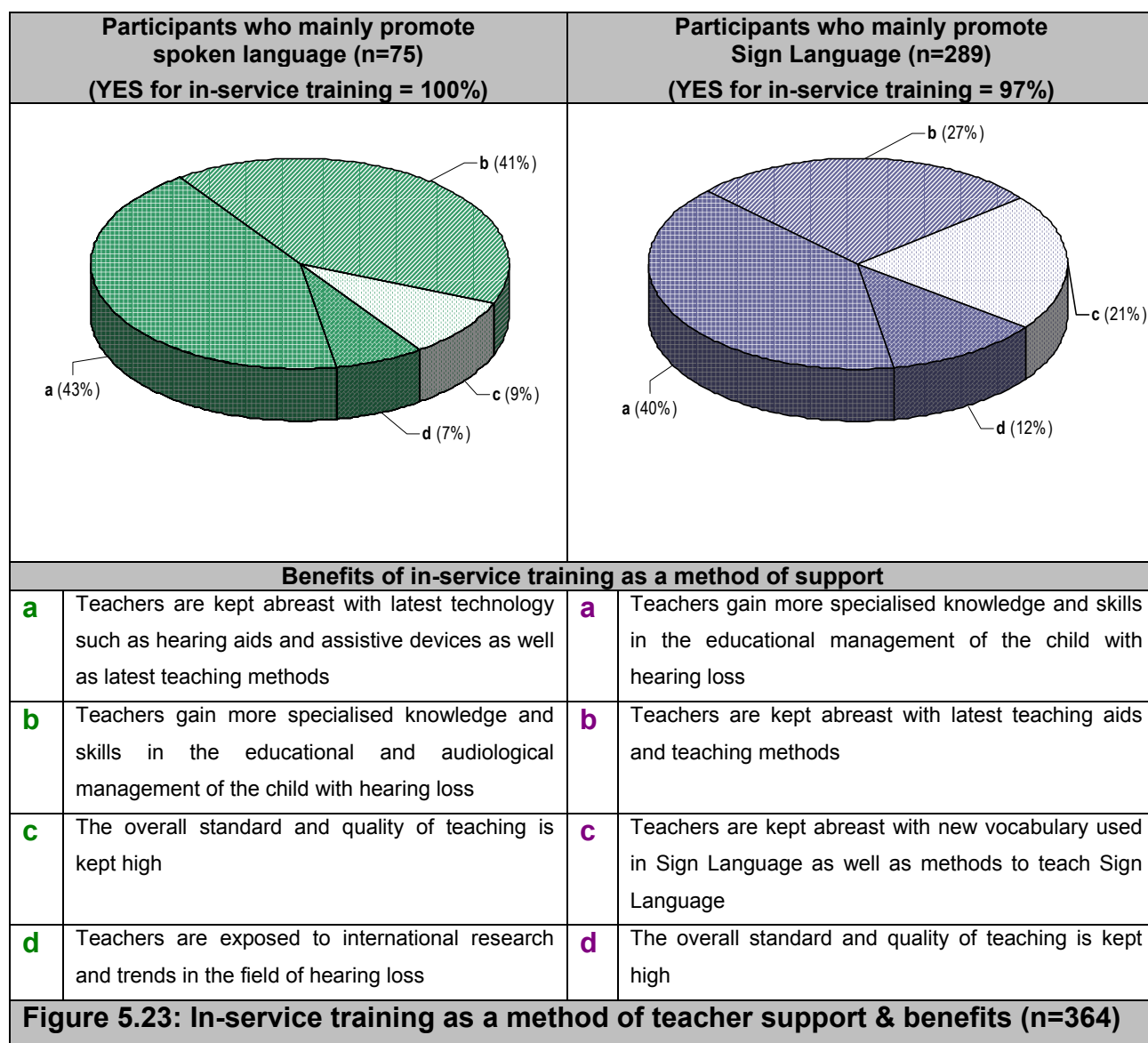


Figure 5.23: In-service training as a method of teacher support & benefits (n=364)

The left-side of Figure 5.23 represents the participants who mainly promote spoken language and the right-side depicts the participants who mainly promote Sign Language.

The above figure indicates that all participants (100%) who mainly promote spoken language felt that teachers could benefit from in-service training. The greatest benefit (43%) of in-service training, as described by participants who mainly promote spoken language, was that teachers are kept abreast with latest technology such as hearing aids and assistive devices, as well as with the latest teaching methods. Furthermore, 97% of the participants who mainly promote Sign Language felt that teachers could benefit from in-service

training. The main benefit (40%) of in-service training, as defined by participants who mainly promote Sign Language, was that teachers gain more specialised knowledge and skills in the educational management of the child with hearing loss.

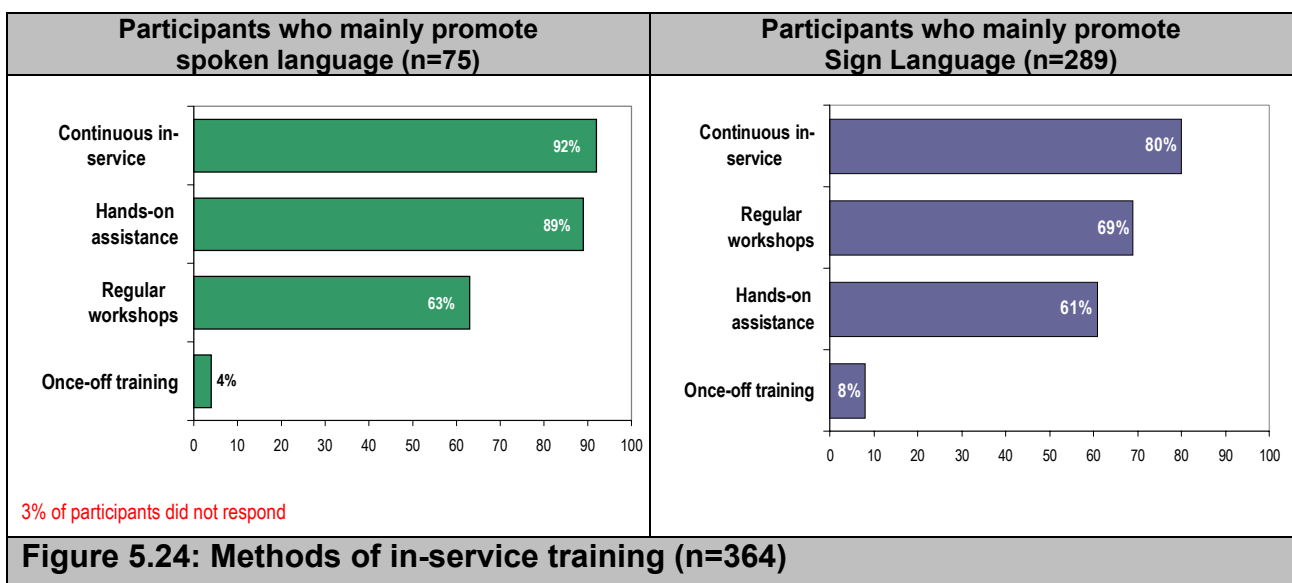
Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. Differences exist, however, findings reveal that a very large percentage of the participants of both sub-groups indicated that teachers could benefit from in-service training as a method of teacher support.

5.4.1.4 Methods of in-service training

The most appropriate methods were identified for in-service training for teachers in the inclusive educational system.

These results included responses to the items in Question 24 of the questionnaire survey (Appendix D). Supporting themes from the focus group interviews (Appendix E) are provided at the end of section 5.4.1.

The results of the two sub-groups of participants are discussed separately, although findings of **both sub-groups of participants** are depicted in Figure 5.24.



The left-side of Figure 5.24 represents the participants who mainly promote spoken language and the right-side depicts the participants who mainly promote Sign Language. Two of the participants (3%) who mainly promote spoken language, did not respond to the question.

This figure illustrates that a large number of participants (92%) who mainly promote spoken language recommended that the teacher would benefit from continuous in-service training. A once-off training session was selected the least (4%) by participants who mainly promote spoken language. Furthermore, a large number of participants (80%) who mainly promote Sign Language were of the opinion that teachers would benefit from *continuous* in-service training. Similarly, a once-off training session was selected the least (8%) by participants who mainly promote Sign Language.

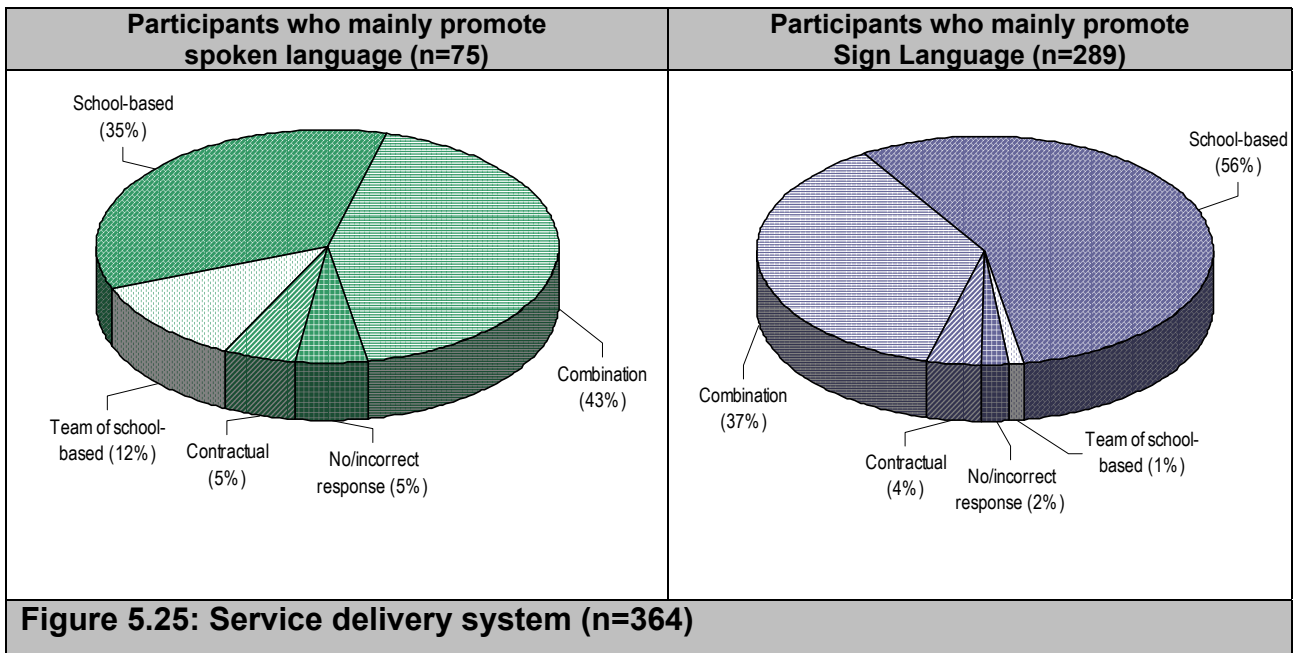
Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. Findings reveal that participants of both sub-groups agreed that teachers would benefit most from continuous in-service training, and that they would benefit least from a once-off training session as a method of support.

5.4.1.5 Service delivery system

The educational audiology service delivery system that participants recommended for the inclusive educational system, was identified.

These results included responses to the items in Question 25 of the questionnaire survey (Appendix D). Supporting themes from the focus group interviews (Appendix E) are provided at the end of section 5.4.1.

The results of the two sub-groups of participants are discussed separately, although findings of **both sub-groups of participants** are depicted in Figure 5.25.



The left-side of Figure 5.25 represents the participants who mainly promote spoken language and the right-side depicts the participants who mainly promote Sign Language. Four of the participants (5%) who mainly promote spoken language selected more than one item, and seven of the participants (2%) who mainly promote Sign Language selected more than one item and therefore these responses were disregarded.

The above figure illustrates that the majority of participants (43%) who mainly promote spoken language recommended a combination system (school-based system and contractual system). The contractual system was selected the least (5%) by participants who mainly promote spoken language. Furthermore, the figure illustrates that the majority of participants (56%) who mainly promote Sign Language recommended the school-based service delivery system. A very small number of participants (1%) who mainly promote Sign Language, specified their own suggestion, namely a school-based system that incorporates a large team of professionals.

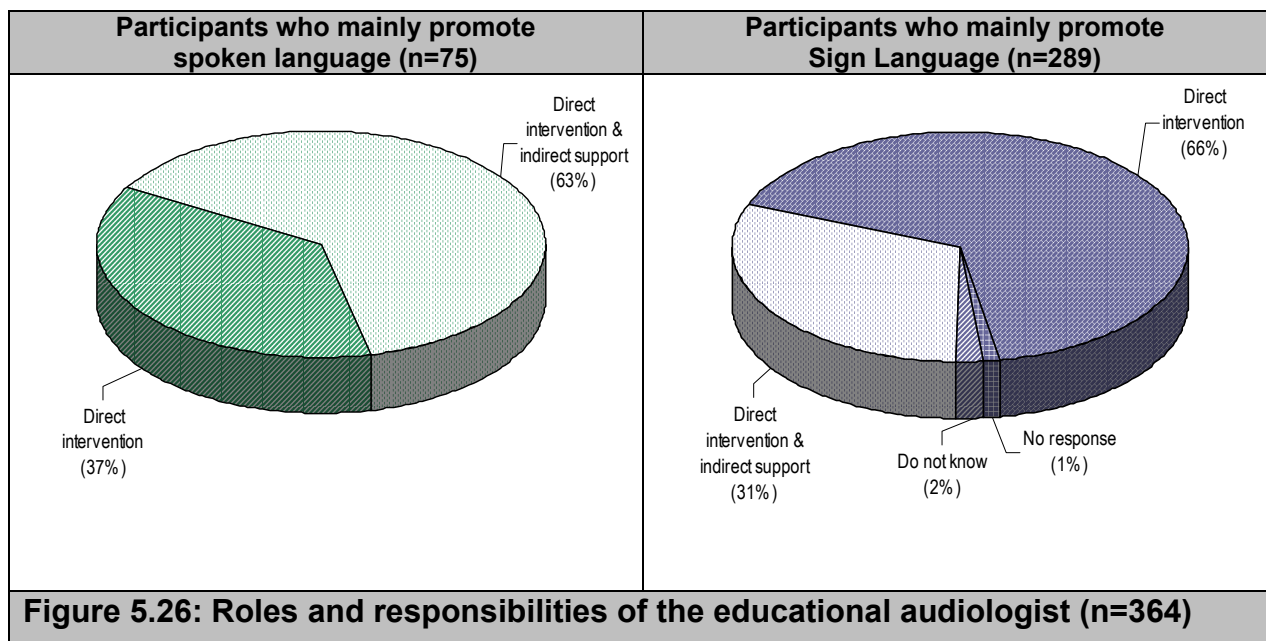
Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. Findings reveal that both sub-groups of participants mainly selected the school-based system and the combination system as possible educational audiology systems.

5.4.1.6 Roles and responsibilities of the educational audiologist

The main roles and responsibilities of an educational audiologist, as defined by the participants, were identified.

These results included responses to Question 26 of the questionnaire survey (Appendix D). All responses to this **open-ended** question were categorised into the main ideas expressed by the participants of each sub-group. Supporting themes from the focus group interviews (Appendix E) are provided at the end of section 5.4.1.

The results of the two sub-groups of participants are discussed separately, although findings of **both sub-groups of participants** are depicted in Figure 5.26.



The left-side of Figure 5.26 represents the participants who mainly promote spoken language and the right-side depicts the participants who mainly promote Sign Language. Three of the participants (1%) who mainly promote Sign Language did not respond to this question.

Figure 5.26 reveals that the majority of participants (63%) who mainly promote spoken language recommended that an educational audiologist be involved with *direct* intervention activities with a child with hearing loss and provide *indirect* support and assistance to the teacher. Participants who mainly promote spoken language specified, inter alia, the following activities of direct intervention: the evaluation of hearing and middle ear functioning, hearing aid selection and fitting, trouble-shooting of hearing aids, language development, and speech development. The following forms of indirect support to the teacher were, inter alia, recommended by participants who mainly promote spoken language, namely: information-sharing of audiograms and latest technology, as well as the provision of in-service training. All of the participants who mainly promote spoken language had an idea as to what the roles and responsibilities of an educational audiologist should be. Furthermore, the figure reveals that a fairly large number of participants (66%) who mainly promote Sign Language recommended that an educational audiologist mainly be involved with *direct* intervention activities with a child with hearing loss. Participants who mainly promote Sign Language specified, inter alia, the activities of direct intervention such as, the evaluation of hearing in order to provide hearing aids, trouble-shooting of hearing aids, and language development. The following forms of indirect support to the teacher were, inter alia, recommended by participants who mainly promote Sign Language, namely assistance with the interpretation of an audiogram, assistance with the placement of children with hearing loss in the inclusive educational system, and the provision of in-service training. Only 2% of the participants who mainly promote Sign Language did not know about any of the roles and responsibilities of an educational audiologist.

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. A wide range of differences exist. However, findings reveal that a very large percentage of the participants of both sub-groups knew about some of the roles and responsibilities of an educational audiologist.

5.4.1.7 Necessity of educational audiology services

It was determined whether participants were of the opinion that teachers in the inclusive educational system required the support of an educational audiologist and the subsequent benefits of receiving this support, were identified.

These results included responses to the items in Question 27 of the questionnaire survey (Appendix D). All responses to this **open-ended** question were categorised into the main ideas expressed by the participants of each sub-group. In the presentation of results, some of the responses of the two sub-groups appear similar, all responses are, however, not identical. Supporting themes from the focus group interviews (Appendix E) are provided at the end of section 5.4.1. The findings of the two sub-groups of participants are presented separately.

The results of **participants who mainly promote spoken language**, are indicated in Figure 5.27.

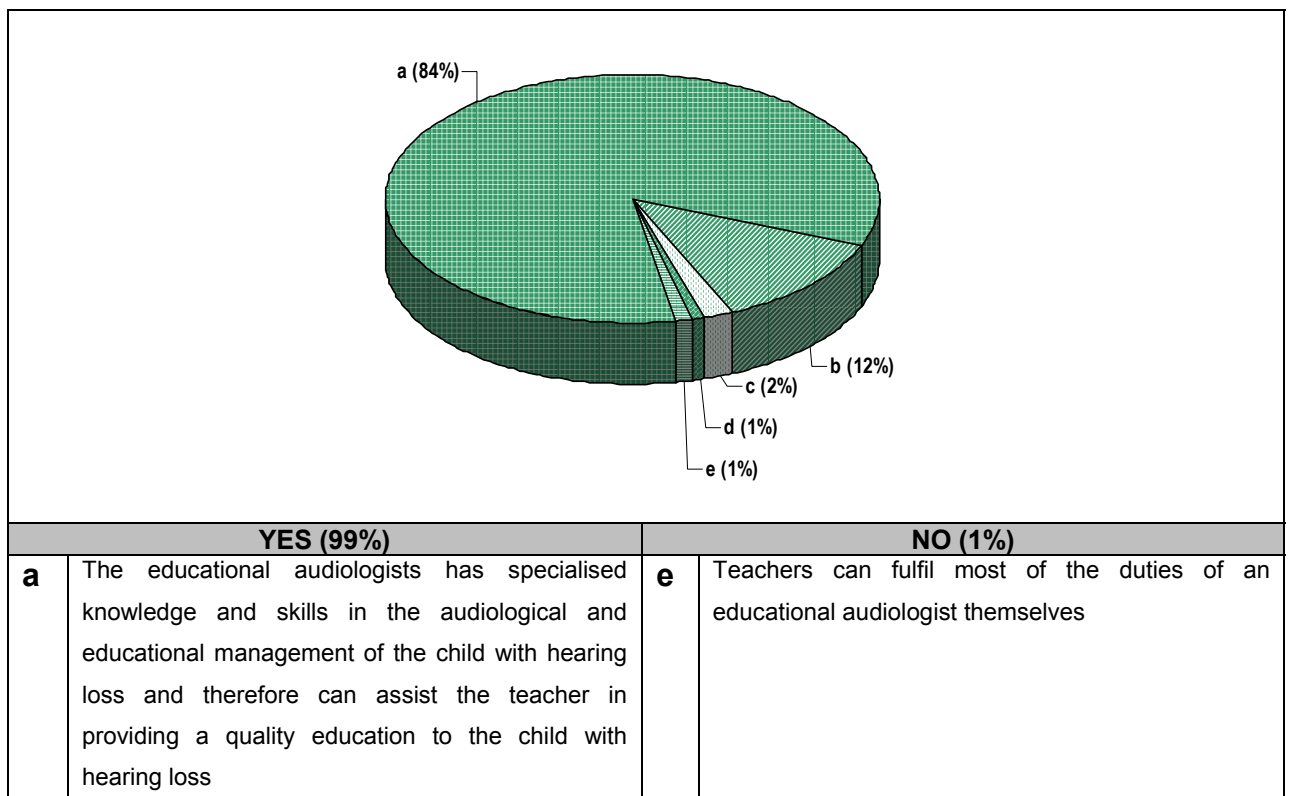


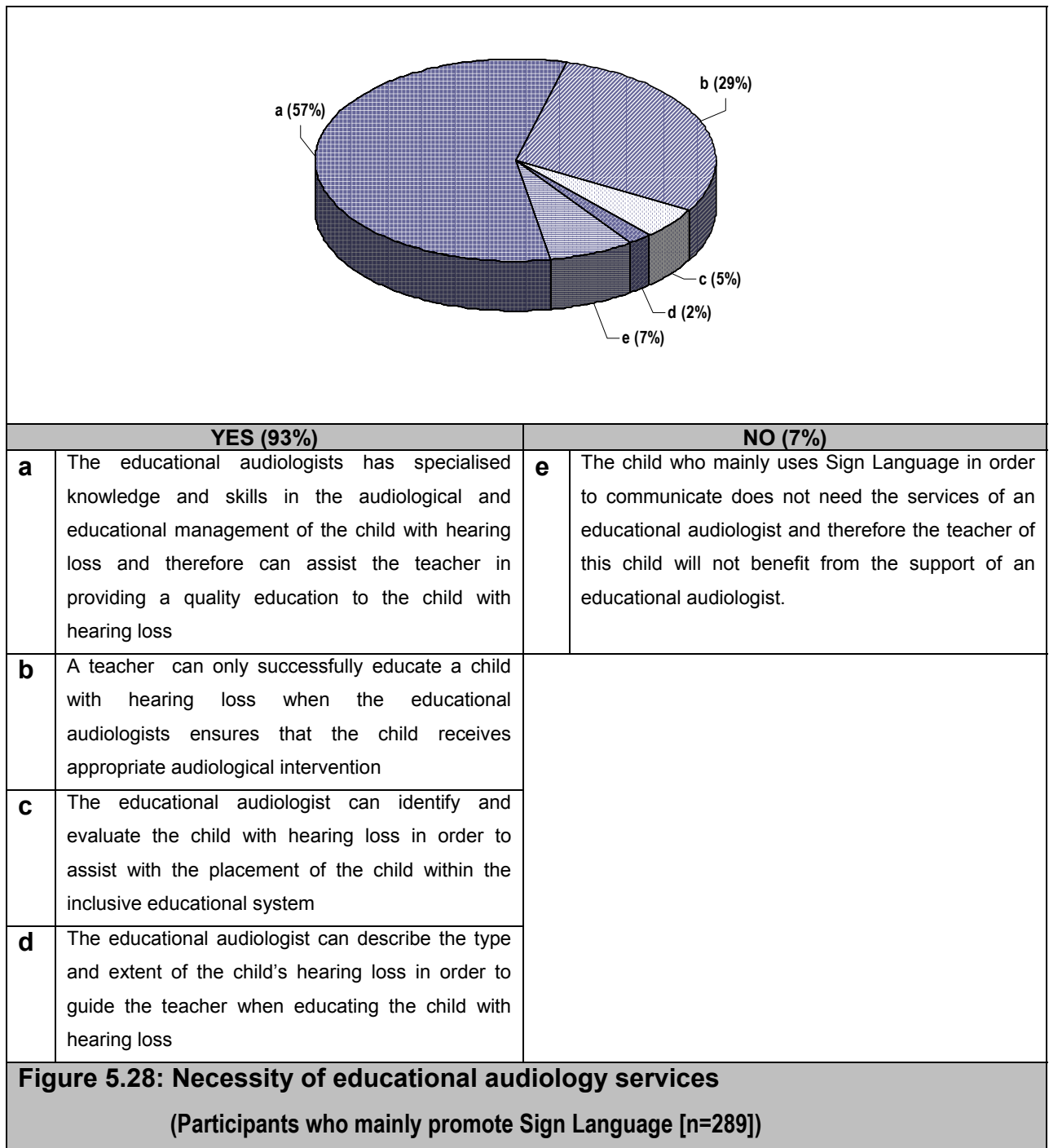
Figure 5.27 continued

b	A teacher can only successfully educate a child with hearing loss when the educational audiologists ensures that the child receives appropriate audiological intervention	
c	The educational audiologist can describe the type and extent of the child's hearing loss in order to guide the teacher when educating the child with hearing loss	
d	The educational audiologist can identify and evaluate the child with hearing loss in order to assist with the placement of the child within the inclusive educational system	
<p>Figure 5.27: Necessity of educational audiology services (Participants who mainly promote spoken language [n=75])</p>		

Figure 5.27 represents participants who responded positively as well as negatively to the question. Justifications are provided for their responses and depicted in the figure. The left-side provides justifications of the participants who responded positively to the question, and the right-side provides justifications of the participant who responded negatively to the question. Letter-symbols are used in the pie-chart to represent the various qualitative responses of participants.

This figure reveals that a large number of participants (84%) who mainly promote spoken language indicated that the teacher in the inclusive educational system could benefit from the support of an educational audiologist, because the educational audiologist has specialised knowledge and skills in the audiological and educational management of the child with hearing loss, and therefore can assist the teacher in providing a quality education to the child with hearing loss. The participant (1%) who did not feel that a teacher could benefit from the services of an educational audiologist was of the opinion that teachers could fulfil most of the duties of an educational audiologist themselves.

The results of **participants who mainly promote Sign Language** are presented in Figure 5.28.



The above figure represents participants who responded positively as well as negatively to the question. Justifications are provided for their responses and depicted in the figure. The left-side provides justifications of the participants who responded positively to the question and the right-side provides justifications of the participants who responded negatively to the question. Letter-symbols are used in the pie-chart to represent the various qualitative responses of participants.

Figure 5.28 reveals that the majority of participants (57%) who mainly promote Sign Language indicated that the teacher in the inclusive educational system could benefit from the support of an educational audiologist, because the educational audiologist has specialised knowledge and skills in the audiological and educational management of the child with hearing loss, and therefore can assist the teacher in providing a quality education to the child with hearing loss. Seven percent of the participants were of the opinion that children who mainly use Sign Language did not require educational audiology services, and therefore participants who mainly promote Sign Language could not benefit from the support of an educational audiologist.

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. A wide range of differences exist. However, findings reveal that the majority of participants of both sub-groups recommended that the teacher in the inclusive educational system could benefit from the support of an educational audiologist, because the educational audiologists had specialised knowledge and skills in the audiological and educational management of the child with hearing loss, and therefore could assist the teacher in providing a quality education to the child with hearing loss.

* * *

Themes of focus group interviews were identified by selecting themes that corresponded to those of the questionnaire items. These themes corresponded to objective #3, namely participants' need for support regarding the structure of service delivery to the child with hearing loss. Excerpts represented the eight above-mentioned sub-items, namely: team members, team co-ordinator, in-service training as method of support, methods of in-service training, service delivery system, roles and responsibilities of the educational audiologist, and the necessity of educational audiology services. Excerpts representing these sub-items form a synopsis of *the need for support regarding the structure of service delivery by the educational*

audiologist. The findings of the two sub-groups of participants are presented separately.

Table 5.17 depicts some of the relevant excerpts extracted from the two focus group interviews conducted with the **participants who mainly promote spoken language** (n=10).

Table 5.17: Need for support regarding service delivery by the educational audiologist (Participants who mainly promote spoken language)

“...here at our school, an audiologist has a broad spectrum of duties to fulfil...they do parent guidance...teacher training...for instance, once every two weeks...we (the teachers) record each other on video camera and then we sit together with them (the educational audiologists) and we exchange ideas and they give us guidance, there’s a constant flow of communication between us...”[1]

“...we do an individual session a day...where the audiologist assists in class...so you are able to reach all ten (children) a day...”[2]

“...one of our audiologists has been absent for a while and already we can feel the effect on the school...you can’t do without their expertise...”[3]

The first excerpt in Table 5.17, reveals that the participant in the focus group interview valued the role of the educational audiologist in terms of parent guidance and teacher training [1]. The second excerpt indicates that the participant benefitted from the direct intervention activities of the educational audiologist in order to reach every child individually [2]. The last excerpt shows that the participant realised that an audiologist is essential to have on the educational team of the child with hearing loss [3].

Table 5.18 (below) depicts some of the relevant excerpts extracted from the two focus group interviews conducted with the **participants who mainly promote Sign Language** (n=9).

Table 5.18: Need for support regarding service delivery by the educational audiologist (Participants who mainly promote Sign Language)

“...why can't they share their input?, they have so much knowledge in (the development of) reading, speech...why don't they share more of this with the teachers?...”[1]

“...the guidance parents receive (when their child has been diagnosed with a hearing loss) is just not appropriate, because it is provided in a one-sided fashion by the audiologists/speech therapists and the ear specialists...they only say: “speech!”...parents don't know the choices and there isn't exactly time to waste...”[2]

“...although we are involved with the teaching of the hearing impaired, we're not always sure what duties the audiologists/speech therapists perform...I don't always know what they (the educational audiologists) are able to do for our children...”[3]

In Table 5.18, the first excerpt reveals that the participant in the focus group interview required more support from the educational audiologist in terms of information exchange, specifically in the development of literacy skills and speech production skills [1]. The second excerpt indicates that the participant was concerned about the support which parents receive from the educational audiologist [2]. This participant suggests that audiologists involved with the diagnosis of the child with hearing loss tend to favour spoken language, and therefore they do not inform the parents about the other communication options available. The last excerpt shows that the participant was not sure what the benefits are of an audiologist on the educational team of the child with hearing loss [3].

5.4.1.8 Greatest challenges of inclusion

The greatest challenges faced by a teacher when including a child with hearing loss, was identified by the participants.

These results included responses to Question 28 of the questionnaire survey (Appendix D). All responses to this **open-ended** question were categorised into the main ideas expressed by the participants of each sub-group. In the

presentation of results, some of the responses of the two sub-groups appear closely related, all responses are, however, not identical. Supporting themes from the focus group interviews (Appendix E) are provided at the end of section 5.4.2.

The results of the two sub-groups of participants are discussed separately, although findings of **both sub-groups of participants** are depicted in Figure 5.29.

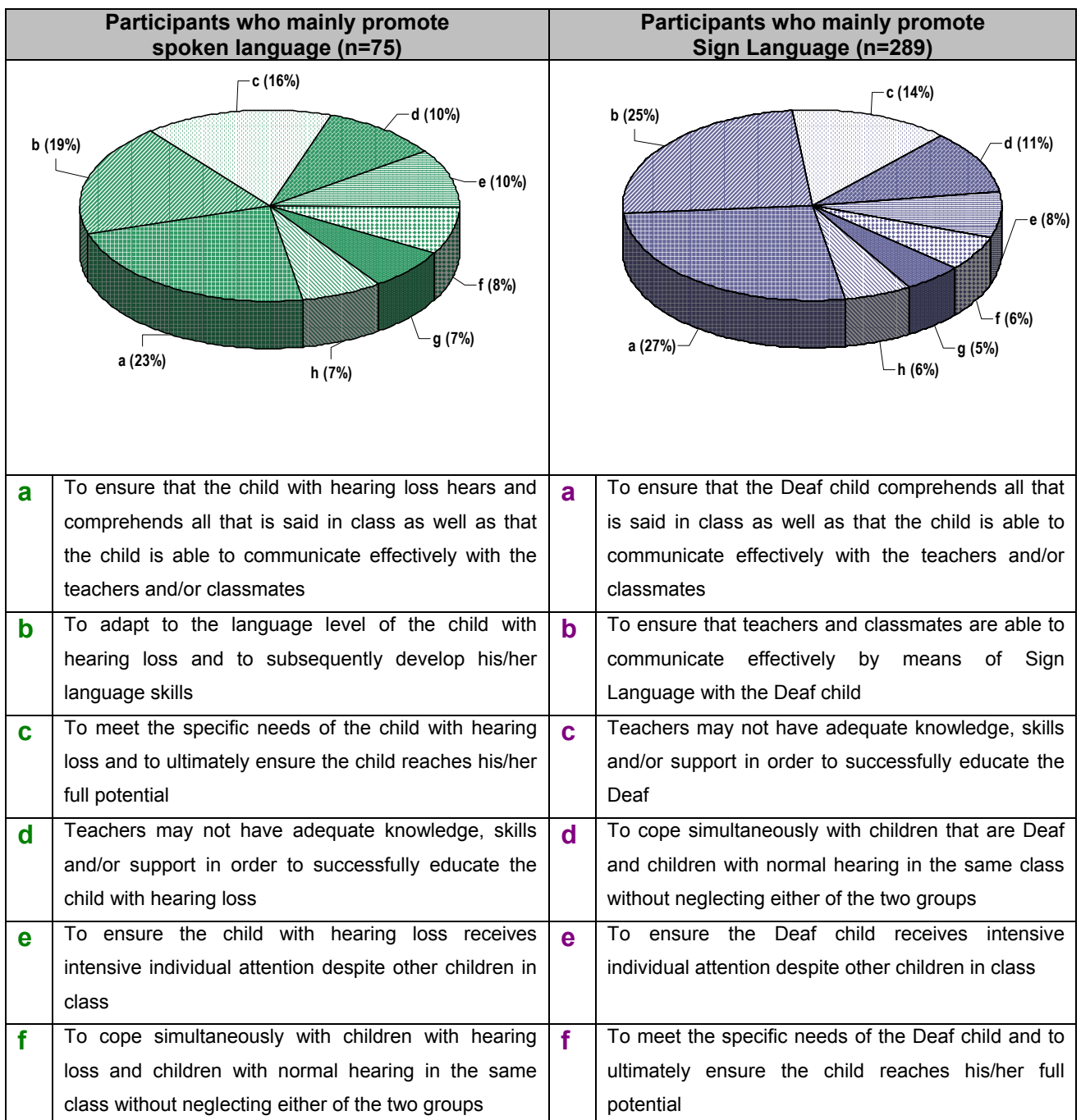


Figure 5.29 continued

g	To ensure the child with hearing loss is integrated and accepted within the school and the child is able to assert himself/herself when necessary	g	To cope simultaneously with children with hearing loss and children who are Deaf in the same class without neglecting either of the two groups
h	Too many learners, too much noise and poor acoustics in the classroom	h	Other challenges include: the negative attitudes of teachers with regard to inclusion, the fast pace of regular schools, and the small amount of parental involvement.

Figure 5.29: Greatest challenges of inclusion (n=364)

In Figure 5.29 (above), the left-side represents the participants who mainly promote spoken language and the right-side depicts the participants who mainly promote Sign Language.

This figure reveals that the largest number of participants (23%) who mainly promote spoken language indicated that the greatest challenge would be to ensure that the child with hearing loss hears and comprehends all that is being said, as well as that the child is able to communicate effectively with teachers and classmates. Similarly, the right-sided figure illustrates that the largest number of participants (27%) who mainly promote Sign Language indicated that the greatest challenge would be to ensure that the child with hearing loss hears and comprehends all that is being said, and that the child is able to communicate effectively with teachers and classmates.

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. Findings reveal a few differences, but indicate that the majority of participants of both sub-groups stated that the greatest challenges of inclusion would be to ensure that the child with hearing loss will hear and comprehend all that is being said, and to ensure that the child will be able to communicate effectively with teachers and classmates.

5.4.1.9 Possible solutions to anticipated challenges of inclusion

Possible solutions were identified to the previously mentioned challenges of inclusion.

These results included responses to Question 29 of the questionnaire survey (Appendix D). All responses to this **open-ended** question were categorised into the main ideas expressed by the participants of each sub-group. In the presentation of results, some of the responses of the two sub-groups appear closely related, they are, however, not identical. Supporting themes from the focus group interviews (Appendix E) are provided at the end of section 5.4.2.

The results of the two sub-groups of participants are discussed separately, although findings of **both sub-groups of participants** are depicted in Figure 5.30.

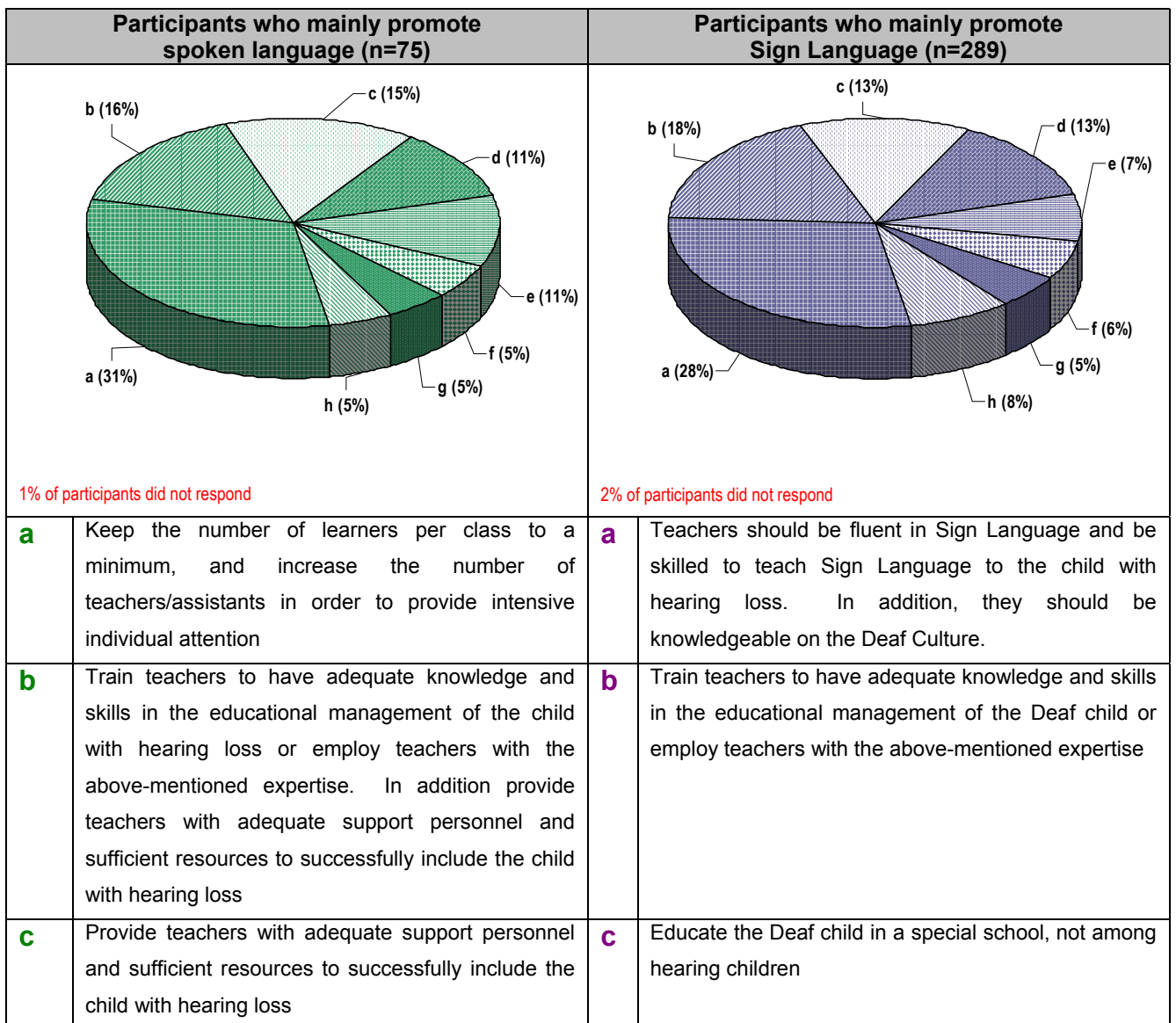


Figure 5.30 continued

d	Educate the child with hearing loss in a special school, not among hearing children	d	Provide teachers with adequate support personnel and sufficient resources to successfully include the Deaf child
e	The educational audiologist should provide support and assistance in the audiological and educational management of the child with hearing loss	e	Provide sufficient Sign Language interpreters at these schools
f	Educate the child with hearing loss in an inclusive school, but separate the child from normal hearing children during tuition	f	Educate the Deaf child in an inclusive school, but separate the child from normal hearing children during tuition
g	Ensure adequate involvement from the child's parents, family and significant others	g	Keep the number of learners per class to a minimum, and increase the number of teachers/assistants in order to provide intensive individual attention
h	Other solutions include: provide teachers with separate school periods in which to give the child with hearing loss exclusive attention, early intervention strategies, and positive teacher attitudes	h	Other solutions include: ensure adequate involvement from the child's parents, family and significant others, conduct a pilot study to determine if the Deaf child benefits from inclusion, and educate the normal hearing

Figure 5.30: Possible solutions to anticipated challenges of inclusion (n=364)

In Figure 5.30 (above), the left-side represents the participants who mainly promote spoken language and the right-side depicts the participants who mainly promote Sign Language.

This figure reveals that the largest number of participants (31%) who mainly promote spoken language indicated that a possible solution would be to ensure that the number of learners per class are kept to a minimum, and to increase the number of teachers/assistants, in order to provide intensive individual attention. In contrast, the largest number of participants (28%) who mainly promote Sign Language indicated that a possible solution would be to ensure that teachers are fluent in Sign Language and possess the skills to teach Sign Language to children with hearing loss. In addition, participants who mainly promote Sign Language suggested that teachers should be knowledgeable in the Deaf Culture.

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. Findings revealed that participants of both sub-groups had similar suggestions for possible solutions, but that these

suggestions differed in the frequency in which they were selected by participants of the two sub-groups.

5.4.1.10 Advantages and disadvantages of inclusion practices

It was determined whether participants contemplated whether the child with hearing loss would be either advantaged or disadvantaged by inclusion practices.

These results included responses to the items in Question 30 of the questionnaire survey (Appendix D). All responses to this **open-ended** question were categorised into the main ideas expressed by the participants of each sub-group. In the presentation of results, some of the responses of the two sub-groups appear similar, they are, however, not identical. Supporting themes from the focus group interviews (Appendix E) are provided at the end of section 5.4.2.

The results of the two sub-groups of participants are discussed separately.

The results of **participants who mainly promote spoken language** are presented in Figure 5.31.

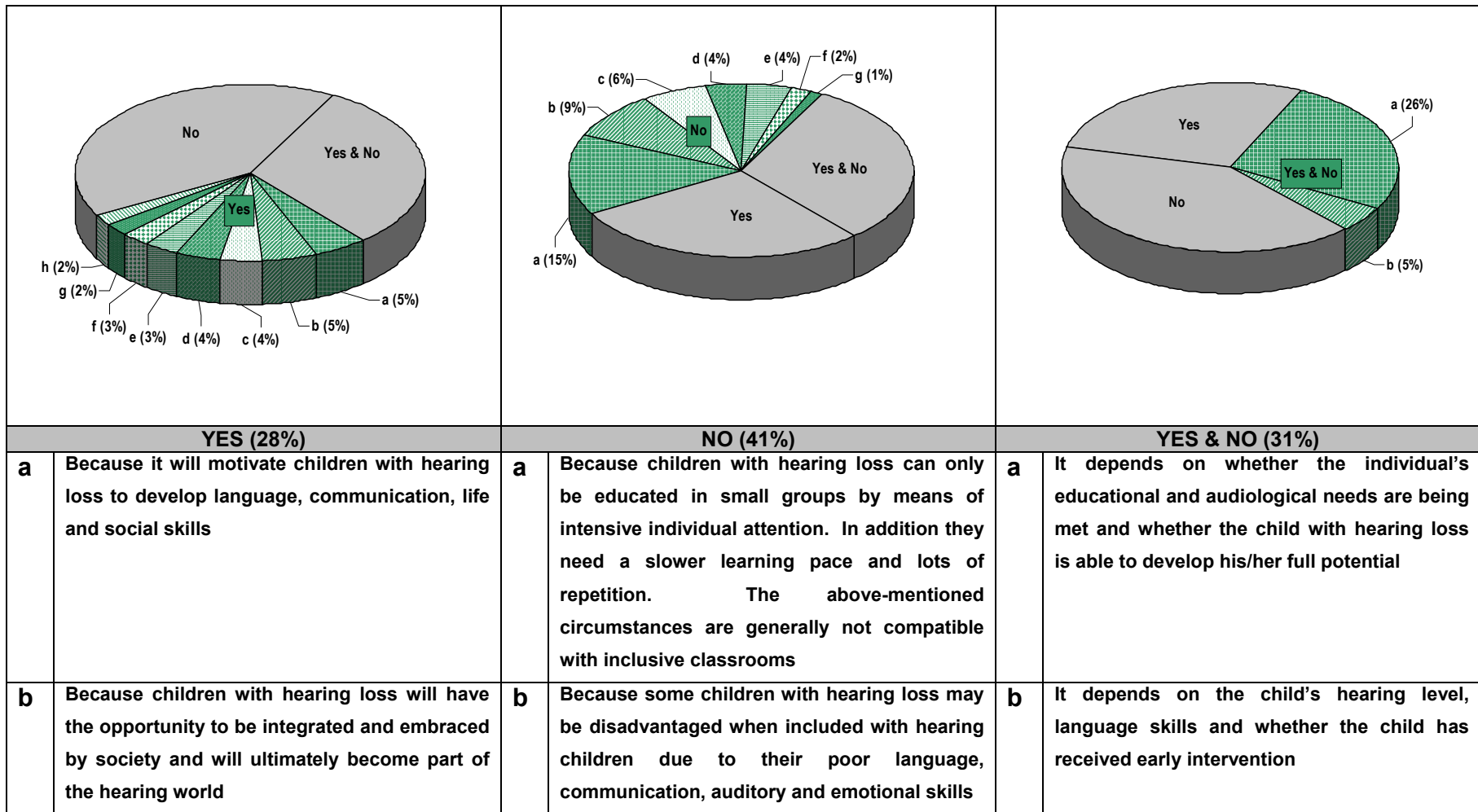


Figure 5.31 continued

c	Only if the child has the hearing and educational ability to be included and it benefits the child with hearing loss as a whole	c	Because some children with hearing loss may be disadvantaged emotionally when included with hearing children and may experience vulnerability, failure, isolation and teasing.
d	Only if teachers have adequate knowledge and skills in the management of the child with hearing loss	d	Because there are not adequate support personnel and resources available to successfully include the child with hearing loss
e	Only if children with hearing loss receive a quality education, proper audiological intervention and are continuously monitored	e	Because some children with hearing loss may be disadvantaged when included with hearing children due to their language deficits
f	Only if parents and families are actively involved in the education of the child with hearing loss	f	Because some children with hearing loss may be disadvantaged due to high noise levels and poor acoustics in inclusive classrooms
g	Only if there are adequate support personnel, sufficient resources and teacher training	g	Because teachers will not be able to cope simultaneously with hearing children and children with hearing loss in the same classroom without neglecting either of the two groups
h	Because children with hearing loss have been placed in inclusive classrooms in some cases with great success		

Figure 5.31: Advantages and disadvantages of inclusion practices (Participants who mainly promote spoken language [n= 75])

Figure 5.31 indicates three columns: **YES**, **NO** and **YES & NO**. These columns are discussed separately:

YES: The second largest percentage of participants (28%) indicated that children with hearing loss would benefit from inclusion. Of these participants, 5% stated that inclusion would motivate children with hearing loss to develop language, communication, life and social skills.

NO: The largest number of participants (41%) did not think that children with hearing loss would benefit from inclusion practices. Of these participants, 15% indicated that children with hearing loss could only be educated in small groups by means of intensive individual attention. Participants added that children with hearing loss needed a slower learning pace and lots of repetition, and participants felt that the above-mentioned circumstances were mostly not compatible with inclusive classrooms.

YES & NO: The remainder of participants (31%) selected yes and no to this question. These participants stated that the benefits of inclusion depended on whether the individual's educational and audiological needs were being met and whether the child with hearing loss was able to develop his/her full potential.

The results of **participants who mainly promote Sign Language** are illustrated in Figure 5.32.

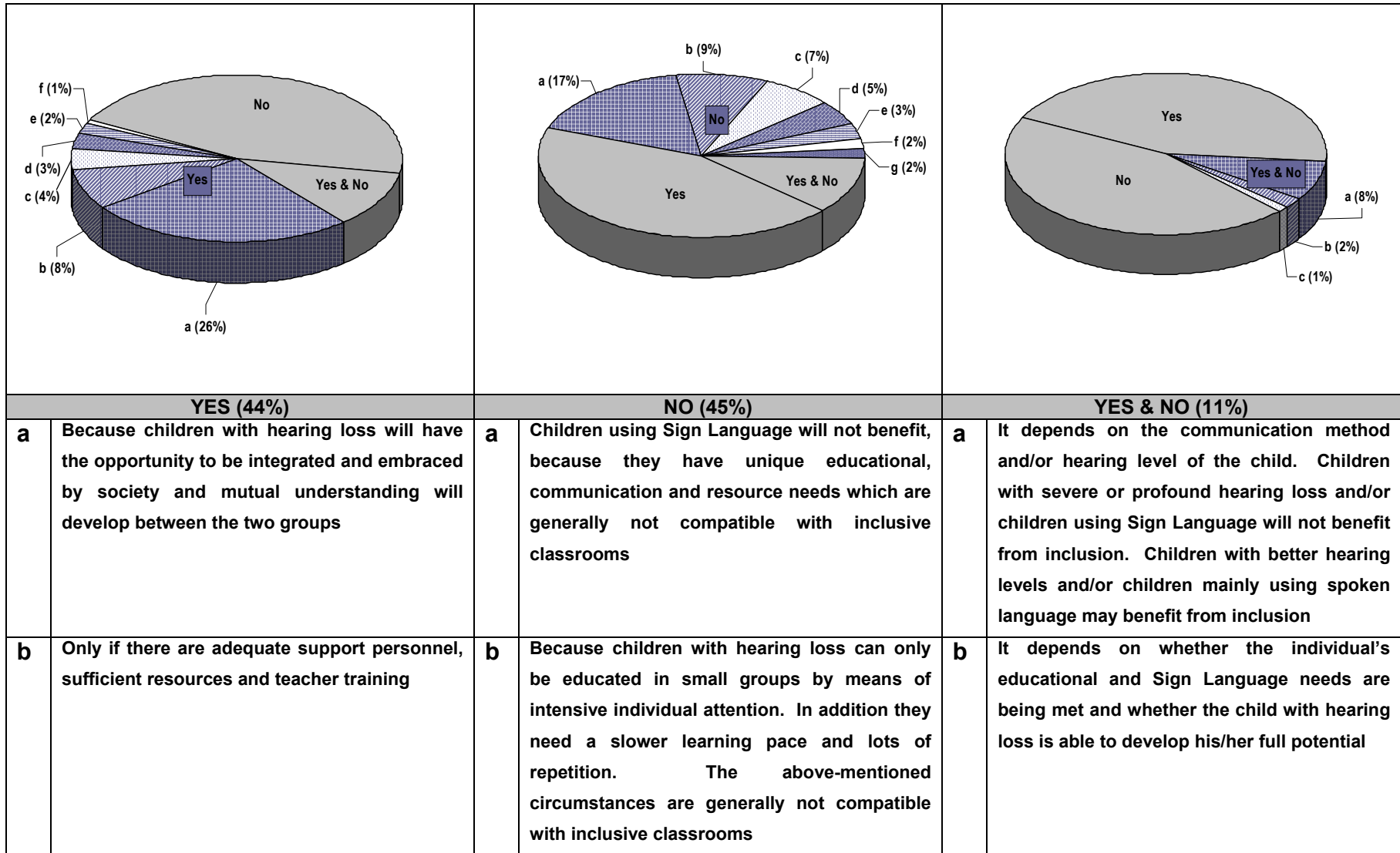


Figure 5.32 continued

c	Because it will motivate children with hearing loss to develop their language, life and social skills	c	Because some children with hearing loss may be disadvantaged when included with hearing children due to their language deficits and their use of Sign Language	c	It depends on the language, communication, auditory and emotional skills of the child with hearing loss
d	Only if the child has the hearing and educational ability to be included and it benefits the child with hearing loss as a whole	d	Because teachers will not be able to cope simultaneously with hearing children and children with hearing loss in the same classroom without neglecting either of the two groups		
e	Only if educational provisions are made for the child who uses Sign Language	e	Because some children with hearing loss may be disadvantaged emotionally when included with hearing children and may experience vulnerability, failure, isolation and teasing.		
f	Only if the number of learners per class are at a minimum, if there are adequate support personnel and if intensive individual attention can be provided to the child with hearing loss	f	Because there are not adequate support personnel and resources available to successfully include the child with hearing loss		
		g	Because children using Sign Language cannot effectively communicate with teachers and other learners who do not use Sign Language		

Figure 5.32: Advantages and disadvantages of inclusion practices (Teachers who mainly promote Sign Language [n=289])

Figure 5.32 depicts three columns: **YES**, **NO** and **YES & NO**. These columns are discussed separately:

YES: The second largest number of participants (44%) indicated that children with hearing loss would benefit from inclusion. Of these participants, 26% stated that inclusion would provide children with hearing loss the opportunity to be integrated and embraced by society and mutual understanding would develop between the two groups.

NO: The largest number of participants (45%) indicated that children with hearing loss would not benefit from inclusion. Participants indicated that children using Sign Language would not benefit, because they had unique educational, communication, and resource needs which were mostly not compatible with inclusive classrooms.

YES & NO: The remainder of participants (11%) selected yes and no to this question. These participants stated that children with severe or profound hearing loss and/or children using Sign Language would not benefit from inclusion. The participants added that children with better hearing levels and/or children who mainly use spoken language would be in a position to benefit from inclusion.

Finally, differences and similarities between the results of the two sub-groups of participants were evaluated. A wide range of differences exist. However, findings reveal that the largest number of participants of both sub-groups indicated that children with hearing loss would not benefit from inclusion practices.

* * *

Themes of focus group interviews were identified by selecting themes that corresponded to those of the questionnaire items. These themes corresponded to objective #3, namely participants' need for support regarding the structure of service delivery to the child with hearing loss. Excerpts

represented the three sub-items above, namely: greatest challenges of inclusion, possible solutions to anticipated challenges, and advantages and disadvantages of inclusion practices. Excerpts representing these sub-items form a synopsis of *the need for support regarding the inclusion of children with hearing loss*. The findings of the two sub-groups of participants are presented separately.

Table 5.19 depicts some of the relevant excerpts extracted from the two focus group interviews conducted with the **participants who mainly promote spoken language** (n=10).

Table 5.19: Need for support regarding the inclusion of children with hearing loss (Participants who mainly promote spoken language)

“...in the early stages...there is no way of including the little ones if you don’t have input from the specialists (such as educational audiologists)...”[1]

“...you will have to give attention to everyone (in an inclusive classroom), you will have to divide yourself...is this fair in the end?, because every child has the right to individual attention and tuition...”[2]

“...there should be enough parental support...because the child has a backlog as it is...the pace of mainstream, the parent should help the child to keep up with the others...”[3]

In Table 5.19, the first excerpt reveals that the participant in the focus group interview recommended professional support personnel, such as the educational audiologist, in order to overcome challenges of inclusion in the early stages [1]. The second excerpt indicates that the participant predicted a challenge with regard to coping simultaneously with children with hearing loss and children with normal hearing in the same class without neglecting either of the two groups [2]. The last excerpt shows that the participant suggested adequate parental support in order to overcome the barrier of the fast pace in inclusive classrooms [3].

Table 5.20 presents some of the relevant excerpts extracted from the two focus group interviews conducted with the **participants who mainly promote spoken language** (n=9).

Table 5.20: Need for support regarding the inclusion of children with hearing loss (Participants who mainly promote Sign Language)

“...it’s their democratic right...it is the child’s first language and they have the right to receive their education in Sign Language...”

“...if they want inclusion to work they will have to give serious attention to the training of those working with children in the early language acquisition stages...this includes the teachers and audiologists and other support personnel....”

“...there should be support systems such as plenty of interpreters...more teachers that can fluently use Sign Language...he (the child) can only partake if...there are things like these to ensure equal participation...”

In Table 5.20, the first excerpt reveals that the participant in the focus group interview recommended that children who mainly use Sign Language should continue to receive their tuition in Sign Language in the inclusive educational system **[1]**. The second excerpt indicates that the participant suggested training of all personnel involved with the child with hearing loss in order to ensure the success of inclusion **[2]**. The last excerpt shows that the participant recommended equal participation for the child who mainly uses Sign Language by providing sufficient resources in the inclusive educational system **[3]**.

An interpretation and discussion follows to conclude the findings of this section.

5.4.2 Interpretation and discussion of findings of objective #3:

Support regarding the structure of service delivery to children with hearing loss

It is essential that the structure of service delivery to children with hearing loss attempt to address the various needs and concerns of teachers of children with hearing loss. Addressing these needs will ensure effective service delivery practices that will benefit the teacher as well as the child with hearing loss in the inclusive educational system (Johnson, Benson & Seaton, 1997). In addition, clarifying the differences in need for support regarding the structure of service delivery among the sub-groups of participants is essential in order to plan for both sub-groups during the development of an educational audiology service delivery model.

Although findings must be interpreted against the background of guidelines provided for the implementation of the South African inclusive educational system, documents to date provide conceptual clarity, but lack specific detail regarding the practical implications of inclusion (Department of Education, 2002; Education White Paper no 6, 2001). Findings will, however, be broadly posed against these guidelines.

A detailed interpretation and discussion of the various sub-sections of objective #3 follows, namely: members of the team, team co-ordinator, in-service training as a method of support, service delivery system, roles and responsibilities of the educational audiologist, necessity of educational audiology services, greatest challenges of inclusion, possible solutions to anticipated challenges, and advantages and disadvantages of inclusion practices. Findings from both sub-groups of participants are presented in the following discussion.

**5.4.2.1 Interpretation and discussion of findings of objective #3:
Members of the service delivery team**

Findings reveal that differences and similarities are prevalent among both sub-groups of participants relating to the need for support regarding members of the service delivery team. A speech-language therapist was recommended most frequently by participants who mainly promote spoken language to serve on the team of the child with hearing loss. On the other hand, the parents of the child with hearing loss was selected the most by participants who mainly promote Sign Language. Participants who mainly promote spoken language, however, also strongly suggested that the parents of the child with hearing loss serve on the team. It is probable that differences in these findings can be clarified by the differences in the communication instructional approaches they follow, and this is confirmed by the literature-based discussion that follows.

It is well-known that teachers who mainly promote spoken language are primarily concerned with, *inter alia*, the child's development of receptive language skills and speech production skills in inclusive settings (Jamieson, 1994; Paul & Quigley, 1994; Sanders, 1988). Competency in these areas of development is often a prerequisite for successful educational outcomes of the child who mainly uses spoken language (Sanders, 1988). Speech-language therapists are specialists in the development of language and speech skills. It therefore becomes apparent why participants who mainly promote spoken language would indicate a greater need for a speech-language therapist on the team of the child with hearing loss. An educational audiology service delivery model should value resources such as the speech-language therapist when managing the child with hearing loss. Fortunately, to date, speech-language therapy and audiology is a dual qualification and thus the educational audiologist in South Africa is fortunate to fulfil both professional roles.

An explanation can be found in literature as to why the parents of the child with hearing loss were selected most frequently by participants who mainly promote Sign Language as well as by a large number of participants who

mainly promote spoken language. The importance of involving the parents of the child with hearing loss has been stressed by numerous authors (Anderson, 2002; English, 1995; Johnson, Benson & Seaton, 1997). According to Anderson (2002), parental involvement is the “magic” ingredient for obtaining successful educational outcomes in children with hearing loss. Furthermore, traditionally, caregivers (and other family members) of children with hearing loss in South Africa were not involved as part of the child’s intervention team (Reeves, 1994) and therefore participants may have highlighted this need.

The draft guidelines for the implementation of inclusive education in South Africa (Department of Education, 2002:140), supports parental recognition and involvement and states that: *“The active involvement of parents and the broader community in the teaching and learning process is central to effective learning and development.”*

For these reasons, an educational audiology service delivery model should overcome the lack of caregiver involvement by acting as a liaison between the community and school, which may include activities such as home visits, parent training, and community-outreach programmes.

Furthermore, a large number of participants of both sub-groups recommended the involvement of all seven team members, namely the educational audiologist, speech-language therapist, psychologist, social worker, occupational therapist, and the parents of the child with hearing loss. Children with hearing loss have a variety of needs stemming either directly or indirectly from their sensory impairment, and therefore the involvement of these various team members will greatly contribute to the success of addressing barriers to learning experienced by the child with hearing loss (English, 1995; Johnson, Benson & Seaton, 1997). An educational audiology service delivery model should involve all the relevant team members and should create an awareness of the importance of serving the child with hearing loss within a team.

However, when participants were requested to indicate other team members who had not been specified on the questionnaire, only a very small percentage (6%;2%) of participants of both sub-groups indicated the involvement of family members (other than the parents) on the team. These findings can be clarified by South African literature which indicates that the family members of school-going children are often not involved, because urbanisation, poverty, and poor infrastructure prevents families from visiting the child's school (Paterson & Kruss, 1998; Penn & Reagan, 1995; Van der Westhuizen & Mosoge, 2001). Furthermore, intervention practices in the past tended to involve parents only, and excluded other caregivers, as this did not comply with their traditional "Western practice" to consider persons other than the child's parents (Reeves, 1994). As mentioned formerly, an educational audiology service delivery model should overcome a lack of caregiver and family involvement by providing home visits and community-outreach programmes.

A large percentage (93%;89%) of participants of both sub-groups strongly recommended that an educational audiologist serve on the team of the child with hearing loss. Literature confirms the importance of having an educational audiologist on the service delivery team, as the educational audiologist possess unique knowledge and skills in the management of the school-going child's audiological and educational needs (English, 1995; Johnson, Benson & Seaton, 1997). However, according to Pottas and Hugo (2001) and findings from the present study, many schools in South Africa do not have the services of an educational audiologist and services delivered are not always adequate.

According to the draft guidelines for the implementation of inclusive education in South Africa (Department of Education, 2002), team members of the various districts will have key functions that will include, inter alia:

- * supporting learners, educators and the educational system as a whole;
- * assisting educators to create flexibility in their assessment and teaching methods;
- * providing direct intervention programmes to learners; and
- * serving as consultant-mentors to teachers and other support personnel.

An educational audiology service delivery model should therefore provide training to personnel such as teachers to perform of the duties of an educational audiologist where a shortage of educational audiologists exist, and should continue to provide services on a consultative basis.

**5.4.2.2 Interpretation and discussion of findings of objective #3:
Co-ordinator of the service delivery team**

Findings reveal differences among the results of both sub-groups of participants relating to the need for support regarding a co-ordinator for the service delivery team of the child with hearing loss. The majority of participants who mainly promote spoken language recommended that the teacher must co-ordinate the team himself/herself, whereas the majority of participants who mainly promote Sign Language suggested that the educational audiologist co-ordinate the team.

These differences between results of the participants of the two sub-groups are not readily clarified by the differences in the instructional approaches they adhere to. However, literature confirms the advantages of having an educational audiologist as a team co-ordinator. An educational audiologist is uniquely skilled in managing the audiological and educational aspects of the child with hearing loss, as well as co-ordinating various team members to appropriately address the child's barriers to learning (English, 1995; Johnson, Benson & Seaton, 1997). However, considering the unique South African situation where resources such as educational audiologists are limited (Pottas, 1998), it may be necessary in some instances for the teacher to fulfil the role of the team co-ordinator. Literature supports this, and indicates that there is a shortage of educational audiologists in most countries, and that the caseloads of children with hearing loss far exceed the recommended educational audiologist/child ratio of 1:12000 (Johnson, 1999). Literature recommends that the shortage of educational audiologists be overcome by multi-skilling. Multi-skilling implies the training of other personnel to perform some of the roles of the educational audiologist (Johnson, 1999). An educational audiologist can therefore train and assist team co-ordinators to

fulfil all the tasks necessary to appropriately manage personnel who are involved with children with hearing loss.

According to the draft guidelines for the implementation of inclusive education in South Africa (Department of Education, 2002), within each district, the district director will act as the co-ordinator of the district-based support team, which includes responsibilities such as the management of the team and collaboration to ensure holistic and integrated support provision to learners in schools. These co-ordinators will be selected from currently employed educational support personnel which include psychologists, therapists, and remedial teachers (Department of Education, 2002). Therefore, any of these professionals may serve on the educational team of the child with hearing loss.

An educational audiology service delivery model should provide support to teachers serving as team co-ordinators, in order to equip them with the relevant knowledge and skills to successfully manage the team of the child with hearing loss.

5.4.2.3 Interpretation and discussion of findings of objective #3: In-service training as a method of teacher support

Findings reveal that a large number of participants of both sub-groups felt that teachers could benefit from in-service training. Literature corroborates the importance of in-service training for teachers of children with hearing loss (Johnson, Benson & Seaton, 1997; Power & Elliott, 1990). In-service training is fundamental for teachers of children with hearing loss, because it provides opportunities for developing knowledge, skills and attitudes prerequisite to the effective inclusion of children with disabilities (Power & Elliott, 1990).

A South African study however, indicated that the in-service training of teachers of children with hearing loss was mostly inadequate (Pottas & Hugo, 2001). An educational audiology service delivery model should address these inadequacies and utilise in-service training to equip teachers

with appropriate knowledge and skills to successfully manage the child with hearing loss in the inclusive educational system.

Furthermore, findings reveal that participants of both sub-groups agreed that teachers would benefit most from *continuous* in-service training and that they would benefit least from a once-off training session as a method of support. Literature attests to the importance of receiving on-going continuous in-service training. According to Power and Elliott (1990) teachers' needs regarding support continuously vary as they encounter new challenges. Therefore, continuous in-service training will ensure that teachers are kept abreast with the latest research in the field of educational audiology, teaching techniques and teaching materials.

According to the draft guidelines for the implementation of inclusive education in South Africa (Department of Education, 2002), all teachers will need new knowledge and skills in order to successfully include children with disabilities. Training of teachers will take place continuously outside and on-site in classrooms (Department of Education, 2002).

5.4.2.4 Interpretation and discussion of findings of objective #3: Service delivery system

Findings reveal differences among the results of both sub-groups of participants relating to the need for support regarding an educational audiology service delivery system. The majority of participants who mainly promote spoken language recommended a combination of the school-based system and the contractual system, whereas the majority of participants who mainly promote Sign Language suggested a school-based service delivery system. These responses must be carefully interpreted, however. In South Africa, teachers of children with hearing loss to date have had little exposure to any other service delivery system than the school-based educational audiology service delivery system, and, in some cases, schools have never had exposure to any educational audiology services (Pottas, 1988). Literature

does clarify the benefits and disadvantages of these service delivery systems and are discussed forthwith.

A combination of the school-based and contractual agreement system implies that the school employs a full-time educational audiologist who receives part-time assistance from other private audiologists, in order to render services at the school (Johnson, Benson & Seaton, 1997). A combination of the school-based system and the contractual-agreement system may result in varying degrees of comprehensiveness and cost-effectiveness that depend on the unique variations within the system (Johnson, Benson & Seaton, 1997). When evaluating the comprehensiveness and cost effectiveness of service delivery systems, it becomes clear that the more comprehensive a system is, the less cost effective it tends to be.

In an exclusively school-based system, the school employs a full-time educational audiologist (or more than one) to render services at the school. A school-based system is often more comprehensive than contracted services, because the in-house educational audiologist has continued and easy access to the children, well-established daily communication with teachers and other team members, and a greater personal investment in the school due to his/her permanent employment at the school (Allard & Golden, 1991). On the other hand, the school-based system is usually more costly than other systems, because of greater financial implications related to salaries and fringe benefits of in-house educational audiologists, as well as the purchasing and maintenance of audiological equipment and materials (ASHA, 1993).

Considering that the South African educational system is presented with many financial constraints (Education White Paper no 6, 2001) and the presence of an unfavourable ratio of educational audiologist per child with hearing loss (Pottas, 1998), it would appear that the combination of the school-based and contractual agreement system can best be utilised for the inclusive educational system in South Africa. An educational service delivery model should build partnerships with resources in the community, such as private audiologists, in order to render quality services to children with hearing loss.

**5.4.2.5 Interpretation and discussion of findings of objective #3:
Roles and responsibilities of the educational audiologist**

Findings reveal differences among the results of both sub-groups of participants relating to the need for support regarding the roles and responsibilities of the educational audiologist. A very large percentage of participants of both sub-groups knew some of the roles and responsibilities of an educational audiologist. The majority of participants who mainly promote spoken language recommended that an educational audiologist be involved with direct intervention activities, with a child with hearing loss, as well as provide indirect support and assistance to teachers. On the other hand, a fairly large number of participants who mainly promote Sign Language suggested that an educational audiologist be involved exclusively with direct intervention activities with a child with hearing loss. The differences in these findings are clarified by literature and relate to the differences in the communication instructional approaches they adhere to. Literature indicates that teachers who mainly promote Sign Language often feel that educational audiologists approach the child with hearing loss within the framework of the medical model, that attempts to habilitate the child's hearing loss (DEAFSA, 2001c; Lynas, 1994; Moores, 1996). Teachers who mainly promote Sign Language therefore prefer that the educational audiologist intervene with the child directly, whilst they are hesitant to involve educational audiologists in indirect intervention activities that target the teacher, such as teacher training which may provide an opportunity for the educational audiologist to change their ways of managing the child with hearing loss.

For these reasons, educational audiologists should view the child within the whole context of development, and therefore should assure teachers of their unbiased attitude towards teachers with different communication instructional approaches. An educational audiology service delivery model should attempt to clearly demonstrate that the services of educational audiologists are for all teachers and children with hearing loss and that teachers that follow one communication instructional approach are not favoured above the other.

The aforementioned results of participants who mainly promote spoken language correlates with literature. A study among teachers in South Africa revealed that the majority of the teachers believed that audiologists/speech-language therapists should provide direct intervention to the child with hearing loss, as well as indirect support to the teacher (Keith & Ross, 1998).

In addition, results indicated that a large percentage of participants of both sub-groups knew some of the roles and responsibilities of an educational audiologist. The specific details of these roles and responsibilities were however unclear to a large number of participants. Literature indicates the importance of teachers having knowledge of the roles and responsibilities of an educational audiologist, in order to rely on this specialist to appropriately manage the child with hearing loss in the inclusive educational system (English, 1995; Johnson, Benson & Seaton, 1997).

An educational audiology service delivery model should provide education to all team members on *all* the various roles and responsibilities of the educational audiologist.

5.4.2.6 Interpretation and discussion of findings of objective #3: Necessity of educational audiology services

Findings reveal a wide range of differences regarding the necessity of educational audiology services. However, findings indicate that the majority of participants of both sub-groups recommended that teachers in the inclusive educational system could benefit from the support of an educational audiologist, because educational audiologists had specialised knowledge and skills in the audiological and educational management of the child with hearing loss and therefore could assist the teacher in providing a quality education to the child with hearing loss.

Literature confirms the importance of receiving support from an educational audiologist when including the child with hearing loss, because educational audiologists are specialists in the field of hearing loss and have expertise in

hearing loss and the impact thereof on a child's ability to be educated among hearing peers (English, 1995; Johnson, Benson & Seaton, 1997). In addition, a South African study revealed that a large percentage of teachers agreed that, with the help of audiologists/speech-language therapists, they were confident that they could teach a child with hearing loss in an inclusive educational system (Keith & Ross, 1998).

Therefore, an educational audiology service delivery model should promote the benefits and importance of receiving support from an educational audiologist to successfully include the child with hearing loss.

Discussions in focus group interviews (See Tables 5.17 and 5.18) corresponded to the six aforementioned questionnaire probes, namely members of the team, team co-ordinator, in-service training as a method of support, service delivery system, roles and responsibilities of the educational audiologist, and necessity of educational audiology services. The main difference between discussions of participants of the two sub-groups was that participants who mainly promote spoken language generally valued the support from an educational audiologist. In contrast, participants who mainly promote Sign Language were concerned that they were not receiving adequate support from their educational audiologists and were not always clear on what their roles and responsibilities at their specific school were. These findings may indicate a need for better graduate training of educational audiologists to identify and address teachers' needs regarding educational audiology services. Therefore, an educational audiology service delivery model should be sensitive to teachers' individual needs for support and should advocate the services of educational audiologists to all teachers of children with hearing loss.

5.4.2.7 Interpretation and discussion of findings of objective #3: Greatest challenges of inclusion

Findings reveal only a few differences relating to the greatest challenges identified by participants when including children with hearing loss. It was

found that participants of both sub-groups indicated that the greatest challenges would be to ensure that the child with hearing loss hears and comprehends all that is being said, as well as that the child is able to communicate effectively with teachers and classmates. Literature confirms the importance of ensuring that the child with hearing loss hears and comprehends all that is being said, as well as that the child is able to communicate effectively with all (English, 1995; Johnson, Benson & Seaton, 1997). However, when considering the differences in their communication instructional approach, it can be speculated that, although participants of the two sub-groups established identical challenges, they had different reasons for indicating these challenges. Participants who mainly promote spoken language were concerned that the child would not hear and comprehend all that was being said most probably due to the unfavourable acoustic environment found in inclusive classrooms (Berg, Blair & Benson, 1996). Children who mainly use spoken language heavily rely on hearing aids to communicate and will therefore be negatively affected by noise and poor acoustics in the classroom (Johnson, Benson & Seaton, 1997). In contrast, participants who mainly promote Sign Language were concerned that children who mainly use Sign Language would not be able to hear or comprehend *spoken* language in the inclusive classroom, because they mainly use Sign Language and will therefore be unable to effectively communicate with their hearing teachers and classmates (Moore, 1996).

With regard to challenges foreseen by teachers in the inclusive educational system, international literature indicated the following. Teachers in regular schools anticipated the following challenges regarding learners with disabilities in an inclusive educational system (Idol, 1997; Salend, 2001): negative attitudes of other teachers towards inclusion, insufficient support and training of teachers, too many learners in classrooms, difficulties in meeting the psychosocial needs of learners, and uncertainty about the designing and implementation of appropriate instructional programmes. These concerns correspond to the challenges foreseen by participants in the current study.

**5.4.2.8 Interpretation and discussion of findings of objective #3:
Possible solutions to anticipated challenges of inclusion**

Results indicate differences among participants of the two sub-groups regarding the possible solutions to anticipated challenges when including children with hearing loss.

Findings reveal that the largest number of participants who mainly promote spoken language indicated that a possible solution would be to ensure that the number of learners per class are kept to a minimum, and to increase the number of teachers/assistants in order to provide intensive individual attention. On the other hand, the largest number of participants who mainly promote Sign Language indicated that a possible solution would be to ensure that teachers are fluent in Sign Language and are skilled to teach Sign Language to the child with hearing loss. In addition, participants who mainly promote Sign Language suggested that teachers should be knowledgeable on the Deaf Culture.

The difference between the views of participants of the two sub-groups can be explained by literature and relates to the differences in the communication instructional approach they follow. Teachers who mainly promote spoken language are more focused on providing individual education to the child with hearing loss in an acoustically ideal environment, whereas teachers who mainly promote Sign Language are more concerned with development of the child's Sign Language and cultural identity as a Sign Language user (Moore, 1996).

**5.4.2.9 Interpretation and discussion of findings of objective #3:
Advantages and disadvantages of inclusion practices**

Findings reveal differences and similarities among participants of the two sub-groups regarding the possible solutions to anticipated challenges when including children with hearing loss. Results indicated that the majority of both sub-groups of participants indicated that children with hearing loss would *not*

benefit from the inclusive educational system. The reasons given by the two sub-groups differed. Participants who mainly promote spoken language stated that inclusion would fail mainly, because children with hearing loss could only be educated in small groups by means of intensive individual attention, and that these circumstances were mostly not compatible with an inclusive classroom. On the other hand, participants who mainly promote Sign Language stated that inclusion would mainly not be successful, because children with hearing loss have unique educational, communication, and resource needs which are generally not provided by an inclusive classroom. Resistance to inclusion is often voiced by teachers of children with disabilities, but once they are provided with the necessary training, support personnel and resources they often change their negative perceptions of inclusion (Salend, 2001). Therefore, an educational audiology service delivery model should address teachers' negative perceptions and their fears of change and provide support to ease the inclusion of children with hearing loss.

Discussions in focus group interviews (See Tables 5.19 and 5.20) corresponded to the three above-mentioned questionnaire probes, namely: greatest challenges of inclusion, possible solutions to the anticipated challenges, and the advantages and disadvantages of inclusion. The main feature of the focus group discussions was that participants expressed many fears and they recommended human resources such as parents, Sign Language interpreters, educational audiologists, and other support personnel to aid the inclusion of the child with hearing loss. An educational audiology service delivery model should provide opportunity for teachers to voice their concerns and subsequently attempt to address these concerns.

5.5 CONCLUSION

The current study determined the needs of teachers of children with hearing loss, in order to develop an educational audiology service delivery model for use within the inclusive educational system.

Addressing teachers' needs through the development of an educational audiology service delivery model is in line with current government policy on teacher support services. The educational audiologist, who renders services within the framework of an educational audiology service delivery model, is uniquely skilled in managing the effects of hearing loss on the child's audiological and educational development (English, 1995; Johnson, Benson & Seaton, 1997).

The results obtained in the empirical study indicated various needs of teachers with hearing loss. Results indicated differences between the two sub-groups of participants' need for support in: the acquisition of knowledge of educational audiology, the audiological and educational management of the child with hearing loss, and regarding the structure of services rendered to children with hearing loss. Determining these differences is crucial in order to plan for an appropriate educational audiology service delivery model that will benefit teachers of both sub-groups and ultimately ensure that the child with hearing loss develops his/her full potential.

5.6 SUMMARY

In this chapter, the results were presented of the empirical study which include the questionnaire survey and the focus group interviews. These results were organised into the three objectives of the study and the two sub-groups of participants were discussed separately. Each objective was concluded with an interpretation and discussion of responses of the two sub-groups of participants. These results will form the basis upon which the educational audiology service delivery model will be formulated in Chapter Six. The chapter ends with a conclusion and a summary.

CHAPTER 6

CONCLUSIONS AND IMPLICATIONS

“The field of educational audiology...is predicated on the search for increasingly effective strategies to support the academic and social success of learners with hearing impairment. To settle for less than the best is to shortchange learners with hearing impairment and to leave the challenge of the field unmet” (English, 1995: 220).

6.1 INTRODUCTION

Research in the field of audiology and communication pathology in Africa must satisfy the unique demands of the population, be socially justifiable, as well as relevant to the context (Hugo, 1998). The current research aims to fulfil these goals by providing a research base for a proposed educational audiology service delivery model. This model has practical implications for the educational audiologist, the teacher, as well as for children with hearing loss who are served within the South African context. In South Africa, a need for research that specifically aims to provide findings applicable to the changing context in the educational system, is required.

The development of an educational audiology service delivery model, even in the format of a working document for use within the inclusive educational system is essential in order to define structures for support. This in order to address the needs of teachers of children with hearing loss, as well as to benefit children with hearing loss.

This chapter contains the conclusions and recommendations of the study. A critical evaluation of this study is provided and appropriate recommendations are made regarding further research possibilities related to the study.

The aim of the final chapter is to discuss the conclusions drawn from the theoretical and empirical research study as described in the previous chapters and to make recommendations that have practical implications for an educational audiology service delivery model.

6.2 CONCLUSIONS AND CLINICAL IMPLICATIONS

Theoretical models represent a formalisation of perspectives that might serve as a guide to develop hypotheses and scientific inquiry, as well as provide a basis for the planning of intervention strategies (Lloyd, Fuller & Arvidson, 1997). The proposed educational audiology service delivery model aims to accomplish the aforementioned. Literature on educational audiology, as well as findings from the empirical study were used to formulate an educational audiology service delivery model for use within the inclusive educational system in South Africa. A graphic representation of the model is provided in Figure 6.1.

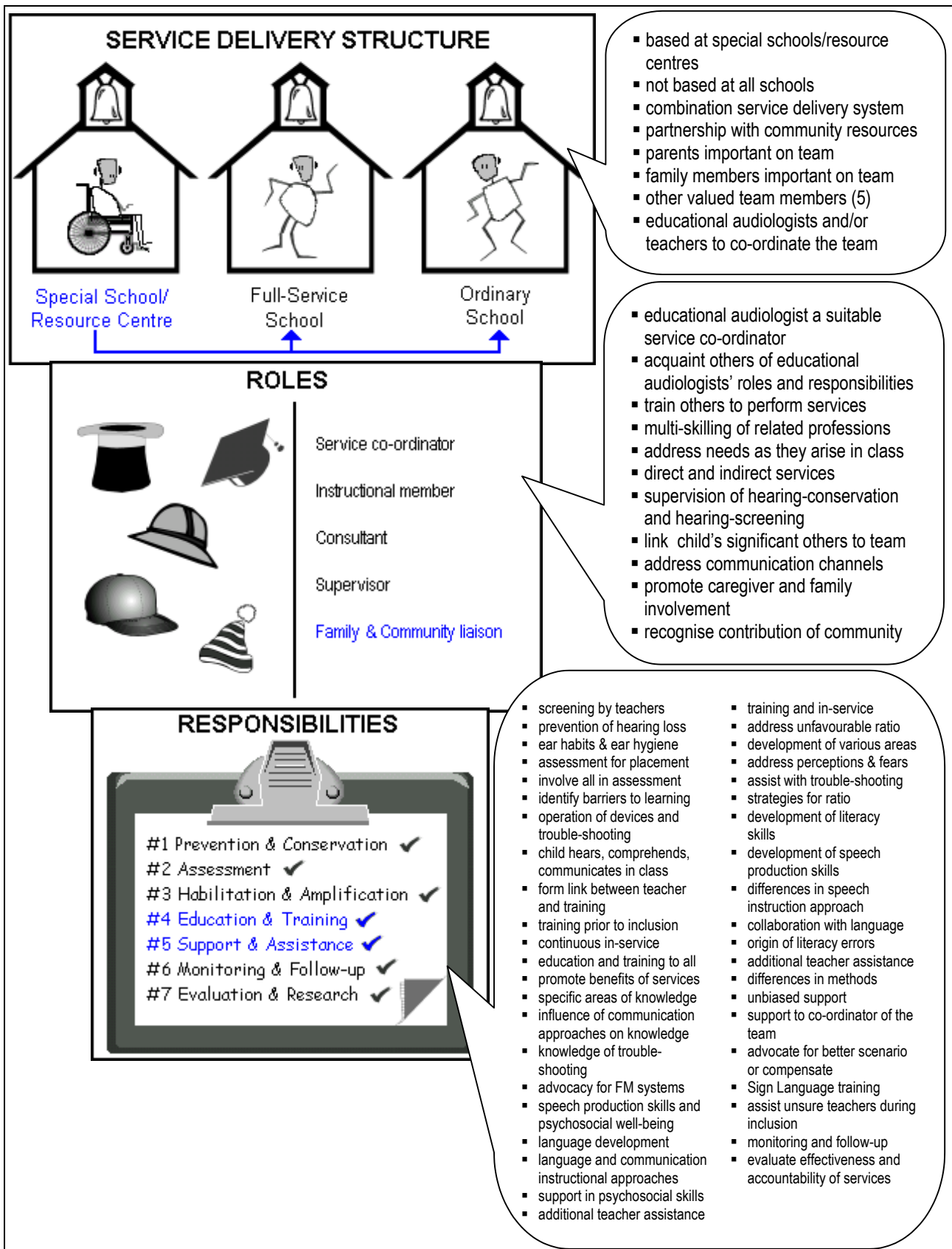


Figure 6.1: An educational audiology service delivery model for use within the inclusive educational system [conceptualised from: ASHA (1993); EAA (2002b); EAA (2002d); Education White Paper no 6, (2001); English (1995); Johnson, Benson & Seaton (1997)].

Various recommendations regarding service delivery by the educational audiologist are depicted in Figure 6.1. The most important implications for service delivery in each of the sub-headings are discussed.

6.2.1 Service delivery structure

The most important implications for the structure of service delivery, are:

Service delivery system:

- * Educational audiologists should be based at central establishments such as special schools/resource centres and from there deliver services to full-service schools and ordinary schools as required.
- * Education White Paper no 6 (2001) makes it clear that specialists, such as the educational audiologist, will not be based at all schools, but posted at a district level to be drawn upon by schools as required.
- * A combination of the school-based and the contractual system can be implemented depending on financial resources available in order to compensate for the shortage of educational audiologists in the educational system.
- * Educational audiologists should build partnerships with resources in the community, such as private audiologists and hearing aid technicians, in order to improve the quality of the service delivery system.

Service delivery team:

- * Parents should always be included on the educational service delivery team of the child with hearing loss.
- * Family members other than the parents should be recognised and encouraged to serve on the team of the child with hearing loss.
- * Other valued members that should serve on the child's educational team include the educational audiologist, speech-language therapist, psychologist, social worker, and the occupational therapist.
- * Educational audiologists and/or teachers are of the persons most suitable to co-ordinate the team of the child with hearing loss.

6.2.2 Roles of the educational audiologist

The roles of the educational audiologist may vary depending on the participation and availability of other support personnel within the educational system. The most prominent implications for the roles of the educational audiologist that were derived from this study, are:

Service co-ordinator:

- * Educational audiologists as specialists in the management of the school-going child with hearing loss, are suitable to serve as co-ordinators on the child's educational service delivery team.

Instructional member:

- * Educational audiologists should acquaint teachers and caregivers with the various roles and responsibilities of the educational audiologist.
- * Educational audiologists should train personnel such as teachers to perform some of the duties of an educational audiologist in order to overcome the shortage of educational audiologists.
- * Related professions should be multi-skilled in order to perform some of the responsibilities of the educational audiologist.

Consultant:

- * Educational audiologists should address the needs of teachers as they arise in the classroom.
- * Educational audiologists should render direct services to the child with hearing loss, as well as indirect services to the teacher of the child with hearing loss.

Supervisor:

- * Hearing-conservation and hearing-screening programmes can be performed by teachers under the supervision of educational audiologists to overcome the shortage of educational audiologists.

Family and community liaison:

The importance of recognising and involving the family and community of the child with hearing loss was highlighted throughout literature, during the empirical study, and in Education White Paper no 6 (2001).

- * Educational audiologists should link the child's significant others to the educational team.
- * Educational audiologists should address poor and inadequate communication channels which existed in the past between educational audiologists and the child's significant others.
- * Educational audiologists should promote caregiver and family involvement.
- * Educational audiologists should recognise the contribution that traditional healers, social service providers, church fraternities, and the Deaf Community can make to the success of the child's educational programme.

6.2.3 Responsibilities of the educational audiologist

The foremost implications for the responsibilities of the educational audiologist, are:

Prevention and conservation:

- * Educational audiologists should introduce hearing-screening programmes in schools and these should be conducted by teachers themselves in order to compensate for the shortage of educational audiologists.
- * Educational audiologists should encourage the prevention of hearing loss especially due to otitis media which is one of the most prevalent diseases found among school-going children in South Africa (DEAFSA, 1996).
- * Educational audiologists should advocate good ear habits and proper ear hygiene especially among children living in poverty.

Assessment:

- * Regular assessment of learners' functional hearing abilities should be done in order to determine their need for support and to ultimately make appropriate placements in either special schools/resource centres, full-

service schools, or ordinary schools depending on their current level of educational support required.

- * The caregivers, family, and community of the child with hearing loss should be involved during assessment procedures, in order to obtain a complete representation of the child's level of functioning across all contexts.
- * Assessment should identify barriers to learning in order to improve the learning environment of the child with hearing loss and not be used to exclude children with hearing loss from full participation.

Habilitation and amplification:

- * Teachers should be trained and assisted in order to operate classroom amplification devices and to trouble-shoot hearing aids.
- * Educational audiologists should involve all members of the educational team, teachers, the child's caregivers, family, and community in order to render effective and accountable educational audiology services.
- * Educational audiologists should employ strategies and modify the classroom environment to ensure that the child with hearing loss hears and comprehends all that is being said, as well as ensure that the child is able to communicate effectively with teachers and classmates in the inclusive classroom.

Education and training:

The importance of education and training was highlighted throughout literature, during the empirical study, and in Education White Paper no 6 (2001).

- * Educational audiologists should form the link between the teacher and various methods of teacher training.
- * Teacher training is required to develop the knowledge and skills of teachers prior to the inclusion of children with hearing loss.
- * More adequate and appropriate continuous in-service training is necessary to keep teachers abreast with the latest practices relating to the inclusion of children with hearing loss.

- * Educational audiologists should provide education and training to all support personnel, teachers, caregivers, family, and communities involved.
- * Educational audiologists should continuously promote to teachers and other support personnel the benefits of receiving support from an educational audiologist when acquiring knowledge re the various aspects of hearing loss, the negative impact of a hearing loss on the various areas of development, and the maximising of residual hearing of the child with hearing loss.
- * Educational audiologists should assist teachers to obtain knowledge in areas that participants did not indicate a need for support, but that literature indicated a lack of knowledge in. These areas being knowledge of the anatomy and physiology of the auditory mechanism, the process of communication, knowledge of the etiology of hearing loss, and the encouragement of continuous hearing aid use by children with hearing loss.
- * In view of the aforementioned, educational audiologists should take cognisance of the influence of different communication instructional approaches on teachers' need for support regarding the acquisition of knowledge related to educational audiology. Teachers who mainly promote Sign Language may require less need for the acquisition of knowledge related to certain aspects of hearing loss and the maximising of residual hearing, because they generally focus on other aspects during the development of Sign Language skills.
- * Educational audiologists should assist teachers in order to acquire knowledge on how to trouble-shoot hearing aids.
- * Educational audiologists should inform teachers on the strategies to advocate the use of FM systems in the inclusive classroom.
- * Educational audiologists should provide teachers with knowledge on how to address the negative impact of a hearing loss on the child's speech production skills as well as the impact on the psychosocial well-being of the child with hearing loss in an inclusive educational setting.
- * Educational audiologists should especially provide training to teachers on how to address the negative impact of a hearing loss on the language development of the child with hearing loss.

- * Educational audiologists should help teachers acquire knowledge about the various language and communication instructional approaches available to the child with hearing loss.
- * Educational audiologists should promote the importance of receiving support from professionals such as the educational audiologist in order to develop the child's psychosocial well-being in the inclusive setting.
- * Teachers without qualifications higher than a teaching diploma, without specialised training in hearing loss, with an unfavourable teacher/learner ratio in the classroom, and who have had infrequent in-service training, all require additional assistance with the acquisition of knowledge relating to educational audiology.
- * Educational audiologists should inform educational authorities and teachers on the importance of teachers receiving specialised training in hearing loss as well as more frequent in-service training to teachers of children with hearing loss.
- * Educational audiologists should train teachers to address the challenges of managing the child with hearing loss in a classroom with an unfavourable teacher/learner ratio.
- * Educational audiologists should promote the benefits of receiving support from an educational audiologist in order to develop the language, communication, literacy skills, and academic achievement of the child with hearing loss.
- * Educational audiologists should address teachers' negative perceptions regarding inclusion and their fears of change by means of information exchange and training.

Support and assistance:

This responsibility was emphasised throughout literature and also during the empirical study.

- * Educational audiologists should provide classroom assistance to teachers with the trouble-shooting of hearing aids.
- * Educational audiologists should provide teachers with strategies in order to effectively manage the child with hearing loss in a classroom with an unfavourable teacher/learner ratio.

- * Teachers should be informed on the valuable contribution that the educational audiologist can make regarding the development of the literacy skills of the child with hearing loss.
- * Educational audiologists should assist teachers in the development of speech production skills of the child with hearing loss.
- * Educational audiologist should help teachers to apply the most suited speech instructional approach for each child with hearing loss.
- * Teachers and educational audiologists should work more closely when developing the language skills of the child with hearing loss.
- * Educational audiologists should (together with remedial teachers) enable teachers to identify the origin of literacy errors.
- * Teachers without qualifications higher than a teaching diploma, without specialised training in hearing loss, with an unfavourable teacher/learner ratio in the classroom, and who have had infrequent in-service training, all require additional support and assistance in the development of language skills, speech production skills, communication skills, literacy skills, and academic achievement of the child with hearing loss.
- * Educational audiologists should be aware of differences in methods of speech instruction and Sign Language instruction and determine teachers' unique needs regarding support before embarking on assistance in these areas of development.
- * Educational audiologists should assure teachers of their unbiased support regardless of the communication instructional approach followed by the teacher.
- * Educational audiologists should provide support and assistance to teachers and/or other personnel that are serving as team co-ordinators of children with hearing loss.
- * Educational audiologists should help teachers advocate for smaller numbers of learners per classroom and to increase the number of teachers/assistants in order to provide intensive individual attention. Alternatively, if this cannot be achieved, educational audiologists should provide support to overcome these negative circumstances which affect the educational development of the child with hearing loss.

- * Educational audiologists should assist teachers to advocate for more intensive Sign Language training for teachers in order to ensure skilful instruction via the medium of Sign Language in the classroom.
- * Educational audiologists should assist teachers who are unsure of the benefits of inclusion to appropriately manage the child with hearing loss in the inclusive educational setting in order to develop the child's full potential.

Monitoring and follow-up:

- * Continuous monitoring and following-up services are a necessity and form part of a learner-centred approach which complies with guidelines stipulated by the directorate for inclusion (Department of Education, 2002).

Evaluation and research:

- * The evaluation of the effectiveness and accountability of educational audiology services should be an on-going responsibility of educational audiologists, especially because the inclusive educational system is still in the early stages of implementation and therefore unforeseen challenges may present itself over time.

6.2.4 General implications for an educational audiology service delivery model

South Africa consists of a unique combination of developed and developing components, and this limits the relevance of service delivery models applied in developed countries such as the USA and European countries (Fair & Louw, 1999). Adaptations to the service delivery model should be made to overcome specific South African problems and issues, such as: overcrowded classrooms and limited staff resources (Department of Education, 1996), the lack of parental involvement (Penn & Reagan, 1995), the absence of adequate financial resources (Steyn, 2000), increasing poverty (Statistics SA, 2001c), the rising HIV/AIDS pandemic (Matkin, Diefendorf & Erenberg, 1998), and challenges associated with diversity in culture and language (Viljoen & Molefe, 2001).

Another concern which arises is, the lack of legislation for compulsory specialised teacher-training courses for teachers of children with hearing loss. Although the inclusive educational system proposes new training programmes for all teachers (Education White Paper no 6, 2001) the content of these programmes should be carefully scrutinised, considering the findings of a recent study among South African teachers of children with hearing loss (Pottas, 1998). This study indicated a definite lack of knowledge of the teachers with regard to audiological aspects in spite of their in-service training. It becomes clear that teachers require further training and professional support in order to deliver appropriate and effective services to children with hearing loss in the inclusive educational system.

Furthermore, a limited number of audiologists are currently practising in South Africa (Pottas, 1998). Of these audiologists, not all are specialised in the audiological and educational management of the school-going child with hearing loss. The graduate training courses of audiologists should include specialisation in the field of educational audiology and equip students with the skills to identify and address teachers' needs in the inclusive educational system. Multi-skilling of related professions like speech-language therapy also presents a possible solution to the shortage in educational audiologists and provides opportunity for the use of support personnel to improve educational audiology service delivery to children with hearing loss (Johnson, 1999).

6.3 CRITICAL EVALUATION OF THE STUDY

It is necessary to justify the conclusions and gain perspective regarding the clinical implications of the empirical data obtained. A need to reflect on the positive and negative aspects of the study therefore exists.

The main criticism of this study is that teachers were asked to suggest challenges foreseen and areas of support required in the inclusive educational system, although they have had very limited or even no exposure to the

inclusion of children with hearing loss. However, the suggestions of teachers provided valuable insight into the anticipated challenges, perceptions, fears, and needs of teachers regarding the inclusion of children with hearing loss.

The significance of this study is that it is the first study of its kind in South Africa to explore the needs of teachers of children with hearing loss within the inclusive educational context regarding educational audiology services. This study provides baseline information and guidelines with respect to the needs of teachers regarding the inclusion of the child with hearing loss in South Africa. Based on the study, recommendations for an educational audiology service delivery model could be proposed.

Furthermore, the study explored the services rendered by an *educational audiologist* in South Africa. The field of educational audiology is a relatively new area of expertise in South Africa, and the services of an educational audiologist is often not distinguished from those rendered by a clinical audiologist or a speech-language therapist. Therefore, research in this aspect proved valuable in order to obtain a baseline of information regarding service delivery by the educational audiologist in South Africa.

6.4 RECOMMENDATIONS FOR FURTHER RESEARCH

This current research was undertaken in the early stages of the implementation of the inclusive educational system in South Africa. Therefore, the scope of research may change once the educational system has been firmly established and new challenges have been encountered by teachers and children with hearing loss. The following recommendations are made for further research possibilities:

- * More specific adaptations to the curriculum, teaching materials, and classroom environment in order to accommodate children with hearing loss, should be investigated. The current guidelines on implementation of inclusion practices in South Africa, to date, provide conceptual clarity, but

lack specific detail regarding the practical implications of inclusion of children with hearing loss (Department of Education, 2002; Education White Paper no 6, 2001).

- * The effectiveness of educational audiology services within the inclusive educational system should be determined once structures for service delivery are in place. The evaluation of the service delivery system must be an on-going responsibility of the educational audiologist to ensure the efficacy of services within the educational system (EAA, 2002b). Furthermore, ongoing research into best practices in audiological and educational management of children with hearing loss is of the utmost importance to render accountable services in accordance with current trends (ASHA, 1993).
- * The need for specialisation in the field of educational audiology in South Africa, should be explored. Currently in South Africa, the services of speech-language therapists and audiologists are intermingled. Therefore, it should be determined whether separate specialisation in the field of educational audiology is required in order to maximally benefit the school-going child with hearing loss.

6.5 CONCLUSION

Educational audiologists in the inclusive educational system, therefore should meet the challenges of addressing the needs of teachers of children with hearing loss within the framework of a South African educational audiology service delivery model to ultimately benefit the child with hearing loss.

Only by working together as a team, the successful inclusion of children with hearing loss can be achieved in South Africa. This is emphasised by the directorate of inclusion who abides by the principle of *tirisano* (Department of Education, 2002: 126):

“...Tirisano, means ‘working together’, we are committing ourselves to exploring effective and efficient ways of bringing together our resources to benefit the learners - all learners”.

And as part of this team, the role of the educational audiologist and his/her services to children with hearing loss, should be recognised:

“Audiologists, as professionals who are experts in the management of hearing in an educational setting, can have an enormous impact on the future of children with all types and degrees of hearing problems. Indeed, thorough and insightful audiologic management can make the difference between one child with hearing loss becoming an independent, contributing citizen and another child living life on the fringe” (Flexer, 1993: 204).



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APPENDICES A - H

**APPENDIX A:
LIST OF SCHOOLS THAT PROVIDE FOR CHILDREN
WITH HEARING LOSS**

List of schools that provide for children with hearing loss in South Africa (n=35) [compiled from DEAFSA (2001a)]	
Eastern Cape	Efata School for the Blind and Deaf
	Greenwood Primary School
	Reubin Birin School for the Hearing Impaired
	St Thomas School for the Deaf
Free State	Bartimea School for the Deaf and Blind
	Thiboloha School for the Deaf and Blind
Gauteng	Dominican School for the Deaf
	Filadelfia Secondary School
	Katlehong School for the Hearing Impaired
	MC Kharbai School for the Deaf
	Sizwile School for the Deaf
	Sonitus School for the Hard of Hearing
	St Vincent School for the Deaf
	Transoranje School for the Deaf
Kwazulu-Natal	Durban School for the Hearing Impaired
	Fulton School for the Deaf
	Indaleni School for the Deaf
	Kwa Thintwa School for the Deaf
	Kwa Vulindlebe School for the Deaf
	St Martin de Porres Comprehensive School
	VN Naik School for the Deaf
	Vuleka School for the Deaf
Limpopo	Bosele School for the Blind and Deaf
	Nelsonskop Centre for the Hearing Impaired
	Tshilidzini School for the Deaf
	Yingisani School for the Deaf
Mpumalanga	Silindokuhle School for the Mentally Retarded, Blind and Deaf
Northern Cape	No schools to date
North West	North West Secondary School
	Kutlwanong School for the Deaf
Western Cape	De la Bat School
	Dominican Grimley School for Deaf Children
	Dominican School for Deaf Children
	Mary Kihn School for Partially Hearing Pupils
	Noluthando Institute for the Deaf
	Nuwe Hoop Centre for the Hearing Impaired

**APPENDIX B:
COVERING LETTER & LETTER OF INFORMED CONSENT TO
PRINCIPALS**

(English version)



March 2002

Dear Principal,

Request for permission to conduct research at your school:

The inclusive educational system presents new challenges to teachers of children with hearing loss. As you are head of a special school that may serve as a resource centre in the future inclusive educational system, we value your teachers' skill and expertise in the education of children with hearing loss, and would therefore like to include your school in this research project.

The theme of the research project is: *The needs of teachers of children with hearing loss regarding an educational audiology service delivery model within the inclusive educational system.* The aim of this research project is to determine the needs of teachers in the future inclusive educational system and to attempt to address these needs by developing a model for service delivery in order to support the teacher. The ultimate goal is to fulfill the educational needs of the child with hearing loss in the inclusive educational system through appropriate teacher support services.

I am planning to obtain the necessary information for this research project through the use of questionnaires. Each teacher at your school, who is involved in the schooling of children with hearing loss, will be asked to complete the questionnaire. The total time for the completion of the questionnaire will take approximately 20 minutes.

The necessary permission from the Department of Education has been received to conduct this research project at your school (see enclosed letter). I hereby request your permission to proceed with the research project at your school. Your teachers will not be requested to provide their names on the questionnaire, and their answers will remain strictly confidential. I undertake to remove all identifying information from the final report. I also assure you that I will not disturb the normal school routine with this project or cause any financial implications for your school.

Please contact me at 083 306 0981 should you require more information.

Yours sincerely,

Mrs. C van Dijk
Post-graduate student

Prof. SR Hugo
Research supervisor

Please complete the following in order to grant permission to the teachers of your school to participate in the research project:

I, _____ hereby give my informed consent that the teachers of my school are permitted to participate in the above-mentioned research project.

Date: _____

Signed: _____

Kindly fax the completed section through to: Fax (012) 440 6048

(Afrikaans version)



Maart 2002

Beste Skoolhoof,

Toestemming vir navorsingsprojek by u skool:

Soos u seker reeds besef, gaan die inklusiewe onderwysstelsel nuwe uitdagings vir die onderwysers van kinders met gehoorverliese bied. Aangesien u die hoof van 'n spesiale skool is wat dalk in die toekomstige inklusiewe onderwysstelsel as 'n hulpbronsentrum mag funksioneer, stel ons u onderwysers se vaardighede en kundigheid hoog op die prys wanneer dit kom by die onderrig van kinders met 'n gehoorverlies, en wil ons u skool dus graag betrek by hierdie navorsingsprojek.

Die tema van hierdie navorsingsprojek is: *Die behoeftes van onderwysers van kinders met gehoorverlies aangaande 'n opvoedkundige oudiologie dienslewingsmodel binne die inklusiewe onderwysstelsel.* Hierdie navorsingsprojek het ten doel om die behoeftes van onderwysers in die toekomstige inklusiewe onderwysstelsel te bepaal en dan gevolglik hierdie behoeftes aan te spreek deur die ontwikkeling van 'n opvoedkundige oudiologie dienslewingsmodel. Die uiteindelige doel is om te voorsien in die opvoedingsbehoefte van die kind met gehoorverlies deur toepaslike onderwyser-ondersteuningsdienste.

Ek beplan om die nodige inligting vir die navorsingsprojek d.m.v. vraelyste te verkry. Elke onderwyser by u skool wat betrokke is by die onderrig van kinders met 'n gehoorverlies, sal gevra word om die vraelyste te voltooi. Die tydsduur vir voltooiing van die vraelyste sal ongeveer 20 minute wees.

Die nodige toestemming is vanaf die Departement Onderwys verkry om hierdie navorsingsprojek by u skool te loods (sien ingeslote brief). Hiermee vra ek u toestemming om voor te gaan met die navorsingsprojek by u skool. U onderwysers sal nie gevra word om hul name op die vraelyste te verskaf nie en hul antwoorde sal as hoogs vertroulik hanteer word. Ek onderneem dat alle identifiserende inligting vanuit die finale verslag verwyders sal word. Voorts onderneem ek ook dat hierdie navorsingsprojek nie die skool se normale roetine sal ontwig nie of dat dit enige finansiële implikasies vir die skool tot gevolg sal hê nie.

Kontak my gerus by 083 306 0981 indien u meer inligting verlang.

Vriendelike groete,

Mev C van Dijk
Nagraadse student

Prof SR Hugo
Navorsingsleier

Vul asseblief die onderstaande in om sodoende toestemming aan u
onderwysers te verleen om aan die navorsingsprojek deel te neem:

Ek, _____ gee hiermee my
oorwoë toestemming dat die onderwysers van my skool aan bogenoemde
navorsingsprojek mag deelneem.

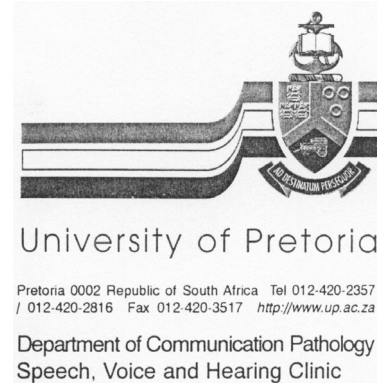
Datum: _____

Handtekening: _____

Faks asseblief die ingevulde gedeelte deur na: Faks (012) 440 6048

**APPENDIX C:
COVERING LETTER & LETTER OF INFORMED CONSENT TO
PARTICIPANTS**

(English version)



March 2002

Dear teacher,

The inclusive educational system presents new challenges to teachers of children with hearing loss. As you are working in a special school that may serve as a resource centre in the future inclusive educational system, we value your skill and expertise in the education of children with hearing loss and would therefore like to include you in this research project.

The theme of the research project is: *The needs of teachers of children with hearing loss regarding an educational audiology service delivery model within the inclusive educational system.* The aim of this research project is to determine the needs of teachers in the future inclusive educational system and attempt to address these needs by developing a model for service delivery in order to support the teacher. The ultimate goal is to fulfill the educational needs of the child with hearing loss in the future inclusive educational system through appropriate teacher support services.

I am planning to obtain the necessary information for this research project through the use of questionnaires. Each teacher at your school, who is involved in the teaching of children with hearing loss, will be asked to complete the questionnaire. The total time for the completion of the questionnaire will be approximately 20 minutes.

The necessary permission from the Department of Education and your principal has been received to conduct this research project at your school. You will not be required to provide your name on the questionnaire, and your answers will remain strictly confidential. I undertake to remove all identifying information from the final report. I also assure you that I will not disturb the normal school routine with this project or cause any financial implications for the school.

I would like to express my sincere thanks for your willingness to assist me!

Please complete the slip at the bottom of the letter.

Yours sincerely,

Mrs C van Dijk
Post-graduate student

Prof SR Hugo
Research supervisor

Please complete the following in order to confirm your willingness to participate in the research project:

I, _____ hereby give my informed consent to participate in the above-mentioned research project.

Date: _____

Signed: _____

(Afrikaans version)



Maart 2002

Beste onderwyser,

Soos u seker reeds besef, gaan die toekomstige inklusiewe onderwyssisteem nuwe uitdagings vir die onderwysers van kinders met gehoorverliese bied. Aangesien u in 'n spesiale skool werksaam is en wat in die toekomstige inklusiewe onderwyssisteem as 'n hulpbronsentrum sal funksioneer, stel ons u vaardighede en kundigheid hoog op die prys wanneer dit kom by die onderrig van kinders met 'n gehoorverlies en wil ons u dus graag betrek by hierdie navorsingsprojek.

Die tema van hierdie navorsingsprojek is: *Die behoeftes van onderwysers van kinders met gehoorverlies aangaande 'n opvoedkundige oudiologie diensleweringmodel*. Hierdie navorsingsprojek het ten doel om die behoeftes van onderwysers in die inklusiewe onderwyssisteem te bepaal en dan gevolglik hierdie behoeftes aan te spreek deur die ontwikkeling van 'n opvoedkundige oudiologie diensleweringmodel. Die uiteindelijke doel is om in die opvoedingsbehoefte van die kind met gehoorverlies te voorsien deur toepaslike onderwyser-ondersteuningdienste.

Ek beplan om die nodige inligting vir die navorsingsprojek d.m.v vraelyste te verkry. Elke onderwyser by u skool wat betrokke is by die onderrig van kinders met 'n gehoorverlies, sal gevra word om die vraelyste te voltooi. Die invul van die vraelyste sal ongeveer 20 minute duur.

Die nodige toestemming is vanaf die Departement Onderwys en u skoolhoof verkry om hierdie navorsingsprojek by u skool te loods. U sal nie gevra word om u naam op die vraelyste te verskaf nie en u antwoorde sal as hoogs vertroulik hanteer word. Ek onderneem dat alle identifiserende inligting vanuit die finale verslag verwyders sal word. Voorts onderneem ek ook dat hierdie navorsingsprojek nie die skool se normale roetine sal ontwrig nie of dat dit enige finansiële implikasies vir die skool tot gevolg sal hê nie.

Ek bedank u hartlik vir u bereidwilligheid om tot hierdie navorsingsprojek by te dra!

Sal u asseblief die onderstaande strokie voltooi.

Vriendelike groete,

Mev C van Dijk
Nagraadse student

Prof SR Hugo
Navorsingsleier

Vul asseblief die volgende in om sodoende u bereidwilligheid te bevestig om
aan die projek deel te neem:

Ek, _____ gee hiermee my
oorwoë toestemming om aan bogenoemde navorsingsprojek deel te neem.

Datum: _____

Handtekening: _____

**APPENDIX D:
QUESTIONNAIRE**

(English version)

Dear teacher, please

- * Complete all the questions
- * Share your knowledge and opinions in detail
- * Place a cross in the appropriate block
- * More than one block may be crossed where appropriate
- * All responses will remain highly confidential
- * Any identifying information will be removed from the final report

Respondent number

Q1
1-3

SECTION A: TEACHER INFORMATION

1 What is your gender?

male	female
------	--------

Q2 4

2 What is your age?

20-30 years	31-40 years	41-50 years	51 years and older
-------------	-------------	-------------	--------------------

Q3 5

3 What is your home language?

Afrikaans	English	Sotho	Zulu	Xhosa	Sign language	Other Specify:
-----------	---------	-------	------	-------	---------------	----------------

Q4 6

4 What is the highest educational qualification you have obtained?

Q5 7

5 Have you had any special training in working with children with hearing loss?

yes	no
-----	----

Q6 8

5.1 If YES, please specify your training:

in-service training	special diploma/certificate	special degree
---------------------	-----------------------------	----------------

Q7 9

6 Approximately how long have you been involved with children with hearing loss?

0 – 1½ years	2 - 3½ years	4 - 5½ years	more than 5½ years
--------------	--------------	--------------	--------------------

Q8 10

SECTION B: INFORMATION REGARDING TEACHING PRACTICES

7 Which phases do you teach?

pre-school	foundation Gr R – Gr 3	intermediate Gr 4 – Gr 6	senior Gr 7 – Gr 12	vocational/ technical
------------	---------------------------	-----------------------------	------------------------	--------------------------

Q9 11

8 What is the total number of learners you teach?

0-10 learners	11-20 learners	21-30 learners	31-40 learners	41-50 learners	more than 50 learners
------------------	-------------------	-------------------	-------------------	-------------------	--------------------------

Q10 12

9 What medium of language instruction do you use at your school?

Afrikaans	English	Sotho	Zulu	Xhosa	Sign language	Other Specify:
-----------	---------	-------	------	-------	------------------	-------------------

Q11 13

10 What method of communication do you use with your learners?

Oral-Aural	Sign language	Total Communication	Bilingual/Bicultural
------------	---------------	---------------------	----------------------

Q12 14

11 Have teachers at your school received any specific in-service training in terms of managing the child with a hearing loss? (e.g. any workshops, seminars, hands-on demonstrations)

yes	no
-----	----

Q13 15

11.1 If YES, indicate how often training takes place:

every 2 years	annually	every six months	every three months	every month
---------------	----------	------------------	--------------------	-------------

Q14 16

12 Do you think in-service training benefits you?

yes	no
-----	----

Q15 17

12.1 Explain your answer:

Q16 18-19

SECTION C: THE TEACHER IN THE FUTURE INCLUSIVE EDUCATIONAL SYSTEM

Dear teacher,

- * The following questions require *your opinion* on:
 what you think the *skill* of a teacher of children with hearing loss in the future inclusive educational system should be, and
 whether you think the teacher will require *support* from a professional person who is knowledgeable in these areas
- * Remember you can tick more than one answer where appropriate

KNOWLEDGE OF THE CHILD WITH HEARING LOSS

13 In which of the following areas should a teacher in an inclusive educational system have basic knowledge and support in?

Please tick off your choices in both columns :

	Teacher should have basic knowledge thereof	Teacher requires support from a professional to obtain this knowledge
Understand the process of communication interaction		
Know about the different communication options available, namely Oral-Aural, Sign language, Total Communication and the Bilingual/Bicultural method		
Know the structure and working of the ear		
Be able to interpret a child's audiogram (hearing graph)		
Know the purpose and working of an FM system		
Know the purpose and working of a hearing aid		
Know how to inspect a hearing aid and detect the problem when it is not working		
Know the common causes of hearing loss		
Know the types of hearing loss associated with these common causes		
Know the factors that can further damage hearing		
Know the impact a hearing loss will have on a child's ability to be educated		
None of the above-mentioned		

Q17 20-21

Q18 22-23

Q19 24-25

Q20 26-27

Q21 28-29

Q22 30-31

Q23 32-33

Q24 34-35

Q25 36-37

Q26 38-39

Q27 40-41

Q28 42-43

- 14 A teacher in an inclusive educational system should know that hearing loss can impact negatively on the following areas of the child and he/she will require support in the following areas:

Please tick off your choices in both columns :

	Teacher should know a hearing loss can negatively impact on this area	Teacher requires support to obtain knowledge on the negative impact of the hearing loss on this area
Language development		
Speech production		
Communication skills		
Literacy skills		
Academic achievement		
Psychosocial development		
None of the above-mentioned		

Q29 44-45
 Q30 46-47
 Q31 48-49
 Q32 50-51
 Q33 52-53
 Q34 54-55
 Q35 56-57

- 15 If a child in an inclusive class has been identified with a hearing loss, the teacher should have knowledge of the following in order to enhance the child's ability to hear and he/she will require support in the following areas:

Please tick off your choices in both columns :

	Teacher should have basic knowledge thereof	Teacher requires support from a professional to obtain this knowledge
Identify noise levels inside and outside the classroom		
Try to reduce noise levels inside and outside the classroom		
Suggest to the relevant authorities at school that the classroom should have more absorbent surfaces such as carpets and curtains to enhance the sound quality in the classroom		
Suggest to the relevant authorities at school that the child could benefit from the use of an FM system in class		
Encourage the child to wear his/her hearing aids at all times		
Teach the child the correct listening behaviour in class		
Teach the child speech-reading (lip-reading) skills		
None of the above-mentioned		

Q36 58-59
 Q37 60-61
 Q38 62-63
 Q39 64-65
 Q40 66-67
 Q41 68-69
 Q42 70-71
 Q43 72-73

LANGUAGE OF THE CHILD WITH HEARING LOSS

16 Which of the following steps should a teacher in an inclusive educational system have to take in order to address a child's *delayed language skills* (due to hearing loss) and in which of the following areas will he/she require support?

Please tick off your choices in both columns :

	Teacher should take these steps	Teacher requires support from a professional to execute these steps
Use the hierarchy of normal language development to plan activities for language development		
Take into account the child's unique level of language functioning when talking to the child		
Take into account the child's unique level of language functioning when planning the content of teaching material		
Modify and/or adapt teaching materials, teaching techniques, and the classroom environment to meet the language needs of the child		
Have knowledge of different language instructional approaches such as: Fitzgerald Key, Natural approach, etc. and apply the best suited approach for the child		
Emphasise language across all contexts in the school		
Practise language within activities of social interaction		
Take into account that some children may have additional language problems such as: phonological processes, second language confusion, etc. that need to be addressed		
None of the above-mentioned		

Q44 74-75

Q45 76-77

Q46 78-79

Q47 80-81

Q48 82-83

Q49 84-85

Q50 86-87

Q51 88-89

Q52 90-91

SPEECH OF THE CHILD WITH HEARING LOSS

17 Which of the following steps should a teacher in an inclusive educational system have to take in order to address a child's *deficits in speech production* (due to hearing loss) and in which of the following areas will he/she require support?

Please tick off your choices in both columns :

	Teacher should take these steps	Teacher requires support from a professional to execute these steps
Use the hierarchy of normal speech development to plan activities for improvement of speech intelligibility		
Take into account the child's unique physical ability to produce sounds with his/her mouth when planning activities for improvement of speech intelligibility		
Obtain information on the child's ability to pronounce all the sounds		
Monitor and document changes in the faulty sounds that the child is learning to pronounce correctly		
Have knowledge of different speech instructional approaches such as: analytical, whole, formal, multisensory, etc. and apply the approach best suited for the child		
Take into account that some children may have additional speech problems such as: stuttering, voice problems, etc. that need to be addressed		
None of the above-mentioned		

Q53 92-93

Q54 94-95

Q55 96-97

Q56 98-99

Q57 100-101

Q58 102-103

Q59 104-105

COMMUNICATION OF THE CHILD WITH HEARING LOSS

18 Which of the following steps should a teacher in an inclusive educational system have to take in order to address a child’s *communication difficulties* (due to hearing loss) and in which of the following areas will he/she require support?

Please tick off your choices in both columns :

	Teacher should take these steps	Teacher requires support from a professional to execute these steps
Expose the child to interactional experiences so that he/she is more motivated to communicate and can develop his/her communication skills		
Apply communication repair strategies when communication breakdowns occur in class		
Have knowledge of the communication options available to the child, either the Oral-Aural, Sign language, Total Communication or Bilingual/Bicultural method		
Use one of the above-mentioned communication options in class		
None of the above-mentioned		

Q60 106-107

Q61 108-109

Q62 110-111

Q63 112-113

Q64 114-115

LITERACY SKILLS OF THE CHILD WITH HEARING LOSS

19 Which of the following steps should a teacher in an inclusive educational system have to take in order to address a child's *poor literacy skills* (due to hearing loss) and in which of the following areas will he/she require support?

Please tick off your choices in both columns :

	Teacher should take these steps	Teacher requires support from a professional to execute these steps
Ensure that the child has acquired the basics of language before proceeding with literacy instruction		
Identify the origin of the reading and writing errors made by the child, such as auditory discrimination problems, language problems, etc		
Address the origin of the reading and writing errors made by the child		
Have knowledge of different literacy instructional approaches such as: top-down or bottom-up, etc. and apply the best suited approach for the child		
None of the above-mentioned		

Q65 116-117

Q66 118-119

Q67 120-121

Q68 122-123

Q69 124-125

ACADEMIC ACHIEVEMENT OF THE CHILD WITH HEARING LOSS

20 Which of the following steps should a teacher in an inclusive educational system have to take in order to address a child's *poor academic achievement* (due to hearing loss) and in which of the following areas will he/she require support?

Please tick off your choices in both columns :

	Teacher should take these steps	Teacher requires support from a professional to execute these steps
Tailor the child's learning experience to his/her cognitive, physical, socio-emotional, and cultural level		
Modify the curriculum of the subject by controlling the vocabulary and syntax		
None of the above-mentioned		

Q70 126-127

Q71 128-129

Q72 130-131

PSYCHOSOCIAL DEVELOPMENT OF THE CHILD WITH HEARING LOSS

21 Which of the following steps should a teacher in an inclusive educational system have to take in order to address a child's *troublesome psychosocial development* (due to hearing loss) and in which of the following areas will he/she require support?

Please tick off your choices in both columns :

	Teacher should take these steps	Teacher will require support from a professional to execute these steps
Promote the child's confidence in class		
Encourage acceptance and respect from the child's hearing classmates		
Monitor the child's social adjustment and integration in class and intervene when necessary		
Give opportunity for socialising and expression in class		
None of the above-mentioned		

Q73 132-133
 Q74 134-135
 Q75 136-137
 Q76 138-139
 Q77 140-141

SERVICE DELIVERY AND THE CHILD WITH HEARING LOSS

22 Which of the following persons should a teacher in an inclusive educational system involve during teamwork in order to successfully plan the child's educational programme?

Please tick off your choices in the column :

	Teacher will need these person(s) on the team
The child with hearing loss	
The parents	
The speech therapist	
The hearing therapist (audiologist)	
The social worker	
The psychologist	
The occupational therapist	
Others, specify:	
None of the above-mentioned	

Q78 142
 Q79 143
 Q80 144
 Q81 145
 Q82 146
 Q83 147
 Q84 148
 Q85 149-150
 Q86 151

23 Which **ONE** of these persons will you choose to co-ordinate the team and to liaise with other team members in order to assist the teacher of a child with hearing loss?

Please tick off **ONE** choice in the column :

The child with hearing loss	<input type="checkbox"/>
The parents	<input type="checkbox"/>
The teacher must do it himself/herself	<input type="checkbox"/>
The hearing therapist (audiologist)	<input type="checkbox"/>
The speech therapist	<input type="checkbox"/>
The social worker	<input type="checkbox"/>
The psychologist	<input type="checkbox"/>
The occupational therapist	<input type="checkbox"/>
None of the above-mentioned	<input type="checkbox"/>

Q87 152

24 If a professional who specialises in children with hearing loss can provide support to the teacher in the inclusive education system, which of the following methods of support will benefit the teacher?

Please tick off your choices in the column :

	Teacher will benefit from the following method(s) of support
A once-off training session	<input type="checkbox"/>
Regular workshops	<input type="checkbox"/>
Continuous in-service training	<input type="checkbox"/>
Hands-on assistance when needed	<input type="checkbox"/>
None of the above-mentioned	<input type="checkbox"/>

Q88 153

Q89 154

Q90 155

Q91 156

Q92 157

25 If a professional who specialises in children with hearing loss can provide support to the teacher in an inclusive educational system, which **ONE** of these service delivery models would you recommend?

Please tick off **ONE** choice in the column :

The school employs one full-time professional to conduct services at the school	<input type="checkbox"/>
The school utilises a private professional from outside the school to conduct part-time services at the school	<input type="checkbox"/>
The school employs one full-time professional who receives part-time assistance from another private professional in order to conduct services at the school	<input type="checkbox"/>
None of the above-mentioned. Specify your own suggestion:	<input type="checkbox"/>

Q93 158

OPEN-ENDED QUESTIONS

Dear teacher, provide detailed explanations of your answers

26 What main duties do you think should a hearing therapist (audiologist) have at a school?

Q94 159-160

27 Do you feel that the teacher in an inclusive educational system can benefit from the support of a hearing therapist (audiologist)?

yes	no
-----	----

Q95 161

27.1 Explain your answer:

Q96 162-163

28 What is the biggest challenge that may face a teacher of children with hearing loss in an inclusive educational system?

Q97 164-165

29 What possible solution(s) can you suggest for the above-mentioned challenge?

Q98 166-167

30 Do you think that children with hearing loss will benefit from the future inclusive educational system?

yes	no
-----	----

Q99 168

30.1 Explain your answer:

Q100 169-170

Thank you for your time and your valuable contribution towards this research project!



*(Afrikaans version)***Beste onderwyser, let asseblief op die volgende**

- * Beantwoord alle vrae
- * Deel u kennis en menings so volledig as moontlik
- * Merk u antwoord met 'n kruisie waar nodig in die aangewese blokkie
- * Meer as een blokkie kan gemerk word indien van toepassing
- * Alle inligting sal as hoogs vertroulik beskou word
- * Enige identifiserende inligting sal uit die finale verslag verwyder word

AFDELING A: ONDERWYSER INLIGTING

13 Wat is u geslag?

manlik	vroulik
--------	---------

14 Wat is u ouderdom?

20-30 jaar	31-40 jaar	41-50 jaar	51 jaar en ouer
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3 Wat is u huistaal?

Afrikaans	Engels	Sotho	Zoeloe	Xhosa	Gebaretaal	Ander Spesifiseer:
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15 Wat is die hoogste opvoedkundige kwalifikasie wat u al verwerf het?

16 Het u enige spesiale opleiding ontvang in die hantering van kinders met 'n gehoorverlies?

ja	nee
----	-----

5.1 Indien JA, spesifiseer watter opleiding:

indiensopleiding	spesiale diploma/sertifikaat	spesiale graad
------------------	------------------------------	----------------

17 Ongeveer hoe lank is u reeds betrokke by die onderrig van kinders met 'n gehoorverlies?

0 – 1½ jaar	2 - 3½ jaar	4 - 5½ jaar	langer as 5½ jaar
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Vir kantoorgebruik

Respondentnummer

V1

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1-3

V2 4V3 5V4 6V5 7V6 8V7 9V8 10

AFDELING B: INLIGTING OMTRENT ONDERRIG AKTIWITEITE

18 Watter fases onderrig u?

voorskool	aanvangs Gr R – Gr 3	intermediêr Gr 4 – Gr 6	senior Gr 7 – Gr 12	beroepsopleiding/ tegnies
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V9 11

19 Altesaam hoeveel leerders onderrig u?

0-10 leerders	11-20 leerders	21-30 leerders	31-40 leerders	41-50 leerders	meer as 50 leerders
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V10 12

9 Watter taal van onderrig volg u in die skool?

Afrikaans	Engels	Sotho	Zoeloe	Xhosa	Gebaretaal	Ander. Spesifiseer:
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V11 13

10 Watter metode van kommunikasie volg u met u leerders?

Oraal-Ouraal	Gebare taal	Totale Kommunikasie	Tweetalige (Bilingual)
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V12 14

11 Het onderwysers by u skool enige indiensopleiding ontvang i.t.v. die spesifieke hantering van die leerder met 'n gehoorverlies? (bv. enige werksinkels, seminare, praktiese demonstrasies)

ja	nee
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V13 15

11.1 Indien JA, dui aan hoe gereeld dit plaasvind:

elke 2 jaar	jaarliks	elke 6 maande	elke 3 maande	elke maand
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V14 16

11 Dink u indiensopleiding is vir u van waarde?

ja	nee
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V15 17

12.1 Verduidelik jou antwoord:

V16 18-19

AFDELING C: DIE ONDERWYSER IN DIE TOEKOMSTIGE INKLUSIEWE ONDERWYSSISTEEM

Beste onderwyser, let asseblief op die volgende

- * *U mening* word in die volgende vrae verlang oor:
wat u dink die vaardighede van 'n onderwyser van kinders met gehoorverlies binne die toekomstige inklusiewe onderwysstelsel behoort te wees, en of u dink die onderwyser ondersteuning van 'n professionele persoon wat kundig is op die betrokke gebied, verlang
- * Onthou dat meer as een blokkie gemerk kan word waar nodig

KENNIS VAN DIE KIND MET 'N GEHOORVERLIES

- 13 In watter van die volgende gebiede behoort 'n onderwyser binne 'n inklusiewe onderwysstelsel die basiese kennis te dra en ondersteuning in te verkry?

Merk asseblief u keuses in beide kolomme :

	Onderwyser behoort basiese kennis hiervan te dra	Onderwyser benodig ondersteuning van 'n professionele persoon om hierdie kennis in te win	
Verstaan die proses van kommunikasie interaksie			V17 <input type="checkbox"/> <input type="checkbox"/> 20-21
Dra kennis van die verskillende beskikbare kommunikasie metodes, naamlik Oraal-Oraal, Gebaretaal, Totale Kommunikasie en Tweektalige (Bilingual) metode			V18 <input type="checkbox"/> <input type="checkbox"/> 22-23
Ken die bou en werking van die oor			V19 <input type="checkbox"/> <input type="checkbox"/> 24-25
Kan die oudiogram (gehoorgrafiek) van 'n kind interpreteer			V20 <input type="checkbox"/> <input type="checkbox"/> 26-27
Ken die doel en werking van 'n FM sisteem			V21 <input type="checkbox"/> <input type="checkbox"/> 28-29
Ken die doel en werking van 'n gehoorapparaat			V22 <input type="checkbox"/> <input type="checkbox"/> 30-31
Weet hoe om 'n gehoorapparaat na te gaan en die fout te identifiseer wanneer dit nie in 'n werkende toestand is nie			V23 <input type="checkbox"/> <input type="checkbox"/> 32-33
Ken die algemene oorsake van gehoorverlies			V24 <input type="checkbox"/> <input type="checkbox"/> 34-35
Ken die tipes gehoorverliese wat verband hou met hierdie algemene oorsake			V25 <input type="checkbox"/> <input type="checkbox"/> 36-37
Weet wat kan verdere skade aan die gehoor veroorsaak			V26 <input type="checkbox"/> <input type="checkbox"/> 38-39
Weet watter impak 'n gehoorverlies op die vermoë om 'n kind te onderrig, kan hê			V27 <input type="checkbox"/> <input type="checkbox"/> 40-41
Nie een van bogenoemde nie			V28 <input type="checkbox"/> <input type="checkbox"/> 42-43

- 14 'n Onderwyser binne 'n inklusiewe onderwysstelsel behoort te weet dat 'n gehoorverlies 'n negatiewe impak op die volgende gebiede by die kind kan hê en hy/sy benodig ondersteuning op die volgende gebiede:

Merk asseblief u keuses in beide kolomme :

	Onderwyser behoort kennis te dra van 'n gehoorverlies se negatiewe impak op hierdie gebied	Onderwyser benodig ondersteuning om kennis oor die negatiewe impak op hierdie gebied in te win	
Taalontwikkeling			V29 <input type="checkbox"/> <input type="checkbox"/> 44-45
Spraakproduksie			V30 <input type="checkbox"/> <input type="checkbox"/> 46-47
Kommunikasie vaardighede			V31 <input type="checkbox"/> <input type="checkbox"/> 48-49
Geletterdheidsvaardighede			V32 <input type="checkbox"/> <input type="checkbox"/> 50-51
Akademie prestasie			V33 <input type="checkbox"/> <input type="checkbox"/> 52-53
Psigologies-sosiale ontwikkeling			V34 <input type="checkbox"/> <input type="checkbox"/> 54-55
Nie een van bogenoemde nie			V35 <input type="checkbox"/> <input type="checkbox"/> 56-57

- 15 Wanneer 'n kind binne 'n inklusiewe klas met 'n gehoorverlies geïdentifiseer is, moet die onderwyser oor die volgende kennis beskik om die kind se gehoorvermoë te verbeter en die onderwyser benodig ondersteuning op die volgende gebiede:

Merk asseblief u keuses in beide kolomme :

	Onderwyser behoort kennis hiervan te dra	Onderwyser benodig ondersteuning van 'n professionele persoon om hierdie kennis in te win	
Identifiseer die geraasvlakke binne en buite die klaskamer			V36 <input type="checkbox"/> <input type="checkbox"/> 58-59
Probeer geraasvlakke binne en buite die klaskamer verminder			V37 <input type="checkbox"/> <input type="checkbox"/> 60-61
Maak 'n voorstel aan die betrokke skool-owerhede dat die klaskamer meer absorberende oppervlaktes soos 'n tapyt en gordyne moet kry in 'n poging om die klas se klankkwaliteit te verbeter			V38 <input type="checkbox"/> <input type="checkbox"/> 62-63
Maak 'n voorstel aan die betrokke skool-owerhede dat die kind moontlik by 'n FM sisteem kan baatvind			V39 <input type="checkbox"/> <input type="checkbox"/> 64-65
Moedig die kind aan om sy/haar gehoorapparate voltyds te dra			V40 <input type="checkbox"/> <input type="checkbox"/> 66-67
Leer die kind die korrekte luistergedrag in die klas aan			V41 <input type="checkbox"/> <input type="checkbox"/> 68-69
Leer die kind spraaklees (liplees) vaardighede aan			V42 <input type="checkbox"/> <input type="checkbox"/> 70-71
Nie een van bogenoemde nie			V43 <input type="checkbox"/> <input type="checkbox"/> 72-73

TAAL VAN DIE KIND MET 'N GEHOORVERLIES

16 Watter van die volgende stappe moet 'n onderwyser binne 'n inklusiewe onderwysstelsel neem om die kind se *taalagterstand* (a.g.v. 'n gehoorverlies) aan te spreek en op watter van die volgende gebiede benodig hy/sy ondersteuning?

Merk asseblief u keuses in beide kolomme :

	Onderwyser moet hierdie stappe neem	Onderwyser benodig ondersteuning van 'n professionele persoon om hierdie stappe te kan neem	
Gebruik die hiërargie van normale taalontwikkeling om taalontwikkelings-aktiwiteite te beplan			V44 <input type="checkbox"/> <input type="checkbox"/> 74-75
Neem die kind se unieke vlak van taalfunksionering in ag wanneer jy met die kind praat			V45 <input type="checkbox"/> <input type="checkbox"/> 76-77
Neem die kind se unieke vlak van taalfunksionering in ag wanneer die inhoud van onderrigmateriaal beplan word			V46 <input type="checkbox"/> <input type="checkbox"/> 78-79
Verander en/of pas die volgende aan: onderrigmateriaal, onderrigmetodes, en die klaskamer omgewing in 'n poging om aan die taalbehoefte van die kind te voorsien			V47 <input type="checkbox"/> <input type="checkbox"/> 80-81
Dra kennis van die verskeie taal-onderrigmetodes soos: Fitzgerald Key, Natuurlike metode, ens. en gebruik die mees gepaste metode vir die kind			V48 <input type="checkbox"/> <input type="checkbox"/> 82-83
Plaas klem daarop dat taal oor alle kontekste binne skoolverband strek			V49 <input type="checkbox"/> <input type="checkbox"/> 84-85
Oefen taal binne sosiaal-interaktiewe aktiwiteite			V50 <input type="checkbox"/> <input type="checkbox"/> 86-87
Neem in ag dat sommige kinders bykomende taalprobleme kan hê, soos: fonologiese prosesse, tweedetaal verwarring, ens. wat ook aangespreek moet word			V51 <input type="checkbox"/> <input type="checkbox"/> 88-89
Nie een van bogenoemde nie			V52 <input type="checkbox"/> <input type="checkbox"/> 90-91

SPRAAK VAN DIE KIND MET 'N GEHOORVERLIES

17 Watter van die volgende stappe moet 'n onderwyser binne 'n inklusiewe onderwysstelsel neem om die kind se *spraakproduksie foute* (a.g.v. 'n gehoorverlies) aan te spreek en op watter van die volgende gebiede benodig hy/sy ondersteuning?

Merk asseblief u keuses in beide kolomme :

	Onderwyser moet hierdie stappe neem	Onderwyser benodig ondersteuning van 'n professionele persoon om hierdie stappe te kan neem
Gebruik die hiërargie van normale spraakontwikkeling om spraakverstaanbaarheids-aktiwiteite te beplan		
Neem die kind se unieke fisiese vermoë om klanke met sy mond te produseer in ag wanneer spraakverstaanbaarheids-aktiwiteite beplan word		
Verkry inligting aangaande die kind se vermoë om alle klanke uit te spreek		
Neem waar en dokumenteer enige verandering wat mag voorkom by klanke waarvan die uitspraak verkeerd is en waaraan daar gewerk word		
Dra kennis van die verskeie spraak-onderrigmetodes soos: analities, geheel, formeel, multi-sensories, ens. en gebruik die mees gepaste metode vir die kind		
Neem in ag dat sommige kinders bykomende spraakprobleme kan hê, soos: hakkel, stemprobleme, ens. wat ook aangespreek moet word		
Nie een van bogenoemde nie		

V53 92-93

V54 94-95

V55 96-97

V56 98-99

V57 100-101

V58 102-103

V59 104-105

KOMMUNIKASIE VAN DIE KIND MET 'N GEHOORVERLIES

- 18 Watter van die volgende stappe moet 'n onderwyser binne 'n inklusiewe onderwysstelsel neem om die kind se *kommunikasie probleme* (a.g.v. 'n gehoorverlies) aan te spreek en op watter van die volgende gebiede benodig hy/sy ondersteuning?

Merk asseblief u keuses in beide kolomme :

	Onderwyser moet hierdie stappe neem	Onderwyser benodig ondersteuning van 'n professionele persoon om hierdie stappe te kan neem
Stel die kind bloot aan interaktiewe ervarings sodat hy/sy meer gemotiveerd is om te kommunikeer en sodoende sy/haar kommunikasie vaardighede kan ontwikkel		
Pas kommunikasie herstelstrategieë toe sodra kommunikasie verbrekings (communication breakdowns) in die klas voorkom		
Dra kennis van die verskeie kommunikasie metodes beskikbaar vir die kind, bv. Oraal-Ouraal, Gebaretaal, Totale Kommunikasie en Tweetalige (Bilingual) metode		
Gebruik een van bogenoemde geselekteerde kommunikasie metodes in die klas		
Nie een van bogenoemde nie		

V60 106-107V61 108-109V62 110-111V63 112-113V64 114-115

GELETERDHEIDSVAAARDIGHEDE VAN DIE KIND MET 'N GEHOORVERLIES

- 19 Watter van die volgende stappe moet 'n onderwyser binne 'n inklusiewe onderwysstelsel neem om die kind se *swak geletterdheidsvaardighede* (a.g.v. 'n gehoorverlies) aan te spreek en op watter van die volgende gebiede benodig hy/sy ondersteuning?

Merk asseblief u keuses in beide kolomme :

	Onderwyser moet hierdie stappe neem	Onderwyser benodig ondersteuning van 'n professionele persoon om hierdie stappe te kan neem
Maak seker dat die kind oor basiese taalvaardighede beskik voordat onderrig in geletterheid aangepak word		
Identifiseer die oorsaak van die kind se lees- en skryffoute, bv. ouditiewe diskriminasie probleme, taalprobleme, ens.		
Spreek die oorsake van lees- en skryffoute aan		
Dra kennis van die verskeie geletterdheids-onderrigmetodes soos: bo-na-onder of onder-na-bo, ens. en gebruik die mees gepaste metode vir die kind		
Nie een van bogenoemde nie		

V65 116-117V66 118-119V67 120-121V68 122-123V69 124-125**AKADEMIESE PRESTASIE VAN DIE KIND MET 'N GEHOORVERLIES**

- 20 Watter van die volgende stappe moet 'n onderwyser binne 'n inklusiewe onderwysstelsel neem om die kind se *swak akademiese prestasie* (a.g.v. 'n gehoorverlies) aan te spreek en op watter van die volgende gebiede benodig hy/sy ondersteuning?

Merk asseblief u keuses in beide kolomme :

	Onderwyser moet hierdie stappe neem	Onderwyser benodig ondersteuning van 'n professionele persoon om hierdie stappe te kan neem
Pas die kind se leerervaring aan by die kognitiewe, fisiese, sosio-emosionele, en kulturele vlak van funksionering		
Pas die vak se kurrikulum aan deur sekere woordeskate en sintaksis te selekteer		
Nie een van bogenoemde nie		

V70 126-127V71 128-129V72 130-131

PSIGOLOGIES-SOSIALE ONTWIKKELING VAN DIE KIND MET 'N GEHOORVERLIES

- 21 Watter van die volgende stappe moet 'n onderwyser binne 'n inklusiewe onderwysstelsel neem om die kind se *psigologies-sosiale aanpassing* (a.g.v. 'n gehoorverlies) aan te spreek en op watter van die volgende gebiede benodig hy/sy ondersteuning?

Merk asseblief u keuses in beide kolomme :

	Onderwyser moet hierdie stappe neem	Onderwyser benodig ondersteuning van 'n professionele persoon om hierdie stappe te kan neem
Verbeter die kind se selfvertroue in die klas		
Moedig aanvaarding en respek deur die kind se normaalhorende klasmaats aan		
Hou die kind se sosiale aanpassing en integrasie dop en verleen bystand waar nodig		
Bied geleentheid vir sosialisering en uitdrukking in die klas		
Nie een van bogenoemde nie		

V73 132-133V74 134-135V75 136-137V76 138-139V77 140-141

DIENSLEWERING EN DIE KIND MET 'N GEHOORVERLIES

- 22 Watter van die volgende persone behoort 'n onderwyser binne 'n inklusiewe onderwysstelsel by spanwerk te betrek in 'n poging om die kind se onderrigprogram suksesvol te beplan?

Merk asseblief u keuses in die kolom :

	Onderwyser behoort hierdie persone by spanwerk te betrek
Die kind met 'n gehoorverlies	
Die ouers	
Die spraakterapeut	
Die gehoorterapeut (oudioloog)	
Die maatskaplike werker	
Die sielkundige	
Die arbeidsterapeut	
Ander, spesifiseer:	
Nie een van bogenoemde nie	

V78 142V79 143V80 144V81 145V82 146V83 147V84 148V85 149-150V86 151

- 23 Watter **EEN** van die volgende persone sal u kies om die span te koördineer en om met die ander spanlede te onderhandel om sodoende die onderwyser van die kind met 'n gehoorverlies te ondersteun?

Merk asseblief **EEN** keuse in die kolom :

Die kind met 'n gehoorverlies	
Die ouers	
Die onderwyser moet dit self doen	
Die gehoorterapeut (oudioloog)	
Die spraakterapeut	
Die maatskaplike werker	
Die sielkundige	
Die arbeidsterapeut	
Nie een van bogenoemde nie	

V87 152

- 24 Indien 'n professionele persoon wat spesialiseer in kinders met 'n gehoorverlies ondersteuning aan die onderwyser binne 'n inklusiewe onderwyssisteen kan bied, watter van die volgende ondersteuningsmetodes sal tot die onderwyser se voordeel strek?

Merk asseblief u keuses in die kolom :

	Onderwyser sal voordeel trek uit hiedie metode(s) van ondersteuning
'n Eenmalige opleidingssessie	
Gereelde werksinkels	
Voortdurende indiensopleiding	
Praktiese (hands-on) bystand indien nodig	
Nie een van bogenoemde nie	

V88 153

V89 154

V90 155

V91 156

V92 157

- 25 Indien 'n professionele persoon wat spesialiseer in kinders met 'n gehoorverlies ondersteuning aan die onderwyser binne 'n inklusiewe onderwysstelsel kan bied, watter **EEN** van hierdie dienslewering modelle sou jy voorstel?

Merk asseblief **EEN** keuse in die kolom :

Die skool stel een voltydse professionele persoon by die skool aan om diens te lewer	<input type="checkbox"/>
Die skool maak gebruik van 'n privaat professionele persoon van buite om op 'n deeltydse basis diens aan die skool te lewer	<input type="checkbox"/>
Die skool stel een voltydse professionele persoon by die skool aan wat deelyds hulp vanaf 'n ander privaat professionele persoon ontvang om sodoende diens aan die skool te lewer	<input type="checkbox"/>
Nie een van bogenoemde nie. Spesifiseer jou eie voorstel:	<input type="checkbox"/>

V93 158

OOP-EINDIGENDE VRAE

Beste onderwyser, verskaf volledige verduidelikings op jou antwoorde

- 26 Watter hooftake dink u behoort 'n gehoorterapeut (audioloog) by 'n skool te verrig?

V94 159-160

- 27 Dink jy dat 'n onderwyser binne 'n inklusiewe onderwysstelsel by die ondersteuning van 'n gehoorterapeut (audioloog) kan baatvind?

ja	nee
----	-----

V95 161

- 27.1 Verduidelik jou antwoord:

V96 162-163

28 Wat is die grootste uitdaging wat die onderwyser van kinders met gehoorverlies binne 'n inklusiewe onderwysstelsel in die gesig staar?

V97 164-165

29 Watter moonltike oplossing(s) sal jy vir bogenoemde uitdaging voorstel:

V98 166-167

30 Dink u dat kinders met 'n gehoorverlies by die toekomstige inklusiewe onderwysstelsel sal kan baatvind?

ja	nee
----	-----

V99 168

Verduidelik jou antwoord:

V100 169-170

Baie dankie vir u opoffering en waardevolle bydrae tot hierdie navorsingsprojek!



**APPENDIX E:
FOCUS GROUP INTERVIEW SCHEDULE &
LETTER OF INFORMED CONSENT**

(English version)

OPENING (4 minutes)

The opening will proceed as follows: the researcher introduces herself; once more confirms anonymity and confidentiality of participants' contributions; briefly states the topic of discussion; explains the ground rules and procedures of the interview; and finally gives each participant the opportunity to introduce him/herself. Participants are then requested to complete the following slip of informed consent before commencing with the main interview:

<p>Please complete the following in order to confirm your willingness to participate in the research project:</p> <p>I, _____ hereby give informed consent to participate in the research project.</p> <p>Date: _____</p> <p>Signed: _____</p>
--

MAIN INTERVIEW (26 minutes)

Each topic starts of with an introductory phase such as:

- “How do you feel about ...” ; or
- “I am interested to know your opinions on ...”.

Topic 1	... the inclusive educational system and children with hearing loss?
Probes	<ul style="list-style-type: none"> ▪ What are your attitudes and perceptions toward the inclusive educational system and children with hearing loss? ▪ What are the reasons for above-mentioned attitudes and perceptions? ▪ What challenges do you foresee in the inclusive educational system? ▪ What solutions do you suggest to the above-mentioned challenges in the inclusive educational system?
Duration	± 13 minutes

Topic 2	... the role of a hearing therapist (audiologist) in the inclusive educational system?
Probes	<ul style="list-style-type: none"> ▪ What is a hearing therapist (audiologist)? ▪ What support does a hearing therapist (audiologist) currently offer at your school? ▪ What is your idea of teamwork? ▪ What are the positive features of current service delivery by a hearing therapist (audiologist)? ▪ What are the shortcomings of current service delivery by a hearing therapist (audiologist)? ▪ What solutions do you suggest for the above-mentioned shortcomings in the inclusive educational system?
Duration	± 13 minutes

TOTAL DURATION OF INTERVIEW = approximately 30 minutes

(Afrikaans version)

OPENING (4 minute)

Die opening sal as volg verloop: die navorser stel haarself bekend; anonimiteit en vertroulikheid word weereens bevestig aan deelnemers; die onderwerp word kortliks bekend gestel; basiese reëls en verloop van die onderhoud word verduidelik; en ter afsluiting word elke deelnemer gevra om hom/haarself voor te stel. Deelnemers word dan gevra om die volgende strokie van oorwoë toestemming te voltooi voordat die hoofonderhoud begin:

<p>Voltooi asseblief die volgende om sodoende u bereidwilligheid om aan die navorsingsprojek deel te neem, te bevestig:</p> <p>Ek, _____ gee hiermee my oorwoë toestemming om aan die navorsingsprojek deel te neem.</p> <p>Datum: _____</p> <p>Handtekening: _____</p>

HOOF ONDERHOUD (26 minute)

Elke onderwerp word met 'n frase soos die volgende ingelei:

- “Hoe voel julle oor ...” ; of
- “Ek is geïnteresseerd in jul menings aangaande ...”

Onderwerp 1	... die inklusiewe onderwysstelsel en die kind met 'n gehoorverlies?
Ontlokkers	<ul style="list-style-type: none"> ▪ Wat is jul gesindheid en persepsies omtrent die inklusiewe onderwysstelsel en die kind met 'n gehoorverlies? ▪ Wat is die rede vir bogenoemde gesindhede en persepsies? ▪ Watter uitdagings in die inklusiewe onderwysstelsel voorsien julle? ▪ Watter oplossings vir bogenoemde uitdagings in die inklusiewe onderwysstelsel stel julle voor?
Tydsverloop	± 13 minute

Onderwerp 2	... die rol van die gehoorterapeut (oudioloog) in die inklusiewe onderwysstelsel?
Ontlokkers	<ul style="list-style-type: none"> ▪ Wat is 'n gehoorterapeut (oudioloog)? ▪ Watter hulp/ondersteuning bied die gehoorterapeut (oudioloog) tans by jul skool? ▪ Wat is jou persepsie van spanwerk? ▪ Wat is die goeie eienskappe van huidige dienslewering deur die gehoorterapeut (oudioloog)? ▪ Wat is die tekortkominge van huidige dienslewering deur die gehoorterapeut (oudioloog)? ▪ Watter oplossings sou julle vir bogenoemde tekortkominge in die inklusiewe onderwysstelsel voorstel?
Tydsduur	± 13 minute

TOTALE TYDSDUUR VAN ONDERHOUD = ongeveer 30 minute

**APPENDIX F:
PERMISSION FROM THE DEPARTMENTS OF EDUCATION**

EASTERN CAPE DEPARTMENT OF EDUCATION

002 18:07 FROM S.N.E DEPT TO 0123625218 P.02



Province of the Eastern Cape

**DEPARTMENT OF EDUCATION
ISEBE LEZEMFUNDO
DEPARTEMENT VAN ONDERWYS**

Private Bag X0032, Bisho 5605, South Africa

References :

Enquires :
Mrs N.M. Tunzelana

Tel :
0436426034
CELL 072 2027260

Date :
02/06/2002

**CATHERINE VAN DIJK
P.O. BOX 11061
HATFIELD
PRETORIA
0028**

Dear Catherine

**RE- REQUEST PERMISSION TO CONDUCT RESEARCH AT SCHOOLS FOR
CHILDREN WITH HEARING IMPAIRMENT**

Your letter faxed to the Directorate- Special Needs in Education on 28 May 2002 has been received with thanks.

The Department has no problem with students doing research in our schools, as long as it does not disrupt the school programme. Permission will also have to be sort with the school management, as well as the identified educators.

Thank you for identifying the Eastern Cape as a possible Province for research. We are looking forward to the results of the study which will be made available to the province.

The Department takes this opportunity to wish you everything of the best in your study.



**T.J.Z. Mnyida
ACTING DIRECTOR
SPECIAL NEEDS IN EDUCATION**

FREE STATE DEPARTMENT OF EDUCATION

FREE STATE PROVINCE



Enquiries :Mrs M V Wessels/
Reference no. :16/4/1/14-2002

Tel : (051) 404 8075
Fax : (051) 4048074

2002-05-27

Ms C van Dijk
278 Mears Street
Muckleneuk
PRETORIA
0002

Dear Ms van Dijk

REGISTRATION OF RESEARCH PROJECT

1. This letter is in reply to your application for the registration of your research project.
2. Research topic: **SUPPORTING THE TEACHER OF THE CHILD WITH HEARING IMPAIRMENT IN THE FUTURE INCLUSIVE-EDUCATIONAL SYSTEM: DEVELOPING AN EDUCATIONAL-AUDIOLOGY SERVICE-DELIVERY MODEL.**
3. Your research project has been registered and you may conduct research in the Free State Department of Education under the following conditions:
 - 3.1 Educators participate voluntarily in the project.
 - 3.2 The names of the educators, schools and principals involved remain confidential.
 - 3.3 The questionnaires are completed outside the normal tuition time of the school.
 - 3.4 You consider making the suggested changes to the questionnaires.
 - 3.5 This letter is shown to all participating persons.
4. You are requested to donate a report on this study to the Free State Department of Education. It will be placed in the Education Library, Bloemfontein.
5. Once your project is complete, we should appreciate it if you would present your findings to the relevant persons in the FS Department of Education. This will increase the possibility of implementing your findings wherever possible.
6. Would you please write a letter **accepting the above conditions**? Address this letter to:

The Head: Education, for attention: CES: IRRISS
Room 1213, C R Swart Building
Private Bag X20565, BLOEMFONTEIN, 9301
7. We wish you every success with your research.

Yours sincerely

HEAD: EDUCATION

Department of Education ▽ Departement van Onderwys ▽ Lefapha la Thuto

Private Bag X20565, Bloemfontein, 9300 • Republic of South Africa • Riphabolike ya Afrika Borwa

GAUTENG DEPARTMENT OF EDUCATION

10- 5-02:12:33 ;GDE

:011 3550512

1 / 3



**OFFICE OF THE SENIOR MANAGER
STRATEGIC POLIC DEVELOPMENT**

Particulars of researcher:

Mrs C. van Dijk
P.O.Box 11061
Hatfield
0028

Tel: (012) 4406084
Fax: (012) 3625218

09 May 2002

Dear Mrs C. van Dijk

Request to conduct a research study

**Topic: "SUPPORTING THE TEACHER OF THE CHILD WITH HEARING
IMPAIRMENT IN THE FUTURE INCLUSIVE EDUCATIONAL
SYSTEM: DEVELOPING AN EDUCATIONAL AUDIOLOGY
SERVICE DELIVERY MODEL"**

**Approval is hereby granted that you may approach the GDE schools in connection
with your research study.**

Schools: To be identified

Districts: To be identified

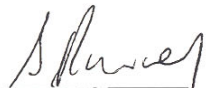
*Permission is subject to the following conditions, and may be withdrawn if these
conditions are not met:*


1. The District Directors concerned are to be informed that you have received permission from the Gauteng Department of Education to approach school principals to request access to schools for research purposes. The District Directors must be approached for permission to involve District Support Staff in your project.
2. Please show this letter to the school principal and the chairperson of the School Governing Body (SGB) as proof that you have received the Department's consent to carry out the research.

3. A letter/document which sets out a brief summary of your intended research should please be made available to the principals of the schools concerned.
4. Please obtain the goodwill and co-operation of the principal, chairperson of the SGB, teachers and learners involved. Persons who offer their co-operation will receive no special benefit from the Department, while those who prefer not to participate will not be penalised in any way.
5. You must conduct your research after school hours, and the normal school programme should be interrupted as little as possible. The principal must be consulted as to the times when you may carry out your research.
6. In line with international practice on research, the department recommends that the maximum interview time be 35 minutes per participant.
7. You may commence your research from the third week of **February**, as generally permission is not granted to conduct research in GDE schools during the month of **January** and the **last term** of the year.
8. It is the researcher's responsibility to contact the parents of the learners to obtain permission for their children to take part in your study.
9. You are responsible for supplying your own research resources, such as stationery, photocopies, transport, faxes and telephone costs.
10. The names of the schools, principals, teachers and learners may not appear in your research report without their consent. Parents as partners in education should be handled in an equally sensitive manner
11. Please supply the Department via the Strategic Policy Development Directorate with a bound copy of your report. You may also be requested to give a short presentation on your findings.
12. Please supply the Director of the districts with a brief summary of your findings.

The Department wishes you well with this important project and looks forward to hearing from you in due course.

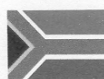
Regards


Sally Rowney (Senior Manager)
Strategic Policy Developments and Research Coordination


Mrs C. van Dijk
Researcher

14/05/2002
Date:

KWAZULU-NATAL DEPARTMENT OF EDUCATION



PROVINCE OF KWAZULU-NATAL
ISIFUNDAZWE SAKWAZULU-NATAL
PROVINSIE KWAZULU-NATAL



DEPARTMENT OF EDUCATION AND CULTURE
UMNYANGO WEMFUNDO NAMASIKO
DEPARTEMENT VAN ONDERWYS EN KULTUUR

HEAD OFFICE

INHLOKO HHOVISI

HOOFKANTOOR

Address: 2nd Floor
Ikheli: Administration Building
Adres: King Dinizulu Highway

Private Bag:
Isikhwama Seposi:
Privaatsak:

Private Bag X04
Ulundi
3838

Telephone: 035-879 2018
Ucingo:
Telefoon:
Fax: 035-879 2049

Enquiries: DR H.P. Gumede
Imibuzo:
Navrae:

Reference:
Inkomba:
Verwysing:

Date: 02 August 2002
Usuku:
Datum:

Ms Catherine van Dijk
University of Pretoria
Department of Communication Pathology
P.O. Box 11061
Hatfield
PRETORIA

Dear Ms van Dijk

REQUEST FOR PERMISSION TO CONDUCT RESEARCH

1. The Department has received your request for authority to conduct research at schools for children with hearing impairment in KwaZulu Natal.
2. In view of the significance of this research for the phasing in of the new policy on Inclusive Education, the Department thus grants you permission to conduct your research at the identified special schools.
3. It is recommended that:
 - a) The project does not disrupt the normal school routine.
 - b) A copy of the study be presented to the Department after completion.
4. The Department wishes you success in your research project.

for SUPERINTENDENT-GENERAL

LIMPOPO* DEPARTMENT OF EDUCATION (*previously known as Northern Province)



Northern Province
DEPARTMENT OF EDUCATION

Corner 113 Biccard &
24 Excelsior Street
Private Bag X9489
PIETERSBURG 0700
Tel. : 015-297 5085/6
Fax. : 015-297 0885/4220

ENQ: CJ LEGORA

16/08/2002

FAX: (015) 2972690
TEL: (015) 2907845

Catherine van Dijk
P.O.BOX 11061
Hartfield
Pretoria
0028

PERMISSION TO CONDUCT ACADEMIC RESEARCH
Ms. Catherine van Dijk

Madam.

Your request to conduct a research at schools in our Province is accepted. You will be expected to update the Department about the research developments.

The department likes to wish you success in your endeavour of conducting academic research. Accompanied this letter, is a notification that could be forwarded to the people you intend interviewing and also completing the questionnaire.

Thank you


.....
HEAD OF DEPARTMENT

..... 19/8/02
DATE

MPUMALANGA DEPARTMENT OF EDUCATION

8.Aug. 2002 8:32

VEDECE DIRECTORATE

No.5628 P. 2

MPUMALANGA PROVINCIAL GOVERNMENT

Extension 5
Riverside Park
Government Boulevard
NELSPRUIT 1200 RSA
Private Bag X11341
NELSPRUIT 1200
South Africa



Tel (013) 766 5000
Int +27 13 766 5000
Fax (013) 766 5577
Int +27 13 766 55 77

DEPARTMENT OF EDUCATION

Litiko leTembandvo

UmNyango Wefundo

Departement van Onderwys

ATTENTION: CATHERINE VAN DIJK
P.O. BOX 11061
HATFIELD
PRETORIA
0028

**RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT
SILINDOKUHLE SPECIAL SCHOOL**

With reference to your request as mentioned above, the Mpumalanga Department of Education has no problem as regards the research project at Silindokuhle Special School. We are indeed very interested in your research findings and would appreciate it if such results could be forwarded to this department when available.

As Silindokuhle School falls under the LSEN sub-directorate, the provincial Co-Ordinator will be Dr MC Pieterse at our Head Office (tel. – 013-766-5322) or (e-mail ► mpieterse@nel.mpu.gov.za).

Good luck with your studies.


DR MT MASHININI
DEPUTY DIRECTOR GENERAL

7/8/02
DATE

NORTH WEST PROVINCE DEPARTMENT OF EDUCATION



NORTH WEST PROVINCE

Department of Education
Lefapha La Thuto
Departement van Onderwys

1st Floor
 Garona Building
 Mmabatho
 Private Bag X2044
 Mmabatho 2735
 Tel: (+2718) 387 3429/3404
 Fax: (+2718) 387 3430
 e-mail: zwane@nwpg.org.za

OFFICE OF THE SUPERINTENDENT-GENERAL

FACSIMILE TRANSMITTAL SHEET

TO: Mrs C van Dijk	FROM: Superintendent General
COMPANY: University of Pretoria	DATE: 03/05/2002
FAX NUMBER: 012 – 362 5218	TOTAL NO. OF PAGES INCLUDING COVER: -1-
PHONE NUMBER: 083 306 0918	SENDER'S REFERENCE NUMBER: Amk/hhz/vanzyl/ess/elzen
RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT SCHOOLS FOR THE HEARING IMPAIRED	COPIES TO: MEC Z P Tolo Mr M J van Zyl

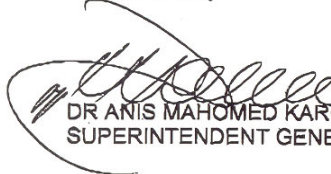
URGENT FOR REVIEW PLEASE COMMENT PLEASE REPLY PLEASE RECYCLE

Dear Mrs Van Dijk

I acknowledge receipt of your letter dated 29 April 2002 concerning the above subject. Much thanks for same. The contents have been noted. Kindly note that, permission is hereby granted on the proviso that, your research does not interrupt the normal teaching and learning at these schools; and that, all information be handled in a confidential matter; and that, a copy of your thesis be made available to the Department once completed and accepted by the University. You can also contact Mr M J van Zyl for further assistance at 018 – 299 8151. I trust that you will find this in order.

Thanking you.

Yours sincerely


DR ANIS MAHOMED KARODIA
 SUPERINTENDENT GENERAL

DEPARTMENT OF EDUCATION
 OFFICE OF THE DDG
 2002 -05- 03
 TEL (0140) 87-3429/9 FAX (0140) 87-3430
 PRIVATE BAG X2044, MMABATHO 2735
 NORTH WEST PROVINCE



• Re a Soma Dikolong • Re a dira mo dikolong • Ons werk in ons skole • We are working in our schools
 • Re a sebetsa dikolong • Siyasebenz' ezikoleni • Ha titha eswikolweni • Re a shuma zwikoleni • Siya sebentsa etkoleni
 • Siyasebenz' ezikolweni • Siya berenga ezikolweni



WESTERN CAPE DEPARTMENT OF EDUCATION

30/05/2002 09:10 021-425-7445

DIR ED RESEARCH

PAGE 01/01

Navrae
Enquiries
IMibuzo
Telcfoon
Telephone
IFoni
Fakt
Fax
IFeksi
Verwysing
Reference
ISalathiso

Ronald Cornelissen
(021) 425-7400 ext 2236
(021) 425-7445
20020430-0009



Wes-Kaap Onderwysdepartement

Western Cape Education Department

ISebe leMfundo leNtshona Koloni

Mrs Catherine Van Dijk
P.O. Box 11601
Hatfield
PRETORIA
0028

RESEARCH PROPOSAL: SUPPORTING THE TEACHER OF THE CHILD WITH HEARING IMPAIRMENT IN THE FUTURE INCLUSIVE EDUCATIONAL SYSTEM: DEVELOPING AN EDUCATIONAL AUDIOLOGY SERVICE DELIVERY MODEL.


Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The investigation is to be conducted during 1st August 2002 to 30th September 2002.
6. Should you wish to extend the period of your survey at the school(s), please contact R. Cornelissen at the contact numbers above.
7. No research will be allowed during the fourth school term.
8. A photocopy of this letter is submitted to the principal of the school where the intended research is to be conducted.
9. Your research will be limited to the following schools in your submitted list: Carl Du Toit Centre, De la Bat School, Dominican Grimley School for Deaf Children, Dominican School for Deaf Children, Mary Kihn School for Partially Hearing Learners, Noluthando Institute for the Deaf, Nuwe Hoop Centre for the Hearing Impaired.
10. A brief summary of the content, findings and recommendations is provided to the Director: Education Research.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

**The Director: Research
Western Cape Education Department
Private Bag 9114
CAPE TOWN
8000**

We wish you success in your research.

Kind regards,

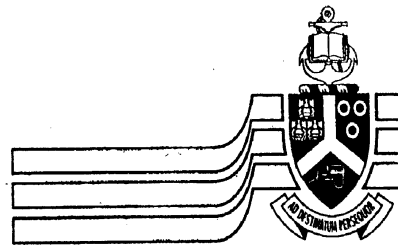

ACTING HEAD: EDUCATION
DATE: 2002.05.30

MELD ASSEBLIKF VERWYSINGSNOMMERS IN ALLE KORRESPONDENSIE / PLEASE QUOTE REFERENCE NUMBERS IN ALL CORRESPONDENCE /
NCEDA UBHALE INOMBOLO ZESALATHISO KUYO YONKE IMBALELWANO

GRAND CENTRAL TOWERS, LAER-PARLEMENTSTRAAT, PRIVAATSAK X9114, KAAPSTAD 8000
GRAND CENTRAL TOWERS, LOWER PARLIAMENT STREET, PRIVATE BAG X9114, CAPE TOWN 8000

**APPENDIX G:
PERMISSION FROM THE RESEARCH ETHICS COMMITTEE**

Members:
Research Proposal and Ethics Committee
Prof D Beyers; Prof C Delpont; Prof E Krüger;
Prof B Louw; Prof IA Niehaus; Prof C Potgieter;
Prof D Prinsloo; Dr E Taljard; Prof J van Eeden;
Prof A Wessels



University of Pretoria

Research Proposal and Ethics Committee
Faculty of Humanities

1 April 2003

Dear Professor Hugo

Project: *An educational Audiology Model: Needs of teachers of children with hearing loss*
Researcher: Mrs C van Dijk
Supervisor: Prof S R Hugo
Department: Communication Pathology
Reference number: 93142537

Thank you for the application you submitted to the Research Proposal and Ethics Committee, Faculty of Humanities.

I have pleasure in informing you that the Research Proposal and Ethics Committee formally approved the above study on 27 March 2003.

The committee requests you to convey this approval to Mrs van Dijk.

We wish you success with the project.

Sincerely

Prof Brenda Louw
Chair: Research Proposal and Ethics Committee
Faculty of Humanities
UNIVERSITY OF PRETORIA

**APPENDIX H:
TRANSCRIPTIONS OF FOCUS GROUP INTERVIEWS (GROUPS 1 TO 4)**

FOCUS GROUP 1

Participants mainly promoting spoken language (Junior Phase)

Topic 1:...the inclusive educational system and the child with hearing loss?

Enige mens of dit nou 'n gehoorverlies is of wat ookal...voel ek net het 'n meer spesialis veld hulp nodig om onderrig in te kry en ...om homself te kan handhaaf ...ja, hy kan cope in die normale wêreld, maar hy't steun nodig aanvanklik - hoe kleiner, hoe meer steun, tot hy op die ou end nie eers kan agterkom, maar hy is anders nie, hy is amper ... gesettle , hy het sy basis in die lewe gevind en as hy sterk genoeg is, ek praat nou spesifiek van onderrig, dan kan hy sy ding doen. Maar ek dink in die vroeëre, heel vroeëre stadiums...is daar nie vir my 'n manier om die kleintjie te include as jy nie die spesialis agtergrond het wat...die spesialiste hom kan bied nie...input van die spesialiste.

Sommige kinders sal daarby baatvind, sommige kinders het 'n probleem –dit gaan van baie faktore afhang. Dit gaan afhang van die steun wat hy kry... dit hang af van sy appaarte wat hulle (sy ouers) kan bekostig en ...hoe dit instand gehou word...wat sy taalvlak is, met ander woorde hoe vroeg is hy gepas...hoe vroeg het hy hulp gekry... hoe ver het sy taal ontwikkel. Daar is baie sulke faktore wat gaan bepaal of hy gaan aanpas en hoe en of hy daarby gaan baatvind.

En of hy 'n onderwyseres gaan kry wat dit verstaan, wat hom die steun gee wat hy nodig het...ek voorsien net ook probleme vir sommige kinders in die sin dat hulle...dis vir hulle goed in hierdie skool, want...daar's ander kinders soos hulle, daar's baie gevoeligheid rondom die dra van appaarte...daar's van hulle wat van die buite...omgewing kom...waar die gemeenskap nie gewoond is aan gehoorapparaate nie, so hier kom hulle in 'n skool en hy (sy klasmaat) sukkel ook met praat en hy sukkel ook met gehoorapparaate en dra dieselfde apparaat...so

ek (die kind met gehoorverlies) is nie meer een wat uitstaan nie. En dit was nog altyd vir my wonderlik in hierdie skool om te sien as 'n kind hier inkom (vanaf die hoofstroom) die verdedigingsmeganismes, hoe hy hom toegemaak het (wys met gekruisde arms) en die probleme wat hy in sy gewonde skool gehad het wat hy nie kon cope nie en dan's dit wonderlik om te sien as hy begin oopmaak (wys hoe arms oopmaak) en hy maak weer sy skouers regop en hy staan weer op en hy voel weer...ek is 'n mens, ek is 'n individu en ek het waarde en ek is nie snaaks nie...nie 'n uitsondering nie....'n Mens sou kinders wat kon baat by inklusie ...graag die geleentheid wou gee om sy taalvaardigheid te versterk en uit te brei, maar dis vir my 'n gevaar vir sommige kinders wat dit dalk van die wal af in die sloot kan help.

Ek voel ...hoe gouer hoe kleiner hy gediagnoseer word en gepas word...in hierdie skool opgeneem word, omdat dit hier individuele aandag is en onderrig...dit is kleiner klassies wat baie belangrik is en ...met Morag Clark se program hoe meer impak dit is om die kind hier te neem.

...as ek nou dink aan al die jare wat ek by die kleintjies (kleuters) was- was daar regtig nie een kind wat ek sou sê sou inpas by ... 'n gewone skool met 'n groot groep kinders nie...met die emosionele probleme wat hulle hier by ons mee aankom...geen kleintjie kan maklik inskakel by 'n ...gewone skool...hulle gaan nie daar die mas opkom nie, verseker nie.

Veral as 'n mens dink aan die geraasvlakke- die klomp kinders, die geskuiwel van tasse, die klas is nie ingerig volgens die geraasvlakke nie om dit minder te maak vir die gehoorapparate...dat hulle dit in ag neem nie...die kind se fisiese omgewing moet voorsiening maak vir sy gehoorgestremdheid...

Die kleintjies misbruik ook soms hulle gehoorapparate...as die maats met hom baklei of jy met hom raas dan sal hulle baie maklik hulle aparate afsit. Ons het hierdie roetine...as hy in die oggend in die klas kom dan toets jy die battery, jy

kyk is hulle aparate aan, as hy van pouse af terugkom dan hardloop ons vinnig weer deur hierdie roetine om seker te maak sy aparate is aan...dis heeltemal 'n ander toetine ...wat jy volg om aan die gang te kom as 'n ander (hoofstroom) juffrou ...sy gaan nie die tyd hê om met 'n groot groep kinders...die twee of drie (kinders met gehoorverlies) wat daar sit te kyk na hulle aparate...by ons is dit deel van ons program...

As ek dink aan inklusie dink ek aan té groot klasse...'n lokaal wat moet ingerig wees...dit gaan nie net die een gestremdheid wees wat die juffrou gaan moet akkommodeer nie...'n juffrou wat verskeie velde sal moet dek sy sal moet die ondersteuningsstelsiem hê sy sal moet ingelig wees en dan dink ek aan die kind wat daar gaan akkommodeer word gaan dalk die individueel wees, dit gaan 'n gelekterde kind wees wat soontoe gaan in ag genome sy gehoorverlies, hoe vroeg die passing was, het hy 'n ondersteuningsstelsiem by die huis, het hy 'n audioloog/spraakterapeut wat hom individueel kan neem.

Ons sit met tien kinders elke dag individueel soveel in, hoeveel te meer gaan daai juffrou met dalk 30 of 40 ander kinders met ander probleme by, ekstra moet insit?...jy gaan moet steel van die normaalhorende se tyd om dit te doen en is dit geregverdig op die ou end teenoor die normaalhorende wat kon aangegaan het?...dit moet baie selektief gedoen word lat altwee die strome daarby kan baat op die ou einde...vir die kind wat dit kan doen...is dit geregverdig...dis bitter min wat kan aanpas ...dis regtig 'n gelekterde paar kinders.

Jou ondersteuningsstelsiem moet baie goed wees daai kinders se ouers moet ingelig wees daai kind se ouers moet hom help, want hy het alreeds 'n agterstand...die tempo van die normale hoofstroom, daai ouer moet daai kind help om by die normale stroom by te bly. Die juffrou wat met daai kind werk moet individueel soveel insit in tye wat dit nie die normaalhorende kind affekteer nie, lat jy hom kan byhou. ...as die kind kan cope met daai situasie- die normale konstante stimulasie van taal om hom maak lat daai kind op die ou end vinniger

leer praat, want daar's nie gebare nie...die kind moet cope, hy moet die situasie lees...

Sy basis moet stewig geleë wees, want as hy nie emosioneel sterk is nie, gaan hy uitsak.

'n Mens moet dan ook in ag neem as hy in so groep werk dan moet hy geweldig konsentreer, wat kan lei tot moegheid en...dit word vir hom net te veel wat hy dan as woede uithaal...ek het al daai woede en frustrasie ervaar omdat hy onder soveel druk en soveel eise is dat hy ...rebelleer.

Dan is hantering van apparate van uiterste belang, daai kind kan nie een dag bekostig om sonder 'n apparaat in 'n klas te sit nie.

Op...ses, sewe begin hulle vir die eerste keer hulle apparate self hanteer - ons is ma vir hulle, hulle gooi die goed weg, hulle weet nie om dit skoon te maak nie...daai hele roetine aan die begin tussen ouer en kind en onderwyser word gevestig... 'n kind is nie heeltemal onafhanklik met sy apparate voor die ouderdom van omtrent ses, sewe nie...Ons het al hoeveel kinders gekry wat die apparaat by die bus se venster uitgooi, weet jy hoeveel keer soek ons op 'n terrein vir apparate wat verloor het?...

In my klas is 'n kind, toe ek vir hom vra: "Werk jou apparaat?" "Ja" (sê die kind)...ek maak hom oop toe't hy nie eers 'n battery in nie. Maar as jy hom vra dan werk hy (die apparaat). So dis baie maklik om vinnig te sê: "werk hy?"...maar jy moet elkeen fisies self nagaan.

Daai onderwyseres moet opgelei word om te weet hoe om daai apparaat te hanteer om hierdie kind met sy verlies te hanteer en dan is dit nie net daai een probleem nie, dan is .. daar nog ander probleme...ander gestremdhede.

Ons vorm ook 'n baie sterk ondersteuningssisteem vir die ouers...van ons kleintjies wat hier aankom, dan het die ouer nog nie aanvaar ek het 'n gestremde kind nie en dan is ons die ouers se ondersteuningssisteem so ons ondersteun die ouer en die kind en daarom het ons hierdie multi-span...ons leer baie keer hierdie ouers om te aanvaar- jy het hierdie kind lewenslank, jy moet die beste daarvan maak. Ek het byvoorbeeld nou 'n kind in my klas...die ma het van 'n ander dorp af haar huis, haar werk, haar ouers, haar vriende, haar familie, alles gelos om ...hierdie kind in die skool te kan sit...nou verstoot sy eintlik hierdie kind, hierdie kind is die oorsaak vir al haar dilemma..en ons is hierdie buffer tussen haar en hierdie kind ...ek weet nie van 'n juffrou wat met 30 kinders sit en sy het 'n serebraalgestremde en...'n Braille kind...en 'n gehoorgestremde...die juffrou gaan dit nie maak nie...

Dis onbillik teenoor die onderwyser...dit vat geweldig uit soos dit is om soveel kinders te hanteer, maar as jy nog 'n studie moet gaan maak van elke gestremdheid en jy moet dit alles in ag neem - jy kan nie - dis menslik onmoontlik en ek voel dis baie onbillik wat hulle van ons verwag.

Ek het nie 'n Braille en 'n tikmasjien en 'n FM sisteem en 'n assistent wat 'n rolstoel kind moet toilet toe vat...hoe hanteer 'n juffrou al hierdie goeters?, dis menslik nie moontlik nie.

...of jy gaan op 'n stadium afstomp en jy gaan sê ek moet werk vir geld..ek gaan dit doen teen 'n pas waar ek kan survive.

Deesdae is daar geweldige stremming op die onderwyseres, want jy moet iets bied vir die normale stroom ...en jy moet jou verdeel tussen al hierdie fasette wat jy elke dag mee te doen kry. Êrenster moet jy begin skuldig voel, want jy moet aan almal aandag gee, jy moet jou verdeel...is dit regverdig op die ou end?, want elkeen (elke kind) is geregtig op aandag en onderrig.

Met jou gehoorgestremde is jou taal – dit voel vir jou asof jy werk met 'n bal en ketting aan die been, jy sukkel om vorentoe te kom, ek praat taalgewys, om hom te laat verstaan, om hom woordeskat te leer en om dit uit hom uit te kry...dis geweldig stremmend...dit kan baie maklik gebeur dat jy net so moeg word daarvoor dat hy een kant toe geskuif gaan word tussen die kinders wat normaal hoor.

...hy sê vir jou juffrou (van die vorig hoofstroomskool) het hom in die hoek laat sit. Ons kry probleemkinders hier wat uitgewerp is uit die hoofstroom, lat die hoofstroom sê ons sien nie meer kans nie...hoofstroom is nie vir almal nie...daar is 'n verskil tussen spesiale skole soos ons en hoofstroomskole...mens leer ongelooflike geduld hier en jy leer ongelooflik liefde...jy leer toewyding. Tot op laerskool vlak kan ek nie dink dat jy hierdie kleintjies kan los om hulle eie ding te doen nie....die program wat ons volg...die fisiese apparaat wat ons moet maak...ons is baie konkreet ons is baie visueel...die geweldige effort wat ons insit met vyf, ses verskillende kinders...wat al ses op verskillende vlakke is en hoe jy opgelei is.

Geen skool kan sonder 'n oudioloog of 'n spraakterapeut nie, geen onderwyseres kan daarsonder nie.

...geen onderwyseres kan sonder die opleiding nie... ons is spesiaal opgelei om presies te weet waar begin taal, so m.a.w ons weet 'n klein dingetjie soos 'n oogkontak...is 'n vorm van taal... nou kan ek nie indink dat 'n juffrou dit alles gaan in ag kan neem nie...sy gaan so gedreineer word...dit is dalk nie haar passie nie...ons is hier omdat dit ons passie is...ons wil die kind sien vorder, omdat ons 'n band met hom het en om hom gelukkig te maak en hier kweek ons leiers...'n kind gaan nie maklik in 'n hoofstroomskool met 'n gestremdheid uitstaan as 'n leier nie. Jy gaan jou individue hê...nou wonder ek as daai kind wat hier hoofmeisie was ...in 'n hoofstroomskool was, hoe sou sy dit gemaak het?

Hulle beleef hulle as mindersynde ons is net minder die ander is beter.

...in so skool soos hierdie kies jy die onderwys...hierdie onderwys kies jou...hy (spesiale onderwys) trek sekere persoonlikhede wat...die empatie het en die simpatie het ...iemand wat kans sien vir dié gestremdheid.... Dis vir my net 'n probleem dat dit in hoofstroom mag wees dat die kind by 'n onderwyseres kom, 'n baie goeie onderwyseres, maar sy't dalk net nie die geaardheid om hom te akkommodeer nie, omdat dit 'n spesiale iets van jou verwag.

Topic 2:...the role of an educational audiologist in the inclusive educational system?

'n Oudioloog het 'n wye spektrum van werk...hier by ons, in die eerste plek doen hulle daar oueropleiding wat gedoen moet word wat baie essentieel van belang is, dan is daar onderwyseropleiding wat gereël word, ons het byvoorbeeld een maal in twee weke...neem ons videos van mekaar op dan sit ons (onderwysers en oudioloë/spraakterapeute) saam die videos en kyk en ons help mekaar en ons gee mekaar leiding, uitruil van idees, hulle gee ons leiding - so daar's deurentydse vloei van kommunikasie – hulle kom in ons klasse in, ons trek 'n kind saam met die oudioloog...as jy vashaak dan kom daai juffrou (oudioloog/spraakterapeut) en sy sit by jou en...ek sê vir haar ...sê net gou vir my waar dink jy op watter vlak is ons nou hier- gaan ek te vinnig, gaan ek te stadig...anders weet jy nie waarheen gaan jy nie, of vorder jy nie.

...sy gee jou die ondersteuning...sy doen die passing van die apparaat...hulle doen die moulds, hulle doen...die gehoortoetse...dit is goed wat vir ons wonderlik is...ons is geleer presies om 'n oudiolgram te lees, ons weet presies waar daai kind se uitval is, hoe ons hom moet hanteer...die oudioloog is vir my ...essentieel die belangrikste van hierdie skool.

...ook verantwoordelik vir evaluering ...deurgans die kind se gehoor vordering te monitor, veral ons kinders met baie middelloorontsteking...sy moet help met die passing...met die apparaat ook...as daar fout gaan met die apparaat...om the help daarmee...apparate uit te deel.

Want ons programme is so gelaai, as jy dáái take ook nog moet kry dan gaan jou onderrigtyd minder word...hulle tel onmiddellik 'n probleem op as ek in my klas vanoggend toets en ek het 'n probleem met 'n kind se apparaat of iets is hulle daar vir my...so jy het die hele tyd 'n monitor situasie, hulle ...gee leen apparate vir kinders wat hul aparate weggooi. Ons kan nie hierdie dinge ook doen nie, ons het nie die tyd nie, die insig nie en nie die opleiding nie om daai spesialis goeters te doen nie.

...dis goed wat gedoen moet word...ons het nie die spesialis opleiding in die oudiologie veld nie.

Julle doen ouerleiding en hulle gee huiswerk vir die kinders...en werk met die kind en ...hulle leer die ouers hoe om met die kinders te werk, ons het nie die tyd daarvoor nie, dit help ons baie.

Ek't 'n kind gehad wat ek glad nie kon die [ng] klank laat leer nie...jy't nodig dat iemand wat meer kundig is die kind hanteer...ek stuur hom gou-gou na haar toe...die probleem word opgelos, so daai tipe hulpverlening is ook tot voordeel.

Ek weet net ons kan nie sonder hulle nie, daar's nie 'n manier nie.

Ons kan hulle nie verloor nie...as jy een moet kies wat bly dan's dit 'n oudioloog/spraakterapeut.

Een oudioloog/spraakterapeut is nou afwesig vir 'n ruk en ons voel nou al klaar 'n effek op die skool. Ons doen 'n individuele sessie per dag...as die terapeut

saam met jou kan inbeweeg en jou help om hierdie individuele sessies elke dag te doen dan kom jy by al tien (kinders) uit. ...jy kan nie sonder hulle kundigheid...klaarkom nie.

En een oudioloog/spraakterapeut is nie voldoende vir die impak wat gehoorverlies op die inklusie skool gaan hê nie.

...dan moet sy in groepe inbeweeg en kom sê hoe die kinders in die klas moet sit...en die geraasvlakke aanspreek.

..konstant lewer sy insette rondom die klassituasie, gee advies hoe die kinders moet sit in die klas, rondom die buitospel situasie, rondom die oerleiding, rondom die hantering van FM sisteme en dan nou nog aparate ook...kogleêre inplantings.

Jy kan nie 'n kind in die hoofstroom sit sy apparaat is vanoggend stukkend, hy sit 'n hele week sonder 'n apparaat nie, die ondersteuningssisteem moet van so aard wees...in hierdie hoofstroom...sy apparaat moet vanoggend in en hy moet vanmiddag terug, want hy kan nie bekostig om 'n dag te verloor nie...

Dit is van uiterste belang dat daai apparaat so effektief is dat hy mag nooit sonder dit wees nie.

Jy sit met ouers wat nie dieselfde kultuur as ons het nie...OBE is vir hulle 'n probleem, ek kan nie dink dat dáái kinders kan in inklusie ingaan nie, want hulle het geen ondersteuningssisteem nie...ons ouers (van ons kultuur) kan gaan op die internet en kyk hoe om daai kind te help, met projekte help, die ander ouers doen dit nie...dit is ook nie hulle huistaal nie...dit is nog 'n faktor wat inkom...is dit 'n tweede taal...of 'n derde taal wat hy leer. Kry hy deurgaans stimulasie...by die skool by die huis, by die kerk, by die gemeenskap?, of hoor hy dit net by die skool?

Daarom...dink ek dis geselekteerde kinders wat...wat geregverdig is op 'n kans as hy dit kan doen. Daar's enkeles, maar hy's homself uitgewys, hy kan doen met meer, hy's reg-probeer dit (inklusie).

Ouers het al gegaan (na hoofstroomskole) en het teruggekom en gesê dit het nie gewerk nie.

...emosioneel speel 'n baie groot rol... 'n kind... die emosionele was so erg dat sy op die ou end teruggetrek het en leer het glad nie plaasgevind nie. So wat is vir jou (as ouer) meer werd: om die kind in 'n situasie te plaas waar hy aanvaar voel, waar hy leer...waar hy gelukkig is...of om te kan sê: "my kind is in die hoofstroom".

...ouerbetrokkenheid by jou heel klein kindertjies-ons raak soos familie-ons het elke dag kontak met hulle, hetsy 'n boodskap boek...telefoonoproepe...ons is glad nie verwyderd van hulle nie, want jy kan dit nie bekostig nie, want ons sit met 'n kind wat partymaal soveel veelvuldige probleme het...ek weet nie hoe gaan 'n juffrou cope nie, dis by ons lekker want ons het min kinders en ons het die gespesialiseerde situasie aan ons kant, maar...ek kan nie dink dat daar tyd is om al hierdie goetertjies te doen en die kind nog tot voordeel te strek nie. Later as daai kind in die hoërskool voel: "ek is nou fine, ek is fine met my apparaat" ...en hulle het hulle holtetjie in die lewe gekry...dink ek 'n kind kan ook self besluit: sien ek kans daarvoor of sien ek nie?

...dan kom hulle terug, ons het hoeveel kinders wat terugkom, dan is dit die kind wat self sê: "ek wil terugkom". Ons het al gehad wat die kind van hoofstroom afkom en self sê: "Ma belowe my jy sal my nooit nooit weer in daai skool sit nie".

Ek het ouers wat geïmmigreer het...hulle is terug...die ma't gesê onder geen omstandighede verder nie, hulle is terug ter wille van die kind...toe hy weer terugkom toe is hy die king of kings in hierdie skool, dis vir hom die lekkerste

skool, hy't al sy emosionele hang-ups wat hy gehad het oorkom, want nou kom hy agter dis vir hom die lekkerste plek, sy maatjies is hier.

...ek kan nie verstaan, as daar 'n spesialis skool is wat in al hierdie klein goedjies voorsien, hoekom moet jy dit vir jousef moeilik maak om die onderwyser die las te gee...daar is mos mense wat voorsiening maak vir hulle...as dit nog al die jare gewerk het...hoekom moet mens die druk op die onderwyser en op die kind en op die ouers sit om nou hierdie ding te laat probeer werk?

As ek soms sien hoeveel...spesialis kennis ons moet inwin en moet hê om hierdie kind met hardhorendheid tot voordeel te strek en nou word daar verwag van 'n onderwyser om verskeie kundigheid te hê...en verskillende gestremdhede in haarklas te moet akkommodeer...dis 'n onmoontlike taak en dis uiters onregverdig en onbillik – dis nie tot voordeel van die onderwyseres nie...ook nie die kind nie...die kind moet voel hy pas.

...die kind mag 'n negatiewe emosionele beleving hê as hy in 'n gewone skool is...hulle neem nie aan sport deel nie...hy kan nie sing nie...al daai ...sport en kultuur wat belangrik is vir 'n kind se emosionele ontwikkeling...en by ons skool neem hulle deel daaraan en hulle doen fantasties, maar die juffrouens weet hoe om met hulle te werk.

...die vlak van 'n normale kind in hoofstroom is so sterk, hy (die kind met gehoorverlies) kan net nie daarby kompeteer nie.

...die tempo is so geweldig in die hoofstroom, jy sê vandag vir 'n kind - môre gebruik hy dit of nog dieselfde dag...as jy kyk teen die tempo wat ons kinders taal aanleer, hulle is alreeds oud, hulle moet hulle agterstande inhaal, maar hulle moet nog cope met elke dag se nuwe goed.

FOCUS GROUP 2:

Participants mainly promoting spoken language (Senior Phase)

Topic 1:...the inclusive educational system and the child with hearing loss?

...by gewone onderwys...op die oomblik is hulle klasse ontsettend groot, hulle sit daar met klasse van 45 kinders in 'n klas, hulle kan nie eers die normaalhorendes hanteer nie as gevolg van OBE, die hele benadering is groepbesprekings...in groepbesprekings praat almal deurmekaar en met mekaar, 'n gehoorgestremde werk nie so nie - hoe meer mense praat hoe deurmekaarder raak hy, met ander woorde dit gaan vir hom...dis 'n probleem vir hom, dissipline word ook 'n probleem in gewone skole...ons kinders het struktuur nodig ...die oomlik as dit deurmekaar raak is dit vir hulle ...'n probleem. Individuele hulp is baie nodig, baie van hulle gebruik spraaklees...gewone skole is nie bedag op daai tipe van goeters nie.....hulle het 'n taalagterstand...hulle tempo is stadig...kinders wat hier by ons sit wat alreeds vir ons 'n probleem is om in een klassie te hanteer...hoe gaan so kind ooit...regkom in 'n klas van 45 kinders?

Ons kinders het 'n groot probleem met abstrakte denke so in wiskunde is daar nog meer 'n probleem dat jy individueel moet inzoom, jy moet die terminologie verduidelik...hulle kry baie probleme omdat hulle woordeskat arm is, hulle leefwêreld is arm... Wiskunde...wat baie meer prakties toegepas word soos in die OBE...ondervind hulle baie probleme...hulle het nie insig nie, hulle is verskriklik gebonde aan 'n konkrete belewingswêreld en hulle beleving is baie arm...as hulle in groter groepe gaan werk, groter klasse gaan wees – gaan hulle weggraak in die massa...en hulle spesifieke probleme gaan nie so goed aangespreek kan word soos in hierdie kleiner klasse nie.

...nou't jy 'n probleem jou vaardigheid en jou kennis van meet...bietjie wiskunde...afstand, hoogte, breedte, oppervlakte kom ter sprake...dan gaan jy bietjie 'n probleem kry met 'n groot groep, waar jy horendes...normale ouens het met gehoorgestremdes tussen-in gaan jy 'n probleem kry ook by jou vaardigheidsopleiding...daai outjies sukkel, want dit raas al klaar en...die appaarte is vir hulle 'n probleem in lawaai...dit gaan moeilik, dit raas verskriklik in hulle ore, waar 'n normaalhorende ou...oorgoedjies (oorbeskermers) opsit en sy werk doen...vaardigheidsopleiding en die hardhorende - dis moeilik.

Vir my gaan dit oor die menswaardigheid van ons gehoorgestremde leerling in 'n groep waar hy tussen horendes moet staan, hy trek heeltemal terug, hy gaan verlore gaan, want die ander oorweldig hom...hy gaan sy hele selfbeeld verloor, want hier kry hy nog kans om uit te kom tussen die ander, maar tussen 'n groot groep persone wat kan hoor gaan hy definitief heeltemal terugtrek.

Die taalgroepe van drie jaar tot agt jaar - hulle kan glad nie gemainstream word nie (skud kop) - taal is baie belangrik, aanleer van taal gaan stadig, dit gaan moeilik, die kinders is multi-gestremd...so daar's 'n paar goed wat ons moet aanspreek- hulle kan glad nie mainstream nie. ...ons doen byvoorbeeld een storie 'n week, want herhaling is belangrik, by hoofstroom is dit 'n storie 'n dag. Die kind kry nie tyd om baas te raak oor die storietjie nie. By ons word al's deur (twee hande deurvleg) taal aangebied, hetsy ons spel ons kuns...wanneer ons eet...daar is nie in die hoofstroom plek daarvoor nie.

Topic 2:...the role of an educational audiologist in the inclusive educational system?

...die gehoorapparaat kan skielik breek...vir die kind om in jou klas te sit met appaarte wat nie werk nie is vir hom van geen waarde nie, so daai apparaat moet onmiddelik na gekyk word deur die oudioloog. Daar is middeloortsteking wat hulle (oudioloë) ook toets...as jy nou moet wag vir 'n week of twee vir 'n

oudioloog wat van buite af moet inkom, wat doen jy met daai kind?...so hy bou nog 'n verdere agterstand op...dit is al klaar vir hom moeilik.

...almal het voltyds klas, ek kan die apparaat herstel, maar ek kan nie agt ander kinders los, 'n apparaatjie vat en gaan sit nie, daar gaan individuele terapie...verlore, ek kry dan nie tyd deur die dag nie, ons program maak nie voorsiening dat ek, al kan ek dit doen nie. So om iemand te hê wat gou vanoggend alles opneem en nagaan en regmaak ...dan help ons nege kinders in plaas van net een kind, so ons tyd laat dit by ons, al kan jy dit doen, dit glad nie toe nie.

Veral as jy in die mainstream is...al het daai onderwyser met sy 40, 45 kinders die know-how om dit te doen om dit na te gaan om te kyk waar die probleem is, gaan jy nog 'n groter groep kinders in die steek laat as jy met een kind se apparaat moet sit...ons het absoluut hulp nodig.

Dis so geweldige gespesialiseerde aspek...daai ouens het vier jaar gaan studeer...nou wil hulle my ...oplei? Ek kan tog nie 'n gespesialiseerde ou se werk doen in 'n klas..situasie nie, hoe doen 'n ou dit?

..my personeel kry by die oudioloë opleiding...maar is jy 'n spesialis? Nee!.

...'n hardhorende het 'n emosionele faktor wat saam met sy hardhorendheid gaan - die oomblik as hy nie kan hoor nie is hy redelik aggressief, want...dinge gebeur om hom, maar hy weet nie wat dit is nie, nou het jy dadelik daai aggressiwiteit van hom en hy wil onmidellik gehelp word - so die kultuur van 'n hardhorende ...verskil ook. Die oomblik as jy nou weer aandag aan hom moet gee, want hy wil dadelik gehelp word, dan...gaan dit die normaalhorende kind ook baie benadeel. Jy gaan jou slim vinnige kind in daai klas hê wat ook later gefrustreerd gaan word met die tempo wat nou stadiger is so na albei kante toe gaan dit 'n negatiewe effek hê.

...jou hele klasomgewing gaan heeltemal versteur word, want ...my primêre taak, is om onderwys te gee...dat ek vir die leerling moet help en nou moet ek al hierdie ander goed doen en op die ou end wat lei skade: jou primêre taak.

...die sillabes is so vol, daar word so baie van jou verwag dat as jy daai deel ook in klastyd moet aandag gee, dan gaan jy net verder agter raak - waar jy nou reeds 'n tempo probleem het...jy kry omtrent nie klaar met die sillabes nie, as jy nog al daai ander goeters moet onderskep dan ...gaan die kind nog groter skade lei, want jy't soveel input wat jy moet gee vir hom...jy moet vir hom ekstra taal gee...ekstra abstrakte begrippe aanleer...jy het net nie genoeg tyd in jou skooldag nie.

...vir die kind is die probleem groter as vir ons...hoe gaan die kind hom moet adjust in hierdie sisteem, ek dink nie dit gaan moontlik wees nie...dis nie haalbaar nie...

...die aggressievlakke van 'n kind wat nie kan hoor nie...maak dat mens ook later gedragsprobleme kan hê by 'n kind wat gedurig gefrustreerd is...of selfs by jou normaalhorendes, jou slimmer kind wat gefrustreerd is gaan begin om...ander te pla...jy't later 'n gedrags en dissiplinêre probleem...terwyl jy 'n struktuur moet hê waarin die kind veilig is sodat...dit wat hy kan inneem absoluut maksimaal is.

...dan moet die departement ook resources gee...om byvoorbeeld 'n apparaatjie se battery meet te toets...om ons al die gerief te gee...om 'n timp te kan doen...ons het nie die resources, nie genoeg nie.

Die fisiese omgewing van die kind moet voorsiening maak vir sy probleem en die hoofstroomskole is nie paraat nie...as mens gaan kyk na die finansiële implikasies...watse finansiële implikasies het dit vir al hierdie skole om al hierdie

goeters soos oudiometers en tims daar te hê om werklik hierdie kinders te kan help.

Of dit beteken hy moet ontrek word en by 'n ander sentrum getoets word-dit beteken hy gaan omtrent 'n halwe dag uit die skool uit wees.

Ons kleintjies word elke oggend getoets (timpanogramme)...hulle kry gedurig middeloorontsteking, met die kleintjies is dit bietjie anders, 'n grote sê nog vir jou sy oor pyn...'n kleintjie huil. Jy toets die timp, jy toets die battery...as jy hom elke keer moet ontrek en wegvat gaan dit tyd mors. En hulle is vreeslik gebiedsgebonde (glimlag)...hulle huil as hulle pa hulle kom haal dan huil hulle weer...as hulle moet terugkom...hulle wil nie hier weggaan nie, maar hulle huil weer om terug te kom. So jy kan nie met hulle so op en af en op en af nie.

...ek veg nie vir myself nie...as ek sou veg sal dit vir die kind wees en sy reg om op hierdie manier opgelei te word...dis sy reg om so opgelei te word. En omdat 'n kind 'n wreed kan wees...kry hierdie kinders swaar by gewone kinders...hy het 'n geweldige agterstand ook as gevolg van die feit dat die ander kinders hom ...terg...en hy nie aanpas dan nie.

Ons wil meer hê. Meer oudioloë/spraakterapeute.

Ons sit met...baie kinders met net vier oudioloë/spraakterapeute ...so van ons leerders moet eintlik gehoor of spraakterapie kry maar hulle kry nie.

Ons kort oudioloë/spraakterapeute...

...die ergstes van die ergstes hulle kry hulp een keer 'n week in 'n groepsessie en in ons program met die natuurlike approach gaan dit nie werk nie (skud kop) hulle't meer nodig ...ons het nog addisionele hulp nodig ...ons het ten minste by elke afdeling nodig.

...by ons groter leerders het ons die behoefte dat hulle by ons in die klas inkom met periodes en help met taal, ons sit met taal: in elke vak moet jy taal onderrig en ...hulle moet die kinders motiveer om te praat en dit sal vir my tot hulp wees as daar iemand is wat my kan help dat elke kind 'n beurt kry in 'n periode...dis vir my nogal belangrik.

Die hulp is...nie genoeg nie, veral met die groter kinders...die groter kinders word definitief afgeskeep...want hulle is te min nou help hulle eerder die kleintjies.

Hulle toets die kinders se gehoor dwarsdeur die skool een keer 'n jaar en behalwe vir die onderhoud van aparate is dit al wat hulle by die groot kinders by kan uitkom.

...by die kleintjies beweeg hulle...op 'n weeklikse basis in die klasse in...maar hulle het nie die tyd om by ons in die klasse in te kom nie - glad nie.

...by die groot kinders...weet die kinders darem al wanneer hulle 'n probleem het en hulle sê dit vir jou - so jy kan wegkom met minder hulp daar, meer hulp is...altyd 'n bonus, maar ek...sal nie 'n oudioloog regtig by die groter kinders die heelyd wil hê nie, dit is nie vir my vreeslik nodig nie.

Sou dit 'n mainstream situasie wees, gaan die groter leerling nie dalk die vrymoedigheid hê om te sê as hy 'n probleem het nie...as hy tussen die normaal horendes is nie...so by groot kinders in mainstream het hulle dan meer oudioloë/spraakterapeute nodig.

...hier is hy ...in 'n vrugbare gebied waar hy weet hy kan hulp kry as hy ...net vra en hy gaan nie skaam wees nie, want hy sit tussen almal wat dieselfde tipe van probleem het, maar in 'n mainstream situasie as hy 'n probleem het, gaan...daar dalk 'n paar dae verby...voor...hy sê my apparaat werk nie.

...weet jy wat doen die gehoorgestremde leerders as hulle tussen...horende leerders is in 'n groep, sosiaal daar buite? Baie van hulle haal hulle gehoorapparate af, want hulle is skaam daarvoor - dis net nie seksie nie (smile)..so hy verloor alles en dit laat my nogal dink: gaan hy ooit kan tussen die horendes gemainstream word?

...dis absoluut jou baie intelligente kind wat dit maak in mainstream, wat nog nie teruggekom het na ons toe nie, met baie goeie ouerondersteuning...dit gaan gepaard met geweldige harde werk...die oorgrote meerderheid kom binne drie tot ses maande terug na ons toe.

...kyk nou na (naam van skool wat hoofsaaklik gebare aanmoedig) se kinders wat na ons toe kom...ons praat nou van die verskil tussen profoundly deaf en hardhorend - daar's klaar 'n skeidingslyn tussen ons kinders en hulle s'n...die erg dowe is hier gefrustreerd...hoe gefrustreerd gaan daai kind nie daar (in hoofstroom) wees nie?

...as mens...kyk na menseregte...dan sê die grondwet...die arbeidswet...dat 'n maatskappy...hulle moet gestremdes akkommodeer, ...maar dan moet jy hulle ten minste behoorlik toerus en hulle absoluut genoeg gee dat hulle hulle man kan staan en nie daar wegraak nie...'n gehoorgestremde...het dan die reg om aanspraak te maak op die beste omstandighede en onderrig wat hy kan kry en ...die beste is 'n kleiner groep waar daar indiwidueel aandag gegee kan word.

...ek wonder soms of die buite mense (in hoofstroom onderwys) soos ons is: ons sorg vir die geld om die kind hier te kry, ons sorg vir die geld vir die apparaat wat ons bedel by iemand...ons koop die kind se boeke...ons begin die leerinhoud oor uitwerk...ons spoeg en plak ons nagte deur...dis die dedication wat mense het wat by sulke skole werk..

Die klem is anderster tussen onderwys vir horendes en 'n hardhorende waar hy 'n beroep kan beoefen sodat hy eendag vir sy gesinnetjie kan sorg so dit gaan nie oor akademiese prestasie nie, dit gaan nie oor hoeveel onderskeidings of wat ookal...hy moet kan cope op sosiale gebied, emosionele gebied, 'n fisiese gebied en dan 'n akademiese gebied, so jy het 'n baie meer globale uitkyk na die kind hierso as in gewone skole.

Mens kan die koerante lees - gewone skole is baie meer gerig op prestasie en ...shine vang, daai skool wat die leiers oplewer, daai wat die sportbeurse kry, ons het dit nie, ons het 'n baie ...ander uitkyk by ons skool.

FOCUS GROUP 3:

Participants mainly promoting Sign Language (Junior Phase)

Topic 1:...the inclusive educational system and the child with hearing loss?

Ek dink daar gaan meer begrip vir die dowe as sulks wees in 'n horende wêreld ander kinders gaan blootgestel word om op 'n manier met hierdie kinders te kommunikeer en met hulle interaksie te hê.

Wel ek dink daar sal defnitief taaluitbreiding plaasvind, want in die groep waar hulle nou is, ek dink nou aan my klas spesifiek, hulle brei nie mekaar se taal uit nie - waar in 'n horende omgewing - ek dink dit defnitief 'n groot mate van taaluitbreiding kan wees en stimulasie ook – wat hulle nie eintlik op hierdie stadium kry by hulle mede dowe maatjies nie.

Die kinders in spesiale skole weet nie wat dit is om te speel nie, hulle sal dit leer. Ek dink interaksie sal defnitief 'n groot voordeel wees.

Topic 2:...the role of an educational audiologist in the inclusive educational system?

Ek kan sê ek en my afdeling se oudioloog/spraakterapeut werk baie nou saam, nê en ons konsentreer hoofsaaklik op hulle sinskonstruksie en woordeskat en leesbegrip, want dis waar hulle probleem begin. Ek wil sê ons werk regtig nou saam - ons vul mekaar goed aan.

Ek voel weer ons kry ondersteuning, maar ek weet nie of dit enige nut het nie vir ons kleintjies nie. Hulle kom te min, hulle sien die kinders te min en omdat hier meer na gebare oorgegaan toe is - hulle het hulle spraaklees verloor en is hulle meer op totale kommunikasie en hulle ken ook nie hulle klanke nie.

Ek werk nou nie met die oudioloog/spraakterapeute saam nie, maar uh ja die kinders kan nie lees nie en hulle ken nie hulle klanke nie en dis 'n groot probleem. En as daar baie ondersteuning van kleins af daaraan is dan sal die probleem minder wees, veral vir die groter kinders later.

Ons sou meer oudioloog/spraakterapeute wou gehad het. Ja, meer oudioloog/spraakterapeute. Meer sessies, meer individueel, meer in die middag na-skool ook kinders trek. In skooltyd in klasverband meer, ook soos ons vroeër gewerk het, definitiewe klanke aanleer, seker maak hulle ken dit en hulle kan dit toepas in woorde en sinne, waar nou voel dit vir my dit gebeur nie. As jy vir 'n kind sê: skryf vir my 'n /t/ dan kyk hy jou aan asof jy van ruimte of Mars afkom. Hulle ken dit nie soos in vroeë tydperk toe ons op die Mondelinge Metode was nie - so dis vir my asof dit bietjie verlore gegaan het toe ons oorgeskakel het gebare toe.

Die spraaklees het baie agter geraak, die kinders kan glad nie meer spraaklees nie – dis 'n groot leemte.

Ek weet nie - ek het 'n probleem as hulle hulle kom uithaal uit my klas uit, want die kind verloor werk. So as mens dan sê kom haal hom uit - dan moet jy eerder dat die juffrou moet aangaan met ander spraakopleiding, sy moenie aangaan met ander inhoudsvakke nie, want daar is nie tyd om met daai kind wat ontrek is, daai goed weer in te haal nie.

Ek dink mens kan saam beplanning doen wat die taalinhoud betref, maar ek voel nie hulle moet kom klas gee nie. Miskien as assistent vir jou met die aanbieding van 'n les kan help.

Ja, ek wil nou ook net sê: ons is gewoon om streng dissipline te handhaaf en wat ek nou al ook ondervind het is - as jy hulle alleen los met die klas is dit asof die kinders meer kans vat met hulle. So ek sal ok nie heeltemal sê los hulle om die klas alleen te hanteer nie.

Oudioloog/spraakterapeute is betrokke by oerleiding. Dis eintlik vir my onbevredigend die hele oerleiding. Want ons doen basies net in voorbereidende graad een oerleiding, waar jy 'n afspraak met die ouers maak en dat hulle nou kom en dan sit die sielkundige en die oudioloog/spraakterapeut en die onderwyseres en so saam. Maar ek voel dis nie so toereikend nie. Regtig nie.

Ek kan nou sê by ons vind nou nie rêrig oerleiding plaas soos by hulle nie. As 'n ouer 'n probleem het met sy kind se apparaat of dat hy 'n nuwe apparaat wil aankoop - dan kontak die onderwyseres die oudioloog/spraakterapeut en so werk hulle dan saam, maar nie formele oerleiding in ons afdeling nie.

Ek sou meer kere oerleiding wou hê. Ons sou die ouers meer kere wou sien. Hier gaan regtig 'n jaar om dat jy nie een van die ouers te sien kry nie en ook die swart ouers is ook 'n probleem-dié ouers se betrokkenheid.

Die ouers se betrokkenheid is baie swak hoor. Al sou jy sê: kom een maal 'n maand vir ouerleiding – gaan jy uit jou klas uit, as jy gelukkig is, een ouer sien. So ek dink as die ouerbetrokkenheid reg was kon ons sê op 'n gereelde grondslag een maal 'n kwartaal of een maal 'n maand ouerleiding met hulle, maar soos sy sê: jy sien daai ouers nie. Nee.

En as jy met die ouers werk dan – die ouers doen nie hulle opdragte wat jy gee nie, want hulle kinders is net 'n naweek daar, hulle wil nie nog sukkel met huiswerk. Hulle wil nie in konflik met die kind wees oor 'n naweek nie. So dit help nie jy gee spraakopdragte nie.

Dit sou ideaal gewees het as die oudioloog/spraakterapeute met die kinders van hierdie klasopdragte kon gedoen het, want hulle het die kennis - ouers het nie altyd die kennis nie om dit te doen nie - of die geduld nie.

Kyk ons slaan soveel vure dood by my nê (lag), want soos ek sê: die kinders ken nie klanke nie, hulle kan nie lees nie en dan praat ek van drie-letter woorde - dan sit hulle by my dan is hulle tien, twaalf so dan kan hulle nie lees nie. So ons werk heeltyd: klanke, woordherkenning, woordeskat uitbreiding, sinskonstruksie. So op hierdie stadium sou ek sê alles wat ons kan doen doen ons met daai kindes, al is dit op 'n baie eenvoudige vlak, dit doen ons met daai kinders.

Hulle kan definitief op 'n taalgebied, dink ek, 'n bydrae lewer met die beplanning en so - julle werk tog daaraan. Soos wat ek en (oudioloog/spraakterapeut se naam) nou saamwerk. Ek gee nou taal vir die graad viers en sy kom absoluut in en ek en sy besluit: voornaamwoorde, ons het dit opgedeel, voornaamwoorde graad vier doen ons dit- graad vyf doen ons dit- graad ses doen ons dit, want dit is nogal 'n groot probleem by ons dowes die voornaamwoorde en dieselfde met werkwoorde. Ons het dit gaan opdeel: sê hoofwerkwoorde graad vier - skeibare werkwoorde graad vyf en daai moeilike werkwoorde graad ses. Maar jy doen nog deurentyd hersiening van die vorige grade se goeters, so ek en die

oudioloog/spraakterapeut het dit gaan staan en in deel - wat goed werk en soos ek sê dan bou ons maar ons sinskonstruksie en leesbegrippe en woordeskatuitbreiding daar rondom. So by ons vind dit regtig plaas met behulp van die oudioloog/spraakterapeut.

Ja, miskien met die uitspraak en die vorming van die woorde by die byvakke waar ons nou groot woorde kry en die kinders dit moeilik uitspreek en hulle verstaan dit in elk geval nie eers nie behoorlik altyd nie.

Hulle ken nie eers die skrifbeeld eers nie, ja, daar sal hulle vir ons groot hulp wees.

Hulle sukkel. Baie sukkel. Jou kinders wat akademies nie so sterk is nie - sodra jy die les informeel maak- dan's dit chaos in daai klas. So as hulle nie daai struktuur het nie - hulle doen wat hulle wil in die sin van dis vir hulle lekker asof die grense wat daar was nou nie meer vir hulle nodig is nie. So ek het nou nogal 'n probleem, veral met die swakker klasse - dat as sodra jou les te informeel raak - dan gaan jou inhoud verlore. Ja, definitief.

Hulle kan nie regtig in groepe saamwerk nie, die kleintjies hulle kan mekaar nie asessee nie, ook nie hulleself nie. As ek vir hulle die papier gee het hulle self al die laggies ingekleur - voor ek nog enigsins gemerk het. En hulle is kwaad as hulle 'n ander gesiggie kry en so dis moeilik. Maar hulle kan ook nie met mekaar regtig oor 'n onderwerp kommunikeer nie, of ander se mening kry nie, dis regtig asof uitkoms-gebaseerde onderwys - dit werk nie vir my hier nie.

Sekere goed is oulik, jy weet, soos redenering. Ja. En daai tipe van goed en goed wat hulle prakties moet bou. Maar hulle weet nie wat hulle moet doen nie. Maar my probleem is: hulle kan nie lees nie. So ek kan vir hulle geen werksopdrag gee nie – ek gee vir hulle 'n werksvel en ek verduidelik elke woord

vir hulle – die oomblik wat hy by sy bank sit en dit self moet doen - dan weet hy weer nie wat staan daar nie. So dis vir my 'n groot probleem.

En ook die take - hulle kan dit nie gaan doen nie, want hulle is nie by 'n ouerhuis nie. Ja, en al stuur jy dit , ek dink nou aan (kollega se naam). Ja, ek het nou al twee keer tuisopdragte gestuur huis toe wat oor die vakansietydperk moes gedoen word het - jy kry dit net nie terug nie, dit word net nie gedoen nie. Um, daar's net geen ouerbetrokkenheid nie by hierdie tipe van onderrig nie.

Daar is goeie dinge in uitkoms-gebaseerde onderwys wat mens kan uithaal en gebruik in die klas. Maar hier by die kleintjies moet jy maar regtig drilwerk doen en baie herhaling en baie struktuur, baie struktuur. Ek dink nie baie van ons kinders kry struktuur by die huis nie. En die taal is van so aard dat dit so agterstand is dat jy nie in graad vier al met hulle kan dinge sit en bepraat nie. Die mondelings: daar is nie - jy kan nie met hulle mondelingse werk doen nie, want hulle het nie daai taal nie - nie daai taalagtergrond nie, en dit skep 'n groot probleem.

Die leesbegrip en woordherkening en daai goete: die graad viers by my, ek sit met kinders wat se woordherkening op 'n graad een vlak is en jy kan nou self dink: jy moet hierdie moeilike inhoudsvakke gee, maar hulle kan dit nie lees nie (lig wenkbroue), so dis vir my op hierdie stadium regtig 'n probleem.

Redelik baie van ons kinders dra gehoorapparate, almal het darem of meeste het een of twee. Maar die versorging van die aparate is baie swak. Dis 'n groot probleem. Die kinders self is verantwoordelik vir die versorging van hulle aparate en dit gebeur net nie, so as jy vir 'n kind sê hy kan nie hoor nie - dan is die oorstukkie so met was aangepak dat die klank nie deurkom nie. En jy het nie in die klas tyd nie om al die oorstukkies nou uit te haal en te was nie. So dis vir my 'n groot probleem. En die kinders het ook nie daai trots om dit op te pas nie, ander hou dit sommer vir hulle, of hulle dra dit nie. En by ons groot kinders kom

die probleem nou weer in: hulle begin nou dink hulle het dit nie nodig nie. As jy in die oggend hier kom sê jy: nou hoor hier, waar's jou apparaat? Dan moet jy hom eers terugstuur koshuis toe, want dan's hy by die koshuis of hy's by die huis. So um baie van die groot kinders het daai don't-care houding oor die appaarte.

Ons onderwysers toets of die appaarte werk en as daar dan 'n probleem is dan is daar Donderdae 'n tegnikus wat inkom dan herstel hy dit, en dit wat nie kan herstel nie word weggestuur en die ouers kry briewe wat sê: ok, dit is wat dit gaan kos om te herstel en so aan. Maar ons toets elke oggend die batterye in die klas en soos ek sê as daar dan nou 'n distorsie of 'n ander probleem is, stuur ons hom op 'n Donderdag in na die tegnikus toe.

Ons voel die oudioloog/spraakterapeute moet meer betrokke wees by die nagaan van die appaarte, want ek bedoel dis hulle veld, ek gaan nie van haar verwag om my voorbereiding te doen nie (glimlag), so ek voel sy's die kenner, die spesialis op die gebied van gehoorappaarte. En dit vat tyd om elke oggend die appaarte regtig deur te gaan en nou is hier 'n probleem en nou moet jy wag tot Donderdag as die man kom om dit te herstel.

Basies reël hulle maar die maak van oorstukkies en so en hulle vervang die pypietjies en daai tipe van goed. Maar, ek bedoel, as daar skuurwerk aan die oorstukkie is – dit moet wag tot Donderdag. As die apparaat stukkend is dan wag hy tot Donderdag tot die tegnikus kom.

Elke jaar word die kinders se ore getoets. As jy vra gee die oudioloog/spraakterapeut terugvoer oor die kind se gehoor, maar ek het nog geen terugvoering gekry oor die oudios wat heirdie jaar gedoen is nie. Jy weet nie of daar progressie of verswakking van die gehoor is nie - ons sou meer wou weet daaroor. Ons weet hoe werk die oudio, maar as ons dit kan vergelyk met die vorige jaar s'n...

Ons sou ook meer wou weet oor die nuwe tegnologie, want nou's hier van ons kindertjies met nuwe apparate, is dit Oticon wat dit maak?, dis sulke nuwe klein gekleurde apparate, digitaal, en blykbaar is die input baie beter, ek meen die kind kan beter reageer. Maar as jy dit nie vra nie - dan weet jy nie. En dit is ook hy maak anderster oop en die battery moet uitgehaal word, want hy kan nie so afskakel nie.

Gewoonlik as die oudioloë/spraakterapeute op 'n kursus was dan is dit deel van die skool se beleid dat hulle vir ons terugvoer gee, maar ek bedoel dis so bolangs (wys bolangs) dat mens graag die diepere sou wou weet. Die Oudioloog/spraakterapeute besluit wie kry watter apparate, ek dink hier's voorbeelde van veskillende apparate - dan toets hulle en sê vir die ouers: maar okey hierdie een is die beste vir jou kind, dis die prys, en ook al die fondse wat beskikbaar is. En natuurlik is die kinders dol oor al hierdie nuwe kleure, hulle kies die kleure.

Oudioloog/spraakterapeute is baie negatief oor gebare. Dit is die kinders se eerste taal, ek voel dis belangrik ek dink ek kan my baie makliker verstaanbaar maak as ek met die kinders gebare gebruik. Maar ek dink dis vir hulle beter om te kan praat as hulle in die wêreld daar buite kom, ook spraaklees en tog as hulle hulleself kan verstaanbaar kan maak. Ek meen die kinders wat beter kan praat, wat goed kan spraaklees, hulle kom in die buitewêreld beter oor die weg, defnitief. Nee, kyk dis altyd 'n konflik oor wat is die eerste taal hier, is dit gebaretaal of is dit spraak, so hulle siening is een en daar's 'n paar van ons wat 'n ander siening het.

Ja, ek dink ook so, want weet jy wat het ek nou gesien, want ek weet nou by die kleuterskool lê hulle nou baie aandag op, klem op spraak en gehoorontwikkeling. Dan kom hulle nou na ons fase toe - die maklikste om inhoud oor te dra is met gebare. So dadelik, die kind het miskien daar nie gebare gehad nie, maar hier kom hy nou en word hy gekonfronteer met gebare. So al my harde werk gaan

volgens my (teken vir af-met-die-drein). Ja, hulle doen D.A.S.L by die kleuters, so ek voel as mens besluit: hierdie kinders is spraak kinders volgens hulle oudiogramme -vat hulle deur spraakonderrig tot die einde. Maar dit gebeur nie, ek bedoel daar's baie faktore: onderwyservoorsiening en so voorts. En dit is so die makliksate manier om vir 'n dowe kind inhoud oor te dra is met gebare.

Ja, en ek dink dis vir die swart kinders ook 'n kwessie, want hulle praat 'n ander taal en hulle was baie keer in 'n Engelse skool - so dan gaan die taal nog meer verlore, want daar is gebaretaal ook.

Die oudioloog/spraakterapeute doen gehooropleiding saam met die onderwyseres vanaf kleuterskool tot by voorbereidende graad een. Saam met die onderwyseresse, jy en die oudioloog/spraakterapeut en 'n kind. Dan doen hulle die DASL. Ek weet nie of daar nut in is nie, die oomblik wat die oudioloog/spraakterapeut in die klas kom stel almal hulle apparate harder, want dan moet hulle hoor en die kind reageer, ek meen ek sit agter die kind en ek maak geluide en sy moet wys sy hoor. Maar jy kan maar weet, na alles - as sy uit die klas is, dan reageer hulle nie meer nie, so ek het my bedenkinge daaroor.

Ek sê weereens toe ons op die spraakmetode was het hierdie ding gewerk: DASL, klankherkenning, aanwesigheid/afwesigheid van klank, lang klanke/kort klanke, maar toe't ons 'n gehoorwerk periode gehad. En gebare het toe alles verander.

Gebare het gekom om te bly, my persoonlike mening is ons moet voluit gebare doen.

Ja, definitief. Nie dat ek dink dis die beste nie, maar dit is lyk vir my wat op ons afgeforsier word een van die dinge wat van DEAFSA se kant afkom. Daar word gesê dit is die kind se eerste taal, en hulle het die reg om in hulle eerste taal onderrig te word.

Ek sou daarvan gehou het dat dit spraak is met gebare-ondersteunende onderwys. Maar soos hulle nou gesê het: gebare het gekom om te bly en dit word vir ons gesê - dit is die kind se eerste moedertaal so dis die eerste taal. Ons sal maar daarmee moet verlief neem en ons aanpas daarby.

Spraak, hulle is glad nie daarvoor nie - gebaretaal oor en uit, sonder stem. So dit maak dit moeilik, soos ek sê: ek het nog al die jare Total Communication gebruik en hulle sê dis nie meer reg nie: gebare. So dadelik kan jy sien klanke en al daai goed wat die kind met die Mondelinge Metode kon gedoen het, is weg.

Nee wat, ek dink dis hulle demokratiese reg met hierdie nuwe verkiesing het elke ou sy reg en dis die dowe se reg as hulle in gebare onderrig wil word.

Die kinders voel ook almal gebare, defnitief. Gebare, baie sterk. Die kinders wat dalk goeie gehoorreste het, en wat dalk goed oorkom, mondelings, hulle vra nog vir gehoor en spraakterapie. Maar ek kan amper sê 90%, as dit nie meer is nie, sal die kinders vir jou sê: gebare.

Vir my afdeling waar ons werk aan sinskonstruksie is daar 'n rol vir die oudioloog/spraakterapeut.

Ja, ek dink ook tog so, ek dink daai kind wat nog 'n bietjie gehoorreste het, en daai kinders wat sê vir jou die batterye is pap en daar is nog defnitief vir hulle, lyk my, wat baatvind by die oudioloog/spraakterapeut. Die kinders wat nie enigsins daarby baatvind nie, sou ek nie sê nie. Maar defnitief is daar nog 'n plek vir oudioloog/spraakterapeute.

Die kind wat die gehoorreste het wat die spraak kan ontwikkel, moet mens aanhou daarmee en voluit benut. Maar die kind wat dit nie het nie - jy frustreer hom net daarmee.

Ek stem saam, want jy sê die klank oor en oor en hulle kan dit net nie herhaal nie. Daar is kinders wat net nie kan nie en daar is kinders wat kan.

As hulle, die gebaretaalstruktuur is nie dieselfde soos praat en skryf nie, as hulle gebaretaalopleiding kry en op só 'n vlak is dat hulle daai brug kan oorkom tussen gebaretaal en skryftaal, dan sal ek sê ja. Maar voor hulle nie op 'n vlak is waar hulle dit bymekaar kan bring nie, sal ek nie so sê nie (skud kop).

Dis moeilik, ek uh, weet nie wat regtig om te sê nie. Ek dink tog daar is nog vir oudioloë/spraakterapeute 'n rol soos ek gesê het vir die kind wat regtig nog daarby baat kan vind en kinders wat se ouers nog betrokke is en belangstel en graag wil hê hulle kind moet in 'n horende wêreld, jy weet, 'n plekkie kry - sou ek sê dis belangrik. Maar dan intensief.

Ja, vir die tyd vir die jongtyd wat hy sy spraak kan ontwikkel, uhm ja. Gee hom daardie voordeel en maar as hy dan later net op suiwer gebare gaan, split hom dan, maak dit twee bane. Dié klomp net vir gebare en daai klomp net vir spraak. Ja, soos wat ons gehad het in die verlede.

En regtig ek dink die kinders wat ons hier gehad het toe dit net die Mondelinge Metode was, hulle was beter toegerus vir die toekoms daar buite, maar hulle het daai agtergrond van die spraak en die klanke goed. Jy weet, hulle was beter toegerus. In 1994 het dit verander.

**FOCUS GROUP 4:
Participants mainly promoting Sign Language (Senior Phase)**

Topic 1:...the inclusive educational system and the child with hearing loss?

Daar is defnitief 'n plek vir skole wat veral dowes apart (wys apart) hou, 'n spesiale skool. Daar is 'n verskil, daar's 'n kultuurverskil, 'n taalverskil, grammatika verskil. Daar is sulke tipes verskille maar aan die anderkant as jy kyk na kinders met kogleëre inplantings - ek weet as hulle van kleins af gemainstream word dink ek dit kan werk, maar daar is defnitief 'n plek vir 'n indiwiduele aparte skool vir dowes.

Ja, want hier was al kinders hier wat kon cope in 'n gewone skool.

Ek dink die groot verskil is dit hang af van watter insette die ouers wil lewer, want hulle moet omtrent een tot een onderrig kry en baie ouer hulp. Daar was 'n kind by ons wat na 'n gewone skool toe was en goed gedoen het in die skool - wat universiteit toe kon gaan, maar daai ma het baie hard gewerk aan Afrikaans en Engels en sy't nog elke jaar gewonder of dit die regte besluit was. So dit kan - die kind het baie goed presteer-hy's besig om te leer op universiteit, maar sonder daai ouers kon dit nie - ek sê nie dis 'n goeie ding nie, maar dit kan glad nie werk sonder ouers wat so hard werk nie en wat die geldelike vermoë het, en die ma moet eintlik nie werk nie, want jy moet eintlik heeldag by die huis wees of jy moet hom voltyds by 'n kleuterskool hê waar mense bereid is om hom een tot een onderrig te gee.

Ek dink sy support system is baie baie baie belangrik want as jy 'n dowe kind in 'n horende skool sit - daar is soveel verskille tussen hom en die ander kinders hy moet rêrig iemand hê wat hom gaan ondersteun in dit wat hy doen , want by tye

kan hy moedeloos raak want sy kommunikasie - dis 'n probleem tussen hom en die ander kinders, daar gaan sosiale isolasie wees.

Wat ek net gesien het is 'n groot probleem met 'n dowe seun wat ek ken in 'n gewone skool is bv. die interkomstelsel - die kinders en onderwysers vergeet byvoorbeeld dat hy nie alles kan hoor wat die interkomstelsel sê nie - so hy probeer dan om alles baie getrou te doen, hy is 'n baie konsensieuse kind, maar kort-kort is hy verleë omdat hy nie iets doen of weet of hoor wat oor die interkom afgekondig is nie en wat hulle vergeet het om vir hom te sê.

So kind met 'n gehoorverlies wat ingesluit word moet 'n redelik intelligente kind wees, 'n kind wat leerprobleme of ander probleme het dink ek sal baie swaar kry.

Ek stem saam. Ek het ook al gesien aanvaarding deur die ouers – 'n dowe kind van dowe ouers het vreeslik min probleme om in 'n spesiale skoolsisteem aan te pas in teenstelling met 'n dowe kind van horende ouers. Daai kind het inherente taal – jy kan vir daai kind iets byleer - hy het nie niks nie. Die dowe kind van horende ouers het gewoonlik geen taal, want dit het die ouers drie jaar lank gevat om te rou en hulself te bejammer en dan leer hy nie taal nie en word nie maklik sosiaal aanvaar deur ander dowe kinders nie. So die dowe kind van dowe ouers lyk slimmer as die dowe kind van horende ouers, wat seker ook hul bes gedoen het, maar hulle was besig om oplossings te soek en die kind se taal het agterweë gebly.

Wat ek net wil sê is dat die political objective van inclusive education is vir my wonderlik... want dis juis om te sê gestremdes is nie gestremd (wys inverted commas) nie. Hulle is deel van ons samelewing – hulle word aanvaar- hulle het equity.

So die verskil tussen equality en equity - dit is wat vir my belangrik is in terme van inclusive education. Equal beteken gelyk, m.a.w. ek sê nie omdat hy doof is

is sy taal swak teenoor die horende s'n nie, mens kwalifiseer alles. So ek sê daai een is doof - as hy net so in 'n skool ingesit word sonder 'n support structure en alleen en hy het nie 'n sosiale kring nie, want hy gaan dit nie hê nie (skouers opgetrek). Die dowe kinders kry swaar as hulle alleen in mainstream schools is, daar's nie tolke in die klas nie, daar's nie iemand wat kan voice-over as hy input wil gee nie, so hy's van alles ge-exclude. Dan is hy mos nie gelyk nie, maar hy kan net gelyk wees as daar equity ter sprake is, m.a.w. goed om gelyke deelname mee te verseker byvoorbeeld kom ons sê ons wil 'n vergadering hou en ons wil hê 'n dowe moet horendes toespreek maar daar's nie 'n voice-over nie - so hulle kan nie hulle deelname gee nie. Dis wat equity beteken. Dis die goed wat dit moontlik maak vir gestremde mense om op 'n gelyke vlak deel te neem. En ek dink daar's baie goed in die geskiedenis van Dowe onderwys van Suid Afrika wat dit regtig moeilik maak om 'n inclusive model suksesvol te laat werk.

Ek sê nie 'n inclusive model kan nie werk nie, maar ek dink die history is van so aard daar's nog baie kontroversy oor gebaretaal en spraak en ander goeters en kinders kom in die skole en hul ouers kan nie gebaretaal gebruik nie, dus gaan die kinders se taalverwerwingstydperk dit gaan verby met die minimum gebaretaal-input vir die meeste dowe kinders as hulle nie dowe ouers het nie. So hulle mis uit. Hulle eie taal, wat gebaretaal is, is nie eers op die vlak wat 'n horende kind van dieselfde ouderdom se Afrikaans of Engels sal wees nie so hulle het regtig in daai opsig 'n taalagterstand.

En die ander ding wat ek oor inclusive education voel is - ek persoonlik voel dis 'n baie positiewe ding, ek het aanvanklik nie, maar ek het baie daarvoor gedink en ek dink ek is seker 'n deel van die objectives daarvan is ook om die standaard van spesiale skole te lig. Ek is seker daar is baie probleme in sommige skole maar ek hou nie van die idee om te sê ons gaan nou hierdie groepie dowe kindertjies tussen 'n klomp horende kinders indruk nie, want dan is hulle onmiddelik anders.

My idee van inklusiveness is om te sê - goed hier is (skool se naam) skool. Watse resources het ons tot ons beskikking? - hoe kan ons ons skool met die potensiaal wat ons het in die personeel, met die potensiaal wat ons het op die terrein – hoe kan ons dit gebruik om te sê hier is soveel dowe kinders, ons kan nog soveel horende kinders akkommodeer - ons gaan ons skool attractive maak ons gaan sê ons bied dit en dit aan, maar dan moet daar saam met dit kom tolke vir voice-overs, want ek meen ek gee klas in suiwer gebaretaal - ek gebruik nie my stem nie, daai horende kinders gaan werklik nie 'n idee (skud kop) hê van wat aangaan nie.

Mens sal sulke tipe goeters net in ag moet neem, dat die support structures daar is. Maar selfs as jy via-verca gaan. As jy nou sê nou goed hier is nou dowe kinders wat na 'n horende skool toe gaan - die support structures moet daar wees en dit en dat - dis baie duur. En ek het al vir myself al probeer uitfigure hoe dit kan werk - as jy net hierso vat jy het van graad agt tot graad twaalf – jy het twee tolke nodig in elke klas en jy het twee tolke per klas nodig, want geen persoon kan vir vyf ure aanmekaar tolk nie. So dan is dit twaalf tolke wat elke maand 'n volledige salaris sal moet kry, so dis 'n baie duur storie a.g.v. kommunikasie, nie soseer as gevolg van die gestremdheid (wys in aanhalings tekens) nie, maar oor die means of communication - soos ons skool wat maar hoofsaaklik gebare gebruik, maar as jy nie gebare gebruik nie in one-way-or-die-other nie is die kinders verlore.

Topic 2:...the role of an educational audiologist in the inclusive educational system?

Daar is nie eintlik so iets ('n multi-dissiplinêre span) by ander gewone skole nie. Ek voel hier by ons skool is hier spanwerk - as jy kyk teenoor ons gewone skole voel ek hierdie leerlinge is baie bevoorreg (groot oë en lig wenkbroue) - hulle word groot met sielkundiges waarvoor hulle enige probleem vertel, daarom het hulle nie probleme in hulleself nie, hulle deel hulle probleme maklik, hulle kry

oplossings en hulle aanvaar oplossings en ander gewone skole het nie so voorreg nie van sielkundiges nie – hulle kry dalk arbeidsterapie.

Maar vir my is die leemte spraak en gehoortherapie, want ek het nog geen oudioloog/spraakterapeut gekry wat pro gebaretaal is nie, en ek ken 'n paar oudioloë/spraakterapeute - die rigting waarin Tukkie's hulle oplei en ek ken nou net Tukkie's mense, is: jy moet spraak aanleer. Ek is oop daarvoor, ek hou daarvan as kinders met my praat as hulle kan, as hulle kan praat kan hulle dit ook gebruik, maar ek voel want ek't self gesien hoe kindertjies hier aankom by die kleuterskool en as daai kindertjies saam met spraakopleiding gebare gekry het, en in daai drie jaar kom hulle nie na ons toe nie - hulle ma's gaan dan na oudioloë/spraakterapeute toe, en dit voel vir my hulle gaan nie skade lei as hulle gebare en spraakopleiding kry nie, maak nie saak wat later gaan gebeur nie. Dis 'n klein tydjie, net drie jaar, waarin hulle dit kan kry – so dit voel vir my belangrik. En baie oudioloë/spraakterapeute doen spraakopleiding en ek weet spraakopleiding is 'n baie moeilike ding om te doen - jou resultate is klein (wys gebaar vir klein), bietjies op 'n keer, ek sien daar by die gehoor en spraaktherapie afdeling hoe doen hulle taktiel (wys na larinks) en hulle probeer daai kind die goed laat sê soos /k/ en die kind is gefrustreerd. Nou hier in die skoolsituasie gaan hulle van klas tot klas, maar dit vat miskien 'n jaar voor die kind 'n /k/ kan sê, of drie jaar of vyf jaar, en dit is vir my 'n probleem. Ek weet nie of my opsomming verkeerd is nie, maar elke oudioloog/spraakterapeut waarmee ek praat sê nee (wys nee met gebaar) vir gebare.

Die ding is net nê, as 'n kind nie woorde verstaan nie, hoe moet hy dit praat? Dis mos meaningless communication vir so 'n klein kindjie om nou te moet sê: /kat/ /kat/ /kat/ (monotoon gesê)? Ek bedoel (dramatiese stilte), as dit saam met sy natuurlike taal, wat gebare is, ontwikkel is dit meer natuurlik. Ek het 'n navorsingsstuk dink ek van mense in Spanje gelees - hulle het baie beter resultate gekry met spraakopleiding met kinders met 'n gevestigde gebaretaal (dramatiese stilte) wat dan ook inderwaarheid die bilingual approach is, wat nie sê spraak is uit en dis net gebaretaal nie. Maar mense verstaan dit verkeerd -

hulle dink jy moet die heelyd praat, maar ek meen jy moet onthou, gebaretaal kom uit 'n heel ander struktuur as enige ander gesproke taal of dit nou Afrikaans of Engels is of whatever is, jy kan dit nie meng nie, want dan is jy nie meer besig met gebaretaal nie. So nou voel mense die kinders moet spraakopleiding kry en nou meng hulle dit. So nou kry die kinders nie een van die twee meer ordentlik nie en dis defnitief nie natuurlike (lig wenkbroue) taal nie.

Maar wat eintlik behoort te gebeur is soos sê nou maar die oudioloë/spraakterapeute, veral by die kleuterskool, behoort saam te werk met die onderwyseresse en sê nou maar in temas - dan moet die onderwyseresse die goed eers doen in gebaretaal en dan kom die oudioloog/spraakterapeut in en gaan terug na daai lessie toe wat nou vir die kind bekend is en dan daai woorde met spraakopleiding vir hulle leer. Dit is 'n baie suksesvolle benadering wat dan die Bi-Bi approach se resep is. Die Bi-Bi approach werk eintlik so dat jy dit gelyklopend moet doen, parallel moet doen, maar die probleem is die mense is: of (wys eenkant toe) of (wys ander kant toe).

Dit voel vir my daai drie jaar voor hulle na ons toe kom is 'n baie baie belangrike jaar, en vir die ouers - dan moet die ouers besluit: gaan hulle kogleêre inplantings doen en vir die kind heeltemal 'n ander opsie gee. Jy weet, daai leiding wat die ouers daar kry is nie vir my reg nie, want dis baie one-sided vanaf die oudioloë/spraakterapeute en die oor-spesialiste. Ek sien nog steeds ouers wat onkundig is nê, wat nie weet wat doen hulle as hulle 'n kogleêre inplanting insit nie, soos wat ek maar ook onkundig was oor my kind se probleem. So, die ouers is onkundig, hulle weet nie dié goed nie, hulle weet nie die keuses nie en daar is nie eintlik tyd om te mors nie, daai kleintjie moet gebare baie vinnig kry.

En as ek dink hoeveel ouers kom terug dan's hulle kinders in matriek dan sê hulle: as ons maar net geweet het, ons het nie dit geweet nie. Dan's dit nou medical referrals, clinic referrals, oudioloë wat hulle ingelig het. So daar's nie 'n ingeligde besluit nie - ouers weet nie dat gebaretaal 'n natuurlike taal is nie.

Hulle weet nie wat is die implikasies van om jou natuurlike taalverwerwingsfase te mis nie. Ouers weet dit nie. Ek meen, as hulle vir die eerste keer hoor hulle kind is doof, dis soos (kollega se naam) sê, dis vir ouers 'n skok, hulle probeer regmaak. So in daai kosbare tyd is dit 'n taalverwerwingstyd wat verbygaan en verbygaan. Want as ek bv. kyk na my suster se kindertjies van drie jaar se woordeskat wat hulle het, omdat hulle neem dit die heelyd in en vir so kleinjie want nie kan hoor nie is die inneem hier (wys na oë). Maar as die ouers nie weet en besef nie, dan kan hulle nie 'n keuse maak nie om te sê: ek wil dit hê, maar ek wil ook dit hê - dis vir my belangrik.

Hulle moet meer bewus wees van die keuses wat beskikbaar is en nie net spraak en gebare nie, maar hoe dit toegepas word, jy weet, om daai kind sy volle potensiaal te laat bereik. Want die pendulum swaai nie net na die een kant of na die ander kant nie. Dit is nie extremes nie, daar's 'n middeweg en dit is soos wat sy nou gesê het - ouers weet dit nie en ek voel die oudioloë/spraakterapeute en die en die res van die span - daai span moet bewus wees van die tipe keuses wat daar is. En hulle maak nie ouers bewus daarvan nie en dis hoekom daar so baie kosbare tyd verlore gaan, ek meen soos daai kind - sy opvangsfase – daai taal - jy weet as hulle dit kan optel en gebare ook leer ek meen hoeveel meer gaan daai kind nie vorder nie, gaan dit hom nie baat nie?

Die hoërskool kinders het nou so een maal 'n week spraak en gehoortherapie, maar dan het hulle netbal en hulle het ekstra klasse en alles, dan's dit amper nie meer die moeite werd nie. Hulle kan nie uit die klasse uitgeneem word nie, want dan mis hulle ander werk en dan's hulle in die koshuis en dan's daar 'n bussie gereël en dan bots dit met ander goeters - so dan's dit nou verlore. So ek weet nie regtig, ek het later begin agterkom hier was sulke taalfases. Dan kom die oudioloog/spraakterapeut in die klas en ja - dan gaan dit oor taalstrukture en nie oor dit wat die kinders wil hê nie, want hulle wil ordentlik praat (dramatiese stilte) hulle word tieners en hulle kom agter hulle is tussen ander tieners en hulle wil ordentlik praat, maar dan is sy (die oudioloog/spraakterapeut) besig met die

juffrou en besig om vir haar te sê watse strukture ons vir die kinders moet leer (lyk verontwaardig), soos grammatikale strukture - jy's nou op hierdie vlak en nou moet jy na daai vlak toe gaan, in plaas van funksionele taal wat die kinders wil hê.

Die ding is net 'n taalonderwyser wat by 'n skool vir dowes werk behoort in elk geval genoeg te weet van albei tale se strukture om self daaraan te kan werk – ja, as jy nou met Afrikaans of Engels of watter taal ookal werk - daai taalonderwyser moet vir die kinders kan verduidelik: gebaretaal lyk so, hierdie is die ekwivalent van die gesproke.

Wat ek byvoorbeeld dink is wanneer ek byvoorbeeld weg van die skool af was en ek kom terug – dan sien jy ons het so vasgeval by die skool met: spraak of gebare - dat die kind verlore gaan. Hierdie kinders weet so min. Ek het die ander dag vir hulle dorpe se name gevra, hulle ken nie dorpe se name nie, so dan kan hulle nie uitgaan in die werêld nie. Hulle het nie algemene kennis nie. Soos die media, radio televisie - dit gee nie vir hulle inligting nie, hulle kan dit nie hoor nie. Hulle kan miskien die Huisgenoot deurkyk en miskien die hoofopskrifte lees, maar dis al. Maar ek voel hierdie skool, soos ander skole, by ons is die tendens om werksgerig te wees. Hierdie kind wat so gestremd is moet maar iets met sy hande gaan doen van standerd vyf af, maar hulle dink nie aan hom as mens nie. Hy weet niks van die aardrykskunde of die geskiedenis of enigiets van hierdie land nie. So al kan hy naderhand baie goed gebare doen of al kan hy praat gaan hy nog dom lyk, want waaroor gaan hy praat - hy het nie inligting nie - hy weet nie wat om te antwoord as jy vir hom vra watter twee provinsies het die see nie. Ek meen die Kaap is vir hom Kaap (wys Gebaretaal vir Kaap) dis vir hom so abstrak nê, hy ken basies die gebaar. Maar die ander kinders het televisie en baie inligting wat na hulle toe kom, maar dis moeilik by ons. Ek voel by ons skool, soos by ander skole, is daar een ding wat ek as 'n leemte ondervind en dit is dat ons net te werksgerig is met ons kinders en nie altyd fokus op hulle as mens nie.

En as jy kyk na hierdie outcomes-based onderwys dan besef jy dis nie regverdig teenoor die dowe as jy heelyd wil uitkomste kyk nie. Onthou jy moet eers nog begin by die begin jy moet nog eintlik vir hom taal leer, jy moet nog vir hom woordeskat leer, jy moet hom leer wat is daai ding se naam. Jy kan nie verwag dat hy daai ding se naam moet gebruik om 'n paragraaf of 'n ding te skryf soos wat die departement verwag nie - jy moet nog eers vir hom basiese dinge leer. Jy moet goed soos nuus en sulke goed kan doen – hulle wil weet, hulle kom vra vir my jy weet. Dan sê hulle vir my hulle het dit en dit oor televisie gesien en hulle wil weet wat gaan aan.

Irrespective of gaan hulle in 'n skool met horendes wees of in 'n skool net vir dowes, die spraak moet van kleins af kom saam met die gebaretaal. Dit gaan nie help jy fokus hierdie kind net op spraak, spraak, spraak nie en hy kan nie eers sy eie naam in gebaretaal gebruik nie. So, ek dink die input moet van kleins af begin - dit gaan nie help dat jy na daai fase nou ewe skielik begin met taalinput nie, want dit gaan nie help nie. As die fondasie nie reg is nie, hoe gaan jy die res van die huis bou?

Dit voel vir my as ons onderwysers by skole vir dowes gebruik kan maak van 'n gebarehulp - dan hoekom kan spraakterapeute nie miskien ook gebruik maak van gebarehulp nie? en so kyk of dit nie beter werk nie. Net hulleself oopstel en kyk of hulle samewerking kan kry van iemand wat 'n gebaretaalkundige is.

Ek het 'n probleem - ek dink dit is baie idealisties ek dink hier is 44, 46 skole vir dowes in Suid Afrika wat range van doof to daai (skool se naam) wat net spraak gebruik en geen gebaretaal nie. Maar as mens nou kyk na gebaretaal skole het die kinders baie gebaretaal behoeftes –daar is orals in dié skole kontroversy – die mense is nie opgelei nie, dis 'n feit, hulle gaan nie opgelei raak as hulle nie besef dis belangrik nie.

As hulle wil hê inclusion moet werk sal hulle regtig indringend moet aandag gee aan die opleiding van daai mense wat met die kinders in hulle

taalverwerwingsfase werk, ek praat nou van die kleintjies, dit sluit in: onderwysers en oudioloë en ander hulpdienste, whatever dan. Want as daar controversies is, dan kom die verkeerde inligting by die ouers uit of halwe inligting by die ouers uit of bias inligting by die ouers uit, either way. Alles begin in die grondslagfase, ouers kan nie ingeligte keuses maak nie of die kinders gebaretaal moet kry nie. Sommige kinders kan sonder gebare, maar dis die minderheid. Die meerderheid dowe kinders het gebaretaal nodig om taal te kan verwerf. En daarmee saam dan gelyklopende spraak en gehoorterapie wat die proses van hoe dit behoort te gebeur, aanhelp. En daai proses – mense verstaan dit nie. En die meeste mense wat in daai aanvangsfases werk is nie fluent in Sign Language nie, so tot dit nie reg is nie is dit 'n joke, ek bedoel dis 'n waste of precious money and time. Want daai goed moet eers reg wees, jy kan nie nou se jy't 'n inclusive model met daai chaos nie. En totdat hulle nie daaraan aandag gegee het nie kan dit nie werk nie.

Die oudioloë/spraakterapeute se houdings moet bietjie verander want dis my ondervinding dat hulle baie baie geset is teen enige vorm van gebaretaal - wat ek voel nie reg is teenoor die kind nie, want ek weet op die ou einde moet daai kind gebaretaal kan ken en praat om homself in sy sosiale omgewing te kan help en spraak ook ek meen hy moet tog winkel toe kan gaan. Maar die oudioloë se houdings is vir my partykeer nie altyd reg nie. Hulle besef nie dat daai kind gebaretaal ook nodig het nie - dis vir hulle 'n uitgemaakte saak::spraak.

Vir my het die probleem gekom ek kan verstaan waar kom hulle aan net spraak, dis normaal nê, my vriendin se kind kan mooi praat en hy kan goed luister, maar nou kan hy nooit met 'n dowe verkeer nie, so hy wat doof is kan nie met 'n dowe kommunikeer nie - dis vir hom uitgesluit, want as die dowe sy lippe wil lees, en daar is maar 'n paar wat lippe kan lees, en dit word verder bemoeilik want omdat hy doof is praat hy klaar 'n bietjie snaaks - so dan kan dowes nie sy lippe lees. So as hy gebaretaal gehad het dan kon hy twee wêrelde betree het. Want al is hy nou in 'n gewone skool is hy nou uitgesluit van die dowe gemeenskap en ek voel tog ook dis nie reg nie, nê. Want ek sê altyd vir die kinders by ons skool ons

is baie trots as ons kinders by die skool Afrikaans en Engels en nog 'n taal kan praat, want ons probeer dit regkry soveel as moontlik Swart tale ook, Duits , wat ookal. Hoekom wil hulle net een taal praat, baie keer het hierdie kinders gebare ook nodig.

Baie keer het dowe ouers se kinders net gebare en dis ook nie vir my reg nie, want dan kom hulle by die volgende probleem soos in die werksituasie of hy self kry kinders wat horend is en dan voel ek hoekom kan mens nie maar altwee gebruik nie, dan het die kind die beste van altwee wêrelde.

Vroeër toe ek net begin het was die siening: gebruik jy gebare - is dit ten koste van spraak - terwyl ek dink die siening het nou baie verander en ek dink dit is wat nou so belangrik is: hand aan hand die twee. En die ouer onderwyser kleef miskien nog aan daai siening van: as die kind gebare leer dan gebruik hy nie sy spraak nie.

Wat vir my belangrik is op die ou einde is hoe die dowe oor homself voel ek ken iemand wat hy is doof en sy ouers hulle het hom grootgemaak vir die horende wêreld absoluut – die minimum kontak gehad met dowes, spraak en gehoorterapie gekry by die universiteit en daai persoon hy het nog altyd uitgesluit gevoel van die horendes omdat hulle in elk geval, as hulle sy gehoorapparaat sien is hulle weg, ek weet nie daar is stigma daaraan. En hy kan ook nie by die dowes aanpas nie. Hy is nie deel van een van die twee wêrelde nie, hy is 'n halwe mens. En toe begin hy betrokke raak by die dowes en nou voel hy soveel meer 'n heel mens omdat hy nou in twee wêrelde kan leef.

Dis nie nou meer vir my so opvallend nie, maar dit het vir my op 'n stadium gevoel vroeër of die oudiolë/spraakterapeute absoluut oorheers het en vir my oortree het op die gebied van die taal. Nie net by die hoërskool waar daar taalonderwysers is nie maar ook ek weet ons het kongresse gehad wat ons moes bywoon en weet jy ek bedoel dit nie lelik nie, ek meen

oudioloë/spraakterapeute word gekeur hulle is absoluut hoogs intelligente mense en ook tegnies sowel as op ander gebiede, maar jy moet jou nie nie op 'n verkeerde gebied 'n kenner gaan hou nie. Deesdae weet ek nie eintlik wat doen die oudioloog/spraakterapeut nie - ons werk nie eintlik met hulle in die hoërskool nie ons het eintlik niks met hulle te doen nie.

Wel ek sou sê die oudioloog/spraakterapeut moet ook baie deeglik bewus wees van goed soos ons genoem het: hoe die gebare-struktuur werk en in samewerking daarmee miskien die spesifieke uitspraak van klanke.

Ja, ek sluit 100% aan by haar want sê nou maar in 'n klas daar's tieners hier by ons so as daai kind nie regtig wil praat nie, los hom, onthou hy is skaam en konsentreer dan meer op 'n kind soos (naam van kind) wat gevra het dat sy spraak en gehoorterapie kry en sy wil dit doen . Goed, sit in die klas en maak bietjie moeite sien die kinders in die middag na-skool wanneer ons buitemuurs het.

Vir my is 'n voorverieste dat die oudioloë/spraakterapeute moet weet wat beteken die Bi-Bi approach, hulle moenie sê hulle weet en dan weet hulle eintlik glad nie. Hulle moet weet hoe dit werk en hulle moet dit gebruik in samewerking met die onderwysers. Ek bedoel ek wil nie geharass word deur met mense argumente te hê oor Bi-Bi nie, hulle moet reg dink (wys na kop), voordat ek voel hulle kan vir my useful wees. Anders blaas dit net weer kontroversy en gevoelens en goeters en dis regtig 'n groot kontroversy dit veroorsaak nog oralster oor veroorsaak dit nog probleme. Ek wil my werk ordentlik doen – ek wil nie geharass word deur issues nie - so ek voel die oudioloë/spraakterapeute moet eers opleiding kry voor hulle in elk geval wat my betref welkom is by my, ek bedoel dit nou ok glad nie lelik nie, ek wil net hê die goed moet uitgesort wees - ek wil nie my onderrig tyd en my emosionele energie mors deur iemand te moet oortuig nie. Ek het nie 'n probleem met wat hulle doen nie, maar ek wil ook nie hê hulle moet 'n probleem hê met wat ek doen nie. Ek wil hê ons moet so werk

(hande langs mekaar) nie so (een hand bo ander) of so (sit een hand onder) nie – maar so (hande langs mekaar) saamwerk.

Ek dink net ons werk saam met hulle maar ons weet nie altyd wat kan hulle doen nie, ons weet nie wat hulle beroep behels nie. Al is ons by die dowes betrokke weet ons nie altyd wat doen die oudioloë/spraakterapeute nie. Ek weet nou soos met my vriendinne se kinders wat nou na 'n spraakterapeut/oudioloog toe gaan wat nou die /r/ vekeerd sê en daai goete en hoe gou kry hulle nou daai reg. En ek weet nou byvoorbeeld van iemand wat in 'n ongeluk was – wat bietjie breinbesering opgedoen het wat nou daar help kry, maar ek weet nie wat kan ons van hulle verwag nie, want ek weet nie wat kan hulle als doen vir ons kinders nie.

Ek voel net hulle moet holisties na die kind kyk dit gaan nie help as hulle net konsentreer op spraak nie, want daar is soveel ander fasette ook. Hoekom kan hulle nie hulle input deel nie - hulle het soveel kennis - met lees, met spraakopleiding - hulle weet baie goeters - hoekom deel hulle dit nie met die onderwysers nie? Hoekom moet hulle net konsentreer op een ding?