

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.

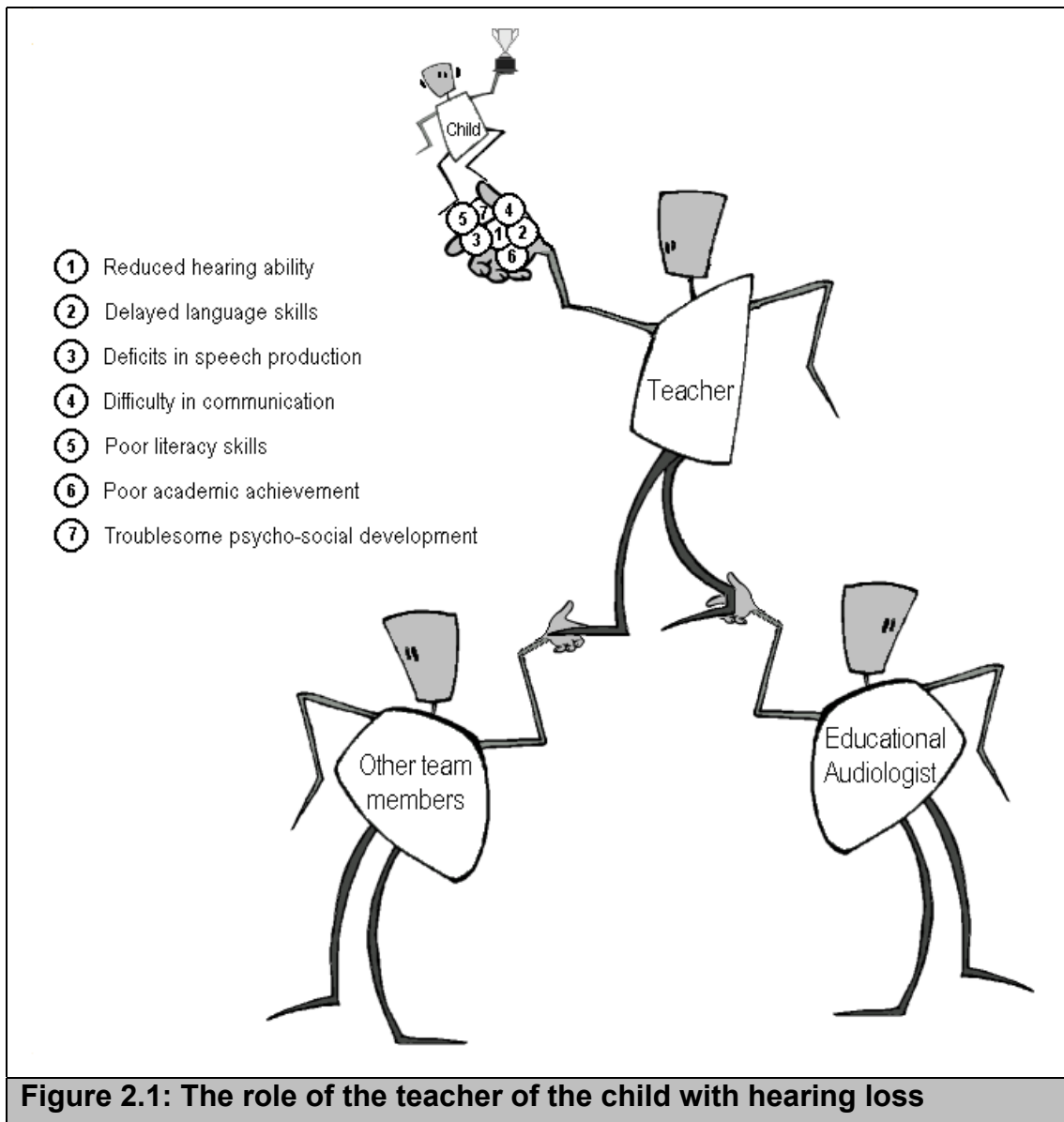


Figure 2.1: The role of the teacher of the child with hearing loss

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; McNally, 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; McNally, 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 (McNally, 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.
<p>[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)].</p>			

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.