

THE STUDY OF A LONG TERM
SIGN LANGUAGE INTERVENTION
PROGRAMME FOR HEARING
CAREGIVERS OF DEAF CHILDREN:

The challenges and successes of community-
based rehabilitation and evaluation

A dissertation presented to

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(Speech Language Pathology)

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“Kindness is the language which the deaf can hear and the blind can see”

-Mark Twain-

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ABSTRACT

The present study aimed to develop, implement and evaluate a long-term sign language intervention programme for the hearing caregivers of deaf children living within a socio-economically disadvantaged community. The programme was implemented by a deaf signing adult from the same community as the caregivers, and was undertaken within the naturalised contexts at a community-based level. It involved the instruction of more complex aspects of sign language, using storybooks, storytelling and natural conversation. Information and knowledge regarding Deaf Culture and the Deaf community was also imparted to the caregivers. The evaluation of the programme involved the examination of the caregivers' signed communication development, using a Communication Signing Profile during multiple signed communication tasks. Furthermore, focus group interviews were undertaken to evaluate the caregivers' perceptions and attitudes toward the programme, deafness and sign language, as well as to document the challenges and barriers involved in implementing intervention programmes. Findings that emerged indicate that although the expected improvement in the caregiver's signed communication was not observed, the programme was considered beneficial to the caregivers in providing easily accessible community-based rehabilitation, exposure to more complex aspects of sign language, contact with a deaf signing adult as well as providing a social support network amongst the caregivers. The programme sought to overcome and account for the challenges involved in implementing intervention and undertaking research within the community, by making the programme culturally and linguistically appropriate. However, poverty emerged as being highly influential in programme implementation and evaluation. Hence, there is a need for a greater insight into the larger complexities of the socio-economic status of a disadvantaged community, in implementing community-based rehabilitation. These findings are discussed in the light of previous research, as well as future research and clinical implications for the development of long-term intervention sign language programmes.

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1 INTRODUCTION

"Linguistic proficiency is a central requirement for human life: spoken language for the hearing and Sign Language for the Deaf" (Magnuson, 2000:6)

The interaction between mother and child is believed to be critical to the child's development (Bonvillian & Folven, 1993; Rea, Bonvillian & Richards, 1988), and it is the social, everyday routines and transactions between caregiver and child that provide the framework and foundation for language development (Cole & St-Clair-Stokes, 1984).

Parents should be viewed as successful language facilitators (Wolf Nelson, 1998). They play a vital role in developing their child's communicative skills throughout their primary school years. It is primarily the interactive experiences between parent and child occurring naturally within the home that assist in the development of worldly understanding and the acquisition of language which they can use to understand important cognitive concepts. The social interaction within a family is the critical foundation for the acquisition of language and literacy (Moeller & Carney, 1993).

The majority of deaf children are born to hearing parents, and past research indicates that the language development of deaf children of hearing parents is most often significantly delayed compared to that of their hearing peers (Hadadian & Rose, 1991; Spencer, 1993). The presence of a language barrier between caregiver and child significantly affects communication and child language development. In the absence of an appropriate language model, Calderon, Bargones and Sidman (1998) note that regardless of the educational approach taken, deaf children are often at risk for the delayed development of language, critical thinking and poor academic performance. In contrast, deaf children of deaf parents develop language in the same manner and at the same rate as hearing children of hearing parents. Deaf parents participate as language facilitators and provide appropriate language models for their children to develop language. This indicates the fundamental role that caregivers play in the development of their child's language. Thus

it is essential that hearing caregivers of deaf children develop sign language, so that the child experiences adult-child communication.

There are few programmes offering long-term sign language intervention programmes in South Africa for hearing caregivers of deaf children. In addition schools for the deaf frequently experience difficulties in establishing and sustaining long-term intervention programmes. Furthermore, the sign language programmes currently being offered to hearing adults frequently do not address child-adult interaction (Ogilvy, personal communication, 2003).

Hence, the purpose of this study was to develop, implement and evaluate the efficacy of a long-term intervention sign language programme for the hearing parents of deaf children. The development and implementation of the programme was based on four fundamental principles. That the programme be culturally sensitive; be accessible to the community; be group-based so as to develop a social support network; and that the programme focuses on natural communication and conversation within a natural environment.

Deafness in South Africa

The language development of deaf children follows the same pattern as that of hearing infants, theoretically allowing the deaf child to develop a superior linguistic system enabling him/her to achieve academic and psychosocial well being. However, 90% of deaf children are born to hearing parents who do not know how to sign and the majority of deaf children learn sign language without input from their parents (Gregory & Hartley, 1991, in Joseph & Alant, 2000). Sign language instruction for the deaf child frequently only begins when the hearing impairment is detected, or even later only when the child enters formal education where sign language is the primary medium of instruction. Thus deaf children of hearing parents are clearly in a disadvantageous position, and during the critical early period of language development, they often do not receive any natural language stimulation (Magnuson, 2000).

Deaf caregivers of deaf children

Deaf children of deaf parents using sign language for communication have significantly better linguistic, social and academic skills than their deaf peers with hearing parents. Those deaf children who have interacted meaningfully with their parents from an early age are the most competent in their social, cognitive and linguistic development. The child gains cognitive and behavioural strategies, an understanding of self and others, and a feeling of being part of society (Magnuson, 2000). Extensive research has found that deaf children of deaf parents achieve significantly better academically than deaf children of hearing parents (Balow & Brill, 1975; Brasel & Quigley, 1977; Meadow, 1968; Quigley & Frisina, 1961, Stuckless & Brich, 1966, all in Watkins, Pittman & Walden, 1998). Furthermore, these differences in achievement may be attributed primarily to parental acceptance of deafness and of the deaf child, as well as early and consistent use of sign language (Quigley & Paul, 1994, in Takala, Kuusela & Takala, 2000).

Hearing caregivers of deaf children

Research into the communicative interaction between hearing caregivers and their deaf children is limited (Wood, 1991). The few studies that have been undertaken have indicated that the development of language in deaf children of hearing parents is delayed, which is often related to the poor language models they are exposed to (Hadadian & Rose, 1991; Spencer, 1993).

The poor reading and writing competence of deaf children has been well documented (Hakkarainen, 1988; Marschark & Harris, 1996; Quigley & Paul, 1984; Svartholm, 1984; Takala, 1995; Webster, 1986, all in Takala et al, 2000). Andersson (1994) notes that it is critical that deaf children learn sign language competently first, so that they are able to acquire skills in reading.

One of the greatest tasks facing hearing parents in the early years of their deaf child's life is overcoming the tremendous communication barrier existing between them (Gregory, 1995, in Joseph & Alant, 2000). Even though there is a lack of information on the use of signing within the home, past literature indicates that deaf children being taught sign language at school are often unable to communicate using this medium within the home. Joseph and Alant (2000) found that mothers were generally unable to communicate on an equal level with their deaf children through signing - the primary medium of communication for the child. This inevitably has serious consequences on familial relationships, academic success, social and cultural well being of the child.

Current perspectives on deafness

In keeping with the varying interpretations of disability, there exist different models of disability – the two most widely known being the medical and the social models. Imrie (1997) notes that the medical model has dominated conceptions of disability in general, where the goal of society is to return disabled people to a normal (able-bodied) state. The focus of this model relies on the remediation of the problem, in terms of hearing aid fitting, teaching speech and lip reading (Penn, Ogilvy & Reagan, in press). However, the labeling of deafness as a disability is an issue of contention.

Marks (1997) refers to a study carried out by Groce (1985, in Marks, 1997) at Martha's Vineyard, a community where many inhabitants are deaf and thus sign language is widely used and known by everyone within the community. Deafness is thus not considered a disability, as the users of sign language are Deaf, signifying their membership within a cultural group, rather than members of an impaired group. Deafness only becomes disabling within a community that does not recognize sign language.

Hence, an alternative understanding of deafness is a socio-cultural perspective, where deafness is not seen as handicapping or as a deficit, but rather as a cultural condition (Reagan, 1996, in Penn et al, in press). The socio-cultural view aims to focus on the civil

rights issues of the Deaf, and assist deaf individuals in functioning independently within a dominant culture (Shapiro, 1993, in Penn et al, in press).

However, Penn et al (in press) propose a third perspective on deafness, specifically relating to the status of deafness in South Africa. It is one that finds its foundation in the socio-economic framework of the country. As idealistic as it may be to have a clear-cut option between medical and socio-cultural perspectives, the majority of deaf individuals in South Africa, do not actually have an opportunity to make this choice. The inaccessibility to economic and social infrastructure required to make this dualistic choice is a reality to many deaf South Africans. Thus within such a context, the choice one often makes is not dependant on belief, but rather on economic constraints (Penn et al, in press).

Deaf individuals and their caregivers should ideally be given options and the opportunity to make meaningful decisions regarding intervention. However given the history of apartheid in South Africa, and past discriminatory practices regarding provision of health care and financial resources, options are limited, affecting the basic human rights of deaf individuals (Penn et al, in press).

Therefore, it is apparent that the severe socio-economic circumstances in which many South African children with profound deafness exist dictates an increasing demand for the use of sign language as a necessity rather than preference.

South African Sign Language

There has been significant worldwide change in the status of sign language with specific implications for deaf education and service provision (Joseph & Alant, 2000). South African Sign Language (SASL), like other sign languages, is a distinctive language, containing the linguistic components constituting a sophisticated, independent language - it is a complex and complete language. SASL is a fully expressive, formally developed language, equipped with its own grammar, semantic and phonological systems,

functioning within a framework based on the visual and spatial modalities (Klima & Bellugi, 1979; Bellugi, Poizner & Klima, 1990, in Haglund, Ojemann, Lettich, Bellugi & Corina, 1993). The most prominent use of space in sign language is its role in syntax and discourse by manipulation of space and spatial relations. (Bellugi et al, 1990, in Ogilvy-Foreman, Penn & Reagan, 1994).

In sign language, facial expression has two specific functions. Firstly, it conveys emotion and secondly it is used to mark specific grammatical structures. Deaf children of deaf parents begin acquiring the grammatical facial expressions of sign language at approximately two years of age (McIntire & Reilly, 1988). It has been suggested that grammatical facial behaviour in sign language have characteristics in common with intonation used in spoken language. Facial expression is similar to intonation as it has a wide range of grammatical and paralinguistic functions. Similarly, facial behaviours, like different intonation patterns are able to play both affective and linguistic roles.

Thus, sign language is not merely a mode of communication made up of simple hand movements or gestures and symbols directly translated from a spoken language. Rather, it is a complex and unique language in its own right. The instruction of such a language warrants careful consideration and forethought. The complexity of the grammatical structure of the language and the unique use of facial expression both for grammatical meaning and affect, suggest the use of natural conversation and discourse in teaching the language.

Difficulties involved in learning SASL

As reported by Cohen (1996, in Joseph & Alant, 2000), the signing skills of parents in regions throughout South Africa is low, including the Western Cape. Learning sign language within South Africa is a very serious issue, and according to Joseph and Alant (2000), it is critical that parents learn how to sign and should receive the necessary support when their child is involved in an educational setting where the language of instruction and communication is sign language.

Although thought differently, SASL is not easily mastered beyond a basic level. Hearing parents often have little formal training in sign language, and have been reported to feel uncomfortable using the language in public, using sign language only when communicating in private with the child (Vaccari & Marschark, 1997, in Magnuson, 2000). Magnuson (2000) likens learning sign language to acquiring speech where a language is often learned indirectly by listening to others talking for example, and less by direct teaching. Vaccari and Marschark (1997, in Magnuson, 2000) note that although parents often start to learn sign language, they do not continue to develop their skills beyond a basic level.

As noted by Bornstein (1990, in Joseph & Alant, 2000), parents' attitudes toward sign language, their use of sign language and the opportunities they have to learn sign language are closely related and determine their use of the language. Many parents are often unable or unwilling to give the time and effort required to learn sign language (Bornstein, 1990, in Joseph & Alant, 2000).

Numerous factors have been proposed to account for the difficulties involved in learning sign language. Research has shown that a general trend with children in signing programmes is the tendency for children to sign more than their mothers, while their mothers tend to speak more than their children during hearing-mother/deaf-child interaction (Joseph & Alant, 2000; Bess & Humes, 1995). The use of one's hands as a primary mode of communication when one is used to hearing one's own voice is a big adjustment, and it is proposed that hearing one's voice while communicating provides "a sense of narcissistic gratification" (Schumann, 1978, in Kemp, 1998).

Lane, Hoffmeister and Bahan (1996, in Joseph & Alant, 2000) note that the reliance on speech as a primary means of communication with a deaf child may negatively influence parent-child interaction, interfering with the bonding process and communication. This is said to have long-term implications for the child's linguistic, emotional, educational and cognitive success.

Furthermore, inadequate signing proficiency of hearing parents of deaf children living within a socio-economically disadvantaged society can be attributed to a number of factors. These may include the distance from the learning centre, transport difficulties, time constraints due to employment and family constraints, language barriers, lack of contact with a signing environment or with deaf adults and the lack of resources (Swisher & Thompson, 1985; Cohen, 1996; Lynas, 1994, all in Joseph & Alant, 2000). It is believed that these factors may play an influential role in a context such as that found in South Africa. Rose (2002) notes that most children with disabilities within South Africa live in environments of extreme poverty, where access to appropriate health and rehabilitation facilities is limited.

The central role of a deaf signing adult

In the past rehabilitation services have been based on a medical model of disability, seeing it as a medical issue, where the medical health care professional makes important decisions regarding the medical management of the disability. This has left little room for the empowerment of disabled persons. Through the process of rehabilitation, however the rehabilitative process has the potential to be effective in equipping disabled persons to become fully involved and integrated within society (McLaren & Philpott, 1999). A social model allows people with disability to play a vital role in decision-making, which is believed to extend opportunities for rehabilitation in developing countries (Barnes, 1996; Coleridge, 1993).

Watkin et al (1998) implemented a programme involving a deaf adult who regularly visited the homes of hearing families with deaf children and focused on teaching the family American Sign Language (ASL), interacting with the child using ASL and teaching the family about Deaf Culture. The family was also exposed to members of the Deaf Community. The deaf adult acted as a role model for the deaf child, assisting the child in developing a positive self-identity, self-esteem and pride in being a person who is Deaf. Parents were shown to become more comfortable using ASL, adopting positive

attitudes toward deafness, ASL, and the Deaf Culture. Information giving was central to the success of the programme, and the changes in the parents' attitudes and perceptions.

The need for hearing parents of deaf children to have early contact with deaf signing adults, who could help the parents to understand and appreciate deaf persons and Deaf Culture, is well recognised. This may enable parents to appreciate their deaf child, as well as encourage their child to embrace himself or herself as "a person who is Deaf" (Barry, 1995; Bragg & Tranchin, 1994; Brown & Gustafson, 1995; Ladd, 1994; Okwara, 1994, all in Watkins, et al, 1998).

Hintermair (2000) found that parents who sign to their children, while also maintaining contact with hearing-impaired adults, contribute to a larger social network. Thus, those parents who have a larger, well-functioning social network learn sign language well and further integrate more deaf adults into their social network.

As noted by Brown (2000) the use of a deaf adult from the same cultural background and social community as the family, as both the role model and communication facilitator to both caregiver and child has numerous positive implications. It allows the caregiver opportunity to view a successful professional from similar backgrounds, who has overcome adverse situations favourably, and it is someone to whom they can identify and relate. It also offers the caregiver and child the opportunity to appreciate Deaf Culture (Belknap, Roberts & Nyewe, 1999). Furthermore, deaf adults can play the role of communication facilitator, role model for effective mediation and parent child interaction and provide support. Although difficult to learn as a second language, frequent contact with Deaf people and a firm understanding and acceptance of the Deaf Culture can facilitate learners to acquire the language. As long as learners expose themselves to the language, learning will continuously occur (Kemp, 1998).

The Importance of Intervention

Early intervention programmes are significant and necessary in achieving the following:

- Assisting the parents in accepting their new role as a parent of a hearing impaired child;
- Developing an awareness of the child's specialised needs;
- Amplification; and
- Developing basic skills of facilitating parent-child communication (Calderon, et al, 1998).

Almost all professionals recognise the importance of early intervention, and hence the majority of research focuses on the diagnostic and early intervention issues of young deaf children and parent-child interactions. Consequently there is very little research on school-going deaf children and their families (Calderon & Greenberg, 1993; Lederberg, 1993). Similarly there are limited family or parent service programmes relevant to school-aged deaf children and schools seldom continue services that were provided to caregivers during early intervention training programmes. In the past, schools have not involved the families in the education process during the middle childhood years (6-14 years) and seldom continue services that were provided during early intervention training programmes (Calderon & Greenberg, 1993; Lederberg, 1993).

Within the South African context in particular, due to the relatively late detection of the hearing impairment, caregivers and their children frequently enter the intervention program when the child is approximately 18 months old. It is thus unfeasible to rely solely on the early intervention to effectively manage the impact of late detection and intervention of the hearing impaired child (Strong, Clark, Johnson, Watkins, Barringer & Walden, 1994 in Calderon et al, 1998). When the child reaches school-going age and enters a more controlled and planned learning environment, he/she is able to learn and interact socially with adults and peers. Thus, the caregivers still need the support of intervention, as their role within the child's life changes significantly as the child grows older (Sanders, 1993). In addition, on entering formal education at a pre-primary school

level, deaf children rapidly develop their own signing skills, surpassing their parents very limited skills, hence resulting in an increased communication barrier between caregiver and child.

In summary, from a review of the literature and from the researchers clinical experience, there is a dire need for increased intervention programmes for hearing parents of deaf children as well as evaluative research regarding the development and implementation of such programmes.

The aims of this study were to develop, implement and evaluate a long-term sign language intervention programme for hearing caregivers of deaf children. The programme was implemented among a group of isiXhosa speaking caregivers, living within a socio-economically disadvantaged peri-urban community. Furthermore the study aimed to evaluate the intervention programme according to a number of indicators.

In this research the researcher was motivated by some recent conceptual shifts, which have occurred in the field of child language and rehabilitation. Some of these are now discussed.

Concurrent with the shift in theoretical views of child language, there have also been shifts in service delivery models. Recently there has been a shift from didactic, clinic-based intervention to holistic approaches taking place within a functionally appropriate context (Moeller & Carney, 1993). Concurrent with this shift is the understanding that the social interaction within the family is the critical foundation for the acquisition of language and literacy, and language development may emerge and be enhanced by natural, familiar and socially appropriate interactions (Simoes, 2002).

A naturalistic setting for interaction provides a less restrictive environment for language learning, and as suggested by Broen and Westman (1990) such an environment may essentially be found within a home environment, where a child is surrounded by a familiar family system. It is the home environment that often remains the safest and most

conducive for language learning to take place (Simoes, 2002). It is in this environment that the programme was implemented and evaluated – surroundings that were considered favourable for the facilitation and encouragement of *natural communication* and *conversation*. Storytelling in general provides a meaningful, supportive context for language (Schick & Gale, 1995), as well as facilitating routine conversational exchanges, which facilitates language learning (Evans and Schmidt, 1991; Ratner, Parker & Gardner, 1993).

In this study, an integral component of the programme recognised the need for social support for hearing caregivers of deaf children.

“Social support is to be regarded as a cornerstone of psychosocial intervention” (Hintermair, 2000, p. 41). A social network refers to the structural and quantitative aspects of social contacts (Hintermair, 2000).

Mothers with a better social support structure or network have been shown to be more positive in the interaction with their child. It is important that parents receive the required support as soon as possible after the diagnosis of their child’s hearing impairment. A positive interaction pattern that develops between caregiver and child, allows the child to develop a good social and communicative ability with the family, as well as the community (Vaccari & Marschark, 1997, in Magnusson, 2000).

Well-established social networks are necessary for hearing caregivers of deaf children. They are able to interact with other hearing caregivers of deaf children, share experiences and support one another, as well as maintain contact with deaf adults, from whom they can learn sign language and have increased exposure to Deaf Culture and the Deaf

Community. The support that parents receive has been shown to strongly affect the quality of interaction between parent and child and how effective social support systems can be (Meadow-Orlans 1994, 1995; Meadow-Orlans, Smith-Gray & Dyssegaard, 1995, all in Hintermair, 2000).

Thorburn (1999) states that an important element of early intervention and community-based rehabilitation is the establishment of groups of parents to provide support to others. Social support systems, in the form of support and acceptance from the community and family members have been shown to have a positive effect on the coping strategies of the caregiver.

Thus in implementing the intervention programme for hearing caregivers of deaf children, the focus was not only on the instruction of sign language, but also on the establishment and provision of support, from deaf role models and caregivers experiencing similar circumstances.

There has been an increased awareness of the benefits of imparting knowledge and information giving in the empowerment of caregivers and the larger community. It is understood that knowledge leads to empowerment, both at an individual and community-based level. Thus the importance of effective information giving to caregivers and community-members was acknowledged in the implementation of the programme. Furthermore, the intervention programme in this study acknowledged the importance of empowering the disabled¹, hence integrally involving the deaf in the development, implementation and evaluation of the programme.

¹It is acknowledged by the researcher that Deafness is widely misconstrued as a disability, and that Deafness only becomes disabling to the individual when their surroundings fail to recognise their language or culture. However, for the purposes of this study, where necessary Deafness was referred to as disability.

Turnbull and Turnbull (1997) observe that collaboration is key to the empowerment of the parents. They note that those parents who are empowered know what they want, are motivated and have the knowledge and skills to take appropriate action.

Rappaport (1984, in Oka & Ueda, 1998) suggests the importance of empowerment being established from within the community, defining it as “a process by which people, organisations and communities gain mastery over their own lives” (p.192). Support along with empowerment from the community is vital for caregivers of children with disability such as deafness, who are required to cope with changing problems over a period of time. By gaining support from other mothers who have had similar experiences, as well as the support and information given by health care professionals, they may be better equipped to cope appropriately (Oka & Ueda, 1998).

As mentioned previously, there is tremendous value in an effective support network within a long-term intervention program. Group-based intervention at a community level, supported by caregivers with prior knowledge and experience is believed to be highly valuable in the empowerment of caregivers. The social support networks established within these groups along with the resources made available from within the community is believed to equip and empower caregivers, as well as assist in coping with stress.

Over the past decade, it has been well recognized that there is a need for high quality health care to be easily accessible to communities. The delivery of meaningful and effective services within the community requires taking the community members' background, one's own background and the interaction between client and clinician into account (Blanche, 1995). Hence the necessity for the delivery of the programme to be at a community-based level is considered critical and was thus well acknowledged. The researcher acknowledged that within a socio-economically disadvantaged community, such as the one in which this programme was implemented, physical resources are limited. Thus, materials to be used during the programme were provided, for the caregivers.

Community-based care encourages the use of resources and creativity (Thorburn, 1999). In relying on community-participatory intervention at a community level, realistic and practical adaptations can be made to make the best use of the resources available to bring about the positive results (Brown, 2000).

However, by making facilities and services accessible to the community, in terms of community-based rehabilitation, one needs to be aware and sensitive of cultural differences existing between professional and community members.

Kalyanpur (1999) notes that there is an urgent need for health care professionals to develop an awareness of the cultural assumptions influencing their professional knowledge, and thereby to practise towards culturally responsive service delivery.

In being culturally sensitive, Sontag and Schacht (1994) note that cultural diversity between community and professional needs to be understood, so that the service is changed, and not the family. However, as noted by Brown (2000) within a context such as South Africa, it is rather the means of the service delivery that needs to change. As mentioned previously, in saying this, the intervention programme needs to be made more accessible to the family, so that effective family functioning is achievable. Furthermore, programmes need to be adapted to the specific needs and circumstances of that particular community (Ingstad, 1999). This can only be achieved through the collaboration and participation of the community.

In carrying out an evaluation one needs to keep in mind the efficiency, the effectiveness and the impact of the programme, and it is important to identify the impact of the service or programme as opposed to other effects on the outcome. Thus, although different to other forms of research, evaluation research still requires the conceptualisation of research questions, the development of an appropriate research design, valid and reliable measures, systematic and unbiased procedures for data collection, determination of precise analyses of data and the accurate interpretation of results (Hauser-Cram, 1990).

Thus in keeping with the continual negotiation and collaboration with community members, and encouraging community participatory research and intervention at a community-based level, programme evaluation is considered essential. The nature of a process-oriented model in intervention is believed to provide a framework for programme evaluation. However, as noted by Hauser-Cram (1990) above, although it is considered necessary to have rigorous research guidelines in place, programme co-coordinators and researchers need to consider the fragile, research environment in which the intervention and evaluation is taking place.

The scope of this study involved both theoretical and clinical aspects. The development of a long-term intervention programme for hearing caregivers hopefully will in itself be useful for future implementation. In addition, numerous theoretical implications relating to the development, implementation and evaluation of programmes for hearing caregivers of deaf children as well as community based intervention programmes in general may emerge.

2 METHODOLOGY

The following chapter presents the aims, research design, participant selection criteria and participant description. The development, implementation and the evaluation of the long-term intervention programme are presented. Furthermore, the methods and procedures of data collection and methods of analysis for this evaluation are described.

2.1 AIMS

The two primary aims of this study were to:

1. Develop a long-term sign language intervention programme for hearing caregivers of deaf children.
2. Implement this programme at a community-based level with a group of isiXhosa speaking hearing caregivers of deaf children from a socio-economically disadvantaged community.
3. Evaluate the programme according to the following indicators:
 - The development of caregivers' signed communication skills.
 - The cultural appropriateness of the programme
 - The development of knowledge, empowerment and increased awareness amongst the caregivers.
 - The sustainability of such a programme within a socio-economically disadvantaged community.

2.2 RESEARCH DESIGN

A descriptive, qualitative, evaluative research design was employed. This included pre-post intervention measures, as well as focus groups.

A parallel case study design was employed for the evaluation of the caregivers signed communication. The communicative interaction between each caregiver-child pair was the focus of the investigation, rather than a comparison between different pairs. Furthermore, such a design allowed for the observation of changes in communicative behaviour over time. Multiple tasks were employed within a natural setting and videotaping was undertaken at two intervals, namely pre-intervention (the baseline measurement) and post-intervention. When investigating dyadic interactions, observational studies are the most common type of methodology used (Evans, 1995).

Focus groups were employed to evaluate the programme according to the indicators previously mentioned. This qualitative method allowed the researcher to study the participants' views and experiences, expressed in their own words (Minichiello, Aroni, Timewell & Alexander, 1990; Patton, 1990). Furthermore, the use of focus groups fulfilled the requirements that the research is action-oriented (that there be a change in practice) and the needs of the community be considered and explored in the future (Herbert, 1993 in Barbour, 1995).

2.3 ETHICAL CONSIDERATIONS

Ethical clearance for the undertaking of this study was obtained from the ethics board of the University of Cape Town. Written consent with regard to the subjects' participation in the study as well as the use of their photographs was obtained prior to the investigation. The written consent of the primary caregiver, either the mother or the grandmother was obtained. The purpose of the study, subject requirements, procedures to be undertaken and rights to confidentiality was fully explained to the participants prior to their giving consent (Appendix 1a and 1b).

The right of the participants to withdraw from the study at any time without prejudice was respected, and the researcher endeavoured to ensure the confidentiality of the participants.

2.4 PARTICIPANTS

The sample in this study was comprised of a group of hearing caregivers of severe-profoundly deaf children who attend a school for the deaf, where sign language is used as the primary means of communication and instruction. The group of hearing caregivers are isiXhosa first language speakers and are from a peri-urban socio-economically disadvantaged community.

2.4.1 Sample Size

Judgement sampling, a form of non-random sampling was employed for the purposes of this study, whereby the researcher intuitively selected the participants, based on specific selection criteria (Katzenellenbogen, Joubert & Karim, 1999). Although not recommended in quantitative studies, in studies of this nature, where it is often difficult to locate sufficient cases in a community-based random sample within a specified peri-urban location, this sampling technique was considered useful.

The sample was made up of a group of five caregivers and their children, based on the areas in which they reside. The group comprised of hearing caregivers, either mothers or grandmothers who are viewed as the primary stimulators of language in the home, and care for their deaf children. This number of caregivers was considered appropriate in that it was found to be both a manageable number for the sign language intervention programme, as well as an ideal number for focus group interviews.

2.4.2 Participant Selection Criteria

1. Each caregiver was required to have attended formal early intervention training with a basic sign language training component. This was to ensure that they had obtained a basic vocabulary, as well as a basic knowledge and understanding of both the critical aspects of sign language, as well as caregiver-child interaction and communication.

2. Relationship to the child: Each participant was required to be the primary caregiver of a deaf child. Brown (2000) defines a caregiver, as one who provides for the majority of the physical and emotional needs of the child.
3. Degree of deafness: The child of the caregiver was required to be congenitally or pre-lingually severe - profoundly hearing impaired, to ensure that he/she relied on the use of sign language as his/her primary means of communication.
4. The hearing impaired child was required to be currently attending a pre-primary school for the deaf where sign language is used as the medium of instruction and communication.
5. Caregivers were required to be from similar cultural and socio-economic backgrounds to allow for the control of environmental, linguistic and cognitive effects, and to ensure similar naturalistic home settings (Roth & Spekman, 1984). Hence for the purposes of this study, the caregivers were required to be isiXhosa speaking and live within a socio-economically disadvantaged peri-urban community.
6. It was required that all five caregivers live within the same geographical peri-urban location to allow for easy accessibility to the place of the intervention without requiring transport.

2.4.3 Participant description

The questionnaire used to obtain the biographical information from the caregivers may be seen in Appendix 2a and 2b. Selected information of the caregivers is displayed in Table 2.1. As illustrated in Table 2.1 all the caregivers are mothers of the children, except caregiver 4, who is the child's grandmother. Only two of the five caregivers were married. It is also apparent from Table 2.1 that the caregivers obtained a low standard of education. Three caregivers obtained a primary school education up to Grade 6, while

two obtained a secondary education, with only one caregiver completing her secondary education, up to Grade 12.

All the caregivers had previously attended an early intervention programme for at least two years. The caregivers appeared to have accepted South African Sign Language (SASL) as the first language of their child and they reportedly communicate with children in sign language, however the spoken language used within their homes is isiXhosa.

Table 2-1: Biographical information of caregivers

CAREGIVER	C1	C2	C3	C4	C5
Relationship to child	Mother	Mother	Mother	Grandmother	Mother
Home language	isiXhosa	isiXhosa	isiXhosa	isiXhosa	isiXhosa
Marital status	Married	Married	Single	Widower	Single
Age of child	5.2 years	6.1 years	5.8 years	5.4 years	5.5 years
Degree of deafness	Profound	Profound	Profound	Profound	Profound
Child's primary mode of communication	Sign Language	Sign Language	Sign Language	Sign Language	Sign Language
Duration of attendance at early intervention	2 years	3 years	2 years	3 years	3 years
Residential area	Khayelitsha	Khayelitsha	Khayelitsha	Khayelitsha	Khayelitsha
Caregiver's level of education	Grade 6	Grade 6	Grade 12	Grade 6	Grade 9
Monthly household income	+R1000	+R1000	+R1000	R500-R750	R500-R700
No. of people per household	6	6	3	5	5

2.5 PROGRAMME DEVELOPMENT

2.5.1 Principles underlying the development of the long-term intervention programme

The development of the structure and content of the programme was based on the following fundamental principles:

1. Development of signed communication skills within a naturalistic context using discourse

Early child–parent interactions are vital in establishing a child’s ability to relate and communicate with others (Cross, 1984). It is primarily through communicative interaction within the home environment that children develop language naturalistically and begin to grow in an understanding of the world around them.

As parents are most often with their children and integrally involved in their child’s life, they are likely to carryover and generalise newly acquired skills of intervention into the child’s daily activities. This is especially significant in view of the current move toward natural settings and a less restrictive environment for language intervention and child language learning.

In order to facilitate the development of communication skills during discourse within a natural context, multiple tasks were employed during the intervention programme, such as storybook telling, oral narratives and natural conversation.

- *Storybook telling*

Storytelling was used to elicit discourse production between caregiver and child. During storybook telling, joint attention is established, and the conversational partners are

naturally focussed on the same referent. This thus ensures a relatively constrained context with a known topic, structural level and control, often absent in other caregiver – child interactions (Van Kleeck, Gillam, Hamilton & McGrath, 1997). This is especially pertinent in the context of a hearing caregiver-deaf child dyad, in terms of mutual eye gaze and visual attention during interaction. Past research has indicated that hearing caregivers often struggle to adjust their joint interaction with their deaf child during storybook telling, to account for the need for visual attention.

Furthermore, storybook telling is important for language stimulation, and the ritualistic nature of storytelling aids in language acquisition. Snow (1989, in Ratner et al, 1993) notes that storytelling routines have the turn taking qualities similar to that of a conversation.

Characteristics of interaction present during joint storybook telling, that facilitate language, include: the establishment of routines (Snow, 1987, in Ratner et al., 1993, p.297), joint attention focus (Tomasello & Farrar, 1986, in Ratner et al., 1993, p.297), semantic contingency (Snow, 1987, in Ratner et al, 1993, p.297) and fine tuning to the child's level of language proficiency" (Whitehurst et al., 1988, in Ratner et al, 1993, p.297).

Ratner et al (1993) note that storybooks make the actions and vocalizations of the child more interpretable, thus assisting in more successful communicative interactions. In the same way, for the purposes of the current study, it is believed the storybooks place the caregivers' signed utterances within a more meaningful context for the child, possibly reducing instances of communication breakdown.

In terms of research, it is a highly useful task, as it is a naturally occurring situation whereby the communication partners remain constantly in one place.

The aim of using storybook telling was to provide a structured task for both parent and child, while also enabling natural interaction and allowing opportunity for learning

specific aspects of sign language from the deaf adult signer. The books selected were age appropriate, culturally sensitive and suited to the child's communicative and linguistic abilities. The books have a simple narrative structure, are clear and have colourful illustrations (Appendix 3a and 3b). It was hoped that this would encourage spontaneous interactive story telling episodes, capture the child's attention and facilitate comprehension.

- Oral Narrative

In his socio-historical theory, Vygotsky (1978, Van Kleeck et al, 1997) focused on how social guidance affects the manner in which children think and problem solve. The "individual development of higher mental processes cannot be understood without considering the social roots of both the tools for thinking that children are learning to use and the social interactions that guide children in their use" (Rogoff, 1990, p.35, in Van Kleeck et al, 1997).

The "isiXhosa Ntsomi" or story is a traditional oratorical skill of the Southern African people and is considered a performing art, traditionally carried out by women. No materials or tools are used, aside from the use of her body, facial expression and voice which transform a simple plot into a complex performance. The Ntsomi performance is not merely a means of entertainment and artistic expression within society, but it is also traditionally considered a means of education. "There can be no doubt that the most decisive influence on the life of a Xhosa child is his/her mother, an influence that finds its most persuasive form in the Ntsomi" (Scheub, 1990).

This task thus involved training the caregivers in telling isiXhosa Ntsomis or oral narratives in sign language, by taking advantage of the skills they already have in narrating traditional isiXhosa stories by word of mouth. It was hoped that this would encourage parents to enhance their ability to accurately understand and narrate culturally appropriate stories, in sign language, as well as develop their use of spatialised syntax and grammatical facial expression.

Traditional, culturally appropriate Xhosa Ntsomis, traditionally passed down from generation to generation were obtained from the caregivers and the deaf adult involved in the study. Each story was simplified if necessary. Translated into English appear in Appendix 4a and 4b.

- Conversational Discourse

Instruction during conversational discourse was chosen in order to develop the caregiver's signed communication during normal every-day activities and interaction with their child, with a primary focus on interaction and transaction. It is believed to be important to train the parents in effective and continuous communicative interaction with their deaf child and take advantage of daily interactions, using them as intense and rich language-learning opportunities.

A naturalistic approach toward conversation, interaction and the development of signed communication was of central importance in this study. As noted by Conti-Ramsden and Friel-Patti (1983), the unstructured nature of conversational discourse allows one to replicate and study natural parent-child interactions, and hence the signed communication of the hearing caregivers when interacting in sign language with their deaf child was examined during natural conversation.

It was within a natural context during discourse that the extension of basic sign language structures were taught, including the expansion of the caregivers' core vocabulary, the development of the caregivers' use of spatialized syntax and the development of the caregivers' use of facial expression to convey questions, negation and adverbs.

In terms of the development of the caregiver's spatialized syntax within a natural context, the use of multiple referents within discourse and natural conversation was a primary focus. The use of spatial relations is a distinguishing characteristic of sign language. Sentence structure and grammar in sign language is governed by how verb, nominal and pronominal indexes relate to one another in space. As with American Sign Language,

SASL maintains a basic organizational structure. It is built on two primary levels of linguistic organisation, namely the combination of sublexical elements into meaningful units and the unique aspect of spatially organized syntax (Ogilvy et al, 1994). The former defines how meaningful units are formed, from a combination of a limited set of recurring sublexical components, while the latter refers to the semantic and syntactic relations among signs, and how they are manipulated within a spatial framework. This suggests the unique use of space in signing. It is space which carries linguistic meaning (Bellugi et al, 1990; Johnston, in Ogilvy et al, 1994).

In sign language, facial signals may mark syntactic structures, as in yes/no and wh-questions, and negation. They also represent adverbs, such as “mmm” (relaxation and enjoyment), and “th” (inattention, carelessness and unawareness).

2. The integral involvement of a deaf signing adult from the similar cultural and socio-economic background

A cornerstone of this programme was the involvement of an adult deaf signer from the same community as the caregivers, in the development and effective implementation and administration of the sign language intervention programme with the hearing caregivers.

The adult, deaf signer involved in the long-term intervention programme became deaf as a young child. She has a bilateral profound hearing loss, uses sign language as the primary means of communication and is integrally involved in the Deaf community in the Western Cape. An integral member of Deaf culture is defined as having self-identification with a deaf community and being able to communicate in the sign language used in that group (Markowitz & Woodward, 1978, in Humphries & Padden, 1992). She is also from the same cultural and socio-economic backgrounds as the participants of the study.

The need for a deaf adult to be integrally involved in the intervention and rehabilitation of deaf children and their families is clear, as he or she is a role model to which the

children may aspire. It allows the caregivers to see that their deaf children have hope and the potential to lead successful and independent lives. Brown (2000) notes that deaf adult being both the same ethnic culture as the caregivers, but also as that of the child, that is, Deaf Culture, allows for the fulfilment of the role of communication teacher, role model, mediator as well as an example of one from a similar background as the caregiver who has overcome adverse situations.

Dragow (1998) believes that linguistic competence is achieved through the mastery of conversational sign language, and thus deaf children should be in contact with competent sign language users.

Brown (2000) indicated in her study that as the children began to identify more with Deaf people from the Deaf Culture, so the caregivers realised and encouraged the importance of Deaf-Deaf interactions. The caregivers indicated an acceptance of the Deaf Community and the possibility of their child becoming more involved and integrated into that community.

However, there is further need for an understanding and acceptance of Deaf Culture by the hearing caregivers. It is believed that the deaf adult is an asset not only as a role model to deaf children, but also to their hearing caregivers. Throughout this intervention the deaf adult educated the caregivers regarding certain fundamental issues of Deaf Culture.

It was required that the deaf adult communicate primarily in sign language, when interacting with the caregivers, so that the deaf child be exposed to the caregiver conversing with their deaf role model in a naturalistic way. The caregivers were also encouraged to converse with one another using sign language and speech.

3. Community-based Rehabilitation

Community-based rehabilitation or intervention aims to deliver rehabilitation, which builds on the resources of the community (McKenzie, 1992). The World Health Organisation (1984, in Potvin, Cargo, McComber, Delormier & Macaulay, 2003) defines health promotion as “the process of enabling people and communities to take control over their health and its determinants”, focussing on the need for public health programmes to be based on community participation, which primarily occurs at a community-based level.

Community public health interventions based on community participation are considered promising in the reduction of health inequalities and the promotion of social justice (Potvin et al, 2003). A growing body of research indicates a reduction in inequalities of health care as a result of public health programmes based on the active participation of the community.

The interaction of the programme and social context plays a significant role in the shaping of programme implementation. As the diversity of social contexts varies considerably across and within developing countries, “programmes can no longer be applied as universal technical solutions to local problems, without being transformed by the context” (Green, Richard & Potvin, 1996 in Potvin et al, 2003, p.1296). Thus, intervention programmes should be marked by the reciprocal relationships between the programme and its context (Green et al, 1996, in Potvin et al, 2003).

Halpern (1993) identifies specific principles of community-based intervention:

- Attention to the caregivers’ needs as well as their roles as parents
- The use of community members as family workers
- Sensitivity to cultural preferences in child-rearing values
- The active role of the caregiver in shaping their own participation in the programme

However, as mentioned previously, large variability exists in response to the local needs of the community. Thus, for the purposes of the current study, the reciprocal relationship between the programme and the community was considered at a community-based level, in that adjustments were made to the programme, and flexibility was practiced in accordance with the needs of the caregivers.

In her study Brown (2000) notes that home visiting may well be the only way that long-term intervention will realistically be able to be tailored to the individual family needs as well as to account for the barriers and challenges that face the implementation of long-term intervention programmes. Thus, concurrent with the current study, she suggests the promotion of home visits carried out by a deaf role model, at a community-based level.

Hence, the long-term intervention programme implemented in the current study, was undertaken at a community-based level, by a member from the same community. This allowed for the active participation of the caregivers in the transformation of the programme, in accordance with their needs. The involvement of the deaf adult from the same community allowed for the continual communication and collaboration between caregivers and the deaf adult, as trust and rapport was well established.

4. The programme was group-based in order to develop a social support network

Past research has indicated the value in the availability of a support network, as a major source of strength for caregivers. Where in many cases it is the caregivers' own mothers and grandmothers who provide the most effective form of support, it is also the emotional support of other caregivers who have shared similar experiences and are faced with similar challenges and barriers (Oka & Ueda, 1998). Intervention programmes provide the opportunity for caregivers to interact with one another and provide a basis of support.

A group of five caregivers, from the same cultural, linguistic, socio-economic and educational backgrounds met on a weekly basis. The outward homogeneity of the

participants allowed for an open, honest and trusting relationship amongst the caregivers, and the provision of immense support.

2.6 PROGRAMME IMPLEMENTATION

The intervention involved two hours of sign language training each week for a period of eight weeks, taking place within the natural context of the homes of the caregivers within the community. The group of five caregivers and their children met together each week in a different home, and each weekly session was comprised of multiple planned tasks. The structure and content of the programme was semi-structured, and was largely driven by the needs and requirements of the caregivers.

2.6.1 Instruction of Signed Communication

Using a storybook with pictures to portray a simple story in sign language, the caregivers first observed the deaf adult telling a story to the children. They were then required to attempt the storybook telling task.

Storybook and isiXhosa folk tales were provided to the caregivers, and incorporated and used as tools for encouraging discourse within a natural context. The stories were chosen specifically to elicit extensive use of facial expression and emotive language. The extension of the caregivers' vocabulary and effective signed caregiver-child interaction were also targeted. This involved highlighting the importance of effective and appropriate attention-getting techniques and maintenance of eye-gaze. The deaf adult played an important role as facilitator and model for the caregivers, demonstrating the importance of the spatial and facial aspects of SASL when telling an animated story. This aimed to give the caregivers an understanding of spatialised syntax in sign and use of grammatical facial expression.

Furthermore, natural conversation and communication was encouraged on a weekly basis. The deaf adult demonstrated the effectiveness of using natural daily interactions

within the natural context of the home to facilitate interactive communication. Examples of daily interaction included baking, pouring cool drink and making tea.

In addition, a highly important aspect of the intervention programme involved the dissemination of information regarding Deaf Culture, the Deaf Community and Deaf Etiquette.

An outline of aspects of signed communication that were incorporated into the intervention programme is presented below.

Spatialized Syntax

Spencer (1993) notes that accurate production, fluency and an intact grammatical language model becomes increasingly more important, as the child progresses beyond the one- and two word sign utterances. Furthermore, the ability to construct sentences is required to communicate efficiently at a discourse level (Joseph and Alant, 2000).

Basic constituents of spatialized syntax incorporated into the intervention programme included nominal assignment, pronominal referencing and noun-verb agreement.

Facial Expression

Ogilvy et al (1994) state that the facial expression evident in signed languages, as well as the body and head posture, movement and orientation play important linguistic and grammatical functions. Past research indicates that facial expression functions as grammatical markers in the following way. They convey meaning of specific syntactic structures, namely questions and negation, as well as playing a significant role in the nonmanual representation of adverbs.

For the purposes of this study, the caregivers were instructed in the appropriate use facial expression, and, if applicable, the appropriate body orientation and movement for the grammatical facial expressions used to convey questions and negation.

Time Lines

The marking of tenses is associated with an imaginary time line, passing alongside the signer's body from behind. The space immediately in front of the signer represents the present, the space in front of the signer indicates the future and the space behind the signer represents the past. Thus the time line is used to indicate specific temporal adverbs, for example yesterday, today and tomorrow.

During the intervention programme, caregivers were instructed in the appropriate use of the imaginary time line to indicate specific temporal adverbs during conversational and narrative discourse.

Attention getting

In order for there to be effective communication between caregiver and child, the child needs to focus his visual attention on what the caregiver is saying. In order to gain the child's attention to one self or to a storybook, the caregiver needs to employ specific communication strategies, for instance waving within the child's field of vision, tapping her foot, turning the child's face or calling the child vocally (Prendergast & McCollum, 1996).

Botha (1997) divided the specific attention-getting strategies into three categories.

1. Physical attention-getting involves any form of physical contact between the communication partners, for example tapping on the partner's shoulder.
2. Gestural attention-getting refers to any method used to gain the child's attention, without vocalising or touching the child's body, for example waving within the child's field of vision.

3. Vocalization involves any use of voice to gain the child's attention, for example calling the child's name.

These strategies were taught to the caregivers in accordance with Deaf Etiquette and acceptability of each within the Deaf Community.

Eye Gaze

Visual attention is essential for effective signed communication between caregiver and child. Furthermore, reception of the visually based communication relies largely on the coordination between the deaf child's visual attention and the caregiver's communication. Deaf children need to learn how to divide their visual attention between the world and their communication partner. In the same way, caregivers need to learn to coordinate their communication with their child's visual attention (Lederberg & Everhart, 1998).

It is believed to be important for the caregivers to understand how the use of eye gaze differs in sign language to that of spoken languages. As in spoken languages, eye gaze in sign language is used to monitor, maintain and regulate communication. However differences lie in the patterns of use. For instance, as sign language is perceived visually, signers need to look at their partner before initiating a turn, to ensure they have their communication partner's visual attention (Richmond-Welty, 1999).

Hence, eye gaze was incorporated into the intervention programme. It involves any reference to behaviour involving eye contact, gaze or orientation towards the communication partner or towards a book (Wilcox, 1992). The following types of eye gaze patterns were highlighted:

1. Caregiver to Child involves the caregiver looking at the child, without the child looking at her.
2. Child to caregiver involves the child looking at the caregiver, without the caregiver looking at the child.

3. Mutual gaze involves caregiver and child maintaining eye contact for communicative purposes (Parritt, 1990)
4. Mutual gaze to book involves the caregiver and the child looking at the book simultaneously.

2.6.2 Information giving regarding Deaf Culture, and Deaf Etiquette

Deafness creates a community with a separate language and a distinct culture. Deaf children develop close friendships with their school peers, from whom they learn a sense of shared identity, a cultural heritage and a means of communication. As adults, deaf individuals participate in deaf social organizations such as sporting and religious activities. Cultural Deafness relies on the individual's identification with the group, as well as the group's evaluation and acceptance of the individual (Preston, 1995).

As mentioned previously, it is believed that hearing caregivers of deaf children would benefit from early contact with deaf adults who would assist the parents in understanding and appreciating the Deaf Community and Deaf culture, aiding in their acceptance of deafness (Watkins et al, 1998).

Each weekly session gave the caregivers an opportunity to interact with a deaf adult. The deaf adult provided information giving specifically focusing on Deaf Culture and Deaf Etiquette. Her consistent open and honest interaction with the caregivers also assisted in the establishment of a social support network for the caregivers.

Information giving was considered important in increasing knowledge and awareness of deafness. It is believed that increased knowledge and awareness is a precursor to empowerment. The following aspects of Deaf Culture, Deaf Community and Deaf Etiquette incorporated into the programme are presented below.

- Cultural Deafness
- Deaf Culture and Community
- Educational and future prospects of their deaf children

-
- Deaf Etiquette
 - Socialisation in Deaf Community: religion, Deaf clubs and Deaf sport
 - Technology for the Deaf

Appendix 5 illustrates a more detailed structure and content of the programme from week to week.

2.7 PROGRAMME EVALUATION

The evaluation of the programme comprised the analysis of the signed communication skills of the caregivers using a communication profile, as well as the information gained from the focus group interviews.

2.7.1 Analysis of caregivers' signed communication skills

Data collection

- **Procedure**

Caregiver-child interaction was examined and measurements were recorded, focussing on specific communication parameters as specified in the analysis tool. Videotaped measurements were undertaken during the first and the last sessions. In order for the progression of the parents' signing abilities to be accurately recorded, measured and analysed, conversational samples between hearing caregiver and Deaf child were videotaped on two separate occasions - pre and post-intervention (0 weeks and 7 weeks). Communicative interactions between all hearing-deaf dyads were observed over time by means of two videotaping sessions. It was the aim of the researcher to obtain the most representative sample of conversation and communicative interaction between caregiver and child.

Measurements of the caregivers' signed communication as well as the effectiveness of the long-term intervention programme were undertaken while participating in the following three tasks:

1. Story book telling
2. Oral narrative.
3. Natural conversation

The interaction and transaction between mother-child were measured within a home setting situation.

- *Personnel*

Deaf personnel were integrally involved in the initial development and implementation of the long-term intervention programme. Furthermore they were involved in the evaluation of the caregivers' signed communication, assisting in the videotaping, administration, scoring and analysis, to ensure that an accurate sample collection and scoring of data are obtained. They also provided valuable information and knowledge regarding sign language and Deaf Culture.

The videotapes were analysed by two deaf transcribers, who use sign language as their primary means of communication. They are integral members of the Deaf Community, which involves having adequate sign language skills as well as having a self-identification with a deaf community (Markowitz & Woodward, 1978, in Humphries and Padden, 1992). The biographical details of the deaf personnel are illustrated in Table 2.2.

Table 2-2. Illustrating the biographical details of the deaf personnel

	<u>Transcriber 1</u>	<u>Transcriber 2</u>
<u>Age</u>	28 years	39 years
<u>Sex</u>	Female	Female
<u>Level of Education</u>	Grade 12	Grade 10
<u>Onset of deafness</u>	Birth	10 years old
<u>Length of use of sign language</u>	20 years	8 years

- Equipment

Videotaping was chosen as the method of data collection as it provided both visual and auditory information. Each subject and child pair was videotaped using a JVC VHS-C video camera, and all data will be recorded on high quality TDK videotapes.

- Seating

The caregiver and child were seated fairly close together to allow for the use of one video camera. The mother-child dyads sat in the most comfortable and relaxed setting, i.e. the lounge or bedroom, so as to ensure a more natural interaction.

- Lighting

Videotaping took place during the day, in the home environment where as far as possible sufficient lighting was made available.

- Duration of interaction

Samples of communicative interaction between caregiver and child, in a one-on-one situation, for a total of 15 minutes per subject was obtained. This time period of 15

minutes was reported by Hampson and Nelson (1993) to be enough time to record a good sample of the child's communicative abilities.

Treatment of data

Treatment of the videotaped data involved the training of deaf personnel, and coding of the caregiver-child interactions.

- **The Communicative Signing Profile**

This allowed for the assessment of the linguistic and communicative skills of the hearing caregiver, when interacting with their deaf child, within natural settings with a natural communication partner. This checklist allowed the researcher to examine the functional, communicative skills of each subject.

The parameters in the current checklist were adapted from the profiles of Penn (1988), Prutting and Kirchner (1987) and Fox (1999). The checklist as used by Fox (1999) in the study of Deaf children's acquisition of sign language was developed according to four fundamental principles:

- The assessment of communicative function
- The normal acquisition of language and sign language
- The checklist based on aspects unique to sign language
- The involvement of a Deaf signing adult at all stages of development of the checklist

The checklist employed is illustrated in Figure 2.1. Each entry on the checklist has been supplemented with written examples and comments. Examples of completed checklists for each subject can be seen in the following chapter. A description of each parameter included in the checklist now follows.

		INAPPROPRIATE	APPROPRIATE
A:	Request		
Response	Reply		
to	Clarification request		
Child	Acknowledgement		
	Teaching probe		
	Response with non-verbal action		
	Other		
	Topic information		
B:	Topic adherence		
Control	Topic shift		
Of	Lexical choice		
Semantic	Idea completion		
Content	Idea sequencing		
	Topic selection		
	Vocabulary		
	Single word signs		
	Sign Structure and Form		
	Imitation signs		
	Prompted imitation		
	Handshapes		
	Movement		
	Orientation		
	Place		
	Gesture		
	Pantomime		
	Performatives		
	Morphology, syntax & spatial referencing		
	Joined/ 2 or more words		
	-Spatial marking indicating verb agreement		
	-Distinction between nouns and verbs		
	-Development of classifiers		
	-Pointing at something abstract		
	-Pointing at something concrete		
	-Pronominal referencing		
C:	Facial expression for linguistic purposes		
Cohesion	-question face		
	-negation face		
	-Adverbial face		
	Eye gaze		
	-mutual gaze		
	-gaze at communication partner, partner focussed on something else		
	-Gaze at object		
	-Gaze aversion		
	Attention Getting		
	· Waving		
D:	· Physical contact		
Socio-	· Vocalizations		
Linguistic	Polite forms		
Sensitivity	Echolalia		
	Attention		
	Humor/shared laughing		
	Participation		

Figure 2.1: Communicative Signing Profile

A. Response to Child

This first section refers to the “interactional component” of conversation and how the conversational partners relate to one another, namely how the hearing caregiver relates to the child. It measures the appropriateness of the caregivers responses to the child’s input, the caregiver’s co-operation within a conversation and her turn-taking abilities (Penn, 1988).

- **Request:** This is the caregiver’s response to the child’s request, the caregiver’s response to the asking or eliciting of information. It may include descriptions of requests for objects, actions or information.
- **Reply:** This is known as the “Speaker-responder” (Tiegerman & Siperstein, 1984) or the “comment/ response” (Wilcox, 1992) parameter. It is referred to the caregiver’s ability to follow and relate to her deaf child’s topic, i.e. object or event. A reply includes acknowledgement, answering, naming, providing information, describing or complying.
- **Clarification Request:** The caregiver’s ability to ask for clarification when she has not understood something.
- **Acknowledgement:** The caregiver’s use of non-informative, fillers.
- **Teaching probe:** The caregiver’s ability to correct misunderstood information, or to provide new information.
- **Response with Non -Verbal Action:** This is a response to the communication partner with an action that substitutes a sign or gesture as a response.
- **Other:** Any other communicative behaviour offered by the caregiver that does not fall under any of the above-mentioned parameters.

B. Control of Semantic Content

Semantic content is the manner in which elements of conversation are organised in a unified fashion. Thus this parameter refers to the caregiver’s ability to have control over semantic content. Foster (1985) states that a communicatively competent person is one

who is able to communicate relevantly and appropriately, and able to express ideas in a sensitive manner. It refers to the ability to initiate and maintain topic of conversation, engage in discourse, where ideas are expressed and organised hierarchically.

Control of semantic content or semantic contingency is viewed as a reliable facilitator of a child's language development. The context of a semantically contingent interaction provides the child opportunities to learn communicatively useful language (Snow, Midkiff-Borunda, Small & Proctor, 1984). Further, Foster (1985) notes that parents are known to naturally assist their children in topic maintenance, while also providing "interactional frameworks", allowing for multiple turns on a single topic. However, in their studies, Gregory and Barlow (1990), and Swisher and Christie (1990) noted that there was a lack of turn taking patterns in the interactions between deaf children and their hearing caregivers.

The parameters relate to the caregiver's semantic coherence abilities, where coherence is defined as a key feature in discourse (Penn, 1988).

- **Topic Information:** This is the caregiver's ability to provide new or additional information to the communicative partner. It allows for the introduction of a new topic or offer information about an object or event.
- **Topic adherence:** This refers to the caregivers' ability to remain focussed on the topic of conversation, where, once initiated, the topic is maintained over a series of turns or propositions, which usually relate to those preceding them.
- **Topic shift:** The caregiver's ability to change conversational topics appropriately.
- **Lexical choice:** This refers to the specific choice of signs offered to the conversation by the caregiver.

Penn (1988) notes that topic information, adherence, shift and lexical choice measure the caregiver's ability to convey information in a coherent, logical, sequential, unambiguous way.

- **Idea completion:** This is the caregiver's ability to complete or finish an idea, providing logical and appropriate information to the communication partner.
- **Idea Sequencing:** It refers to the caregiver's ability to present an idea in a logical order, making it easily understood and easily to follow.

Vocabulary

- **Single Word Signs:** This refers to the caregiver's use of single signs or one word usage, and her semantic lexicon.

Sign Structure and Form

- **Imitation Signs:** This parameter refers to signs that the caregiver is not able to produce spontaneously, but would be able to copy from her deaf child. In this study, these signs were produced frequently, where the caregiver learnt the correct signs from the child, during all context of communication.
- **Prompted imitation:** These signs are those that the caregiver is unable to produce spontaneously, and is not able to copy the correct sign when shown by the child. The deaf child has to physically manipulate the caregiver's hand or body, in order for the sign to be produced. These signs were produced on a number of occasions during all contexts of interaction between caregiver and child.

Three aspects distinguish one sign from another. These include location, hand shape and movement (Stokoe, 1960, in Fox, 1999). They function in a similar manner to the phonemes of a spoken language, and they are viewed as "the basic units of phonological contrast in ASL signs" (Coulter & Anderson, 1993; Wilbur, 1987, in Hoffmeister & Wilbur, 1980).

- **Hand shape:** The hand shapes used in sign language verbs of movement and location are referred to as classifiers. Two frequently discussed types are size and shape specifiers and semantic classifiers. The size and shape specifier describes the appearance of the object using hand shape. For example the index finger extended straight out from the hand indicates a thin, straight object. The semantic classifier indicates specific semantic groups as their referents (Lillo-Martin, 1988).
- **Movement:** This is the way in which the signs of the caregiver move.

- **Orientation:** This refers to the way the sign is facing, and will mature as the signer matures in his/her signing ability.
- **Place:** This refers to the area or place in which the sign is being made. In order for the communication partner to correctly understand the same sign that the caregiver is intending it is important that the place is chosen correctly.
- **Gesture:** In children acquiring sign language, gestures are those actions or vocalisations produced by the child, with a deliberate intent to communicate, however they don't take the form of recognisable linguistic units. Non-vocal gestures include facial expression, hand gestures and any other movements. Vocal gestures include non-linguistic sounds the child makes to communicate (Foster, 1990). This parameter was kept in the checklist as gestures were used frequently amongst the caregivers with a definite intent to communicate.

Deaf children growing up in hearing families develop a “pre-language”. Such families develop gestures that they use in order to communicate with their deaf child. These are known as “home signs”. However, when the deaf child is immersed in a sign language environment, such as a pre-school, these home signs are abandoned and are replaced with the correct signs and language of the deaf community. It is evident that although the child is being exposed to the correct signs, the caregiver does not know the correct signs, and continues to use the “home signs” (Stokoe, 1990).

- **Pantomime:** Pantomime is a descriptive gesture, where the form of the gesture mimics its referent (Mogford, 1996). For example, acting like a lion. It is largely body movement and posture. It can further be described as being hand or body movements without an object, mimicking either the visual or kinaesthetic characteristics of an object or event.

C. Cohesion

This is the structural form of discourse, where the caregiver is rated on her ability to link sentences within discourse. Cohesion can be described as the inter-relatedness of ideas

and thoughts within discourse (Penn, 1988). “Cohesive devices” within the surface text bind expressions together (Halliday & Hasan, 1976; de Beaugrande & Dressler, 1981; Stubbs, 1983 ; Brown & Yule, 1983, all in Smith & Leinonen, 1992). However, the cohesive devices present in spoken languages differ from those in sign language.

Morphology, Syntax and Spatial Referencing

Tabor (1988, in Fox, 1999) identifies the following factors that influence sign language: multi-layered linguistic organization and structured use of grammar in space. The current checklist includes the following parameters measuring two morphological subsystems of sign language.

- **Joined/ 2 or More Word Signs:** When a deaf child is not communicating in sign language, and rather through the oral mode, this is most likely to be delayed, and will only emerge when the child is put into a signing environment, thus is a good indication of the stage of acquisition for the deaf child. Hence, the parameter was kept in the current checklist, to serve a similar purpose for the hearing caregivers (Hoffmeister & Wilbur, 1980).
- **Spatial Marking Indicating Verb Agreement:** Spatial processes are the underlying and prerequisite skills of sign language. Verb agreement in sign language indicates the connections between specific spatial points. For example “I give you”, the verb “give” moves from the self to the communication partner. The “give” movement thus has a base that is iconic.
- **Distinction between Nouns and Verbs:** There is a distinct difference in the form of the sign, depending on if it is a noun or a verb. Nouns are different to verbs in that their movement are repetitive and they have a restrained manner of articulation. The signs for nouns thus appear to be smaller (Davison, 1998).
- **Development of Classifiers:** The classifiers found in sign language may function syntactically (as a verb or a noun) as well as serving a semantic purpose, focussing on features and qualities of the noun referent (Kantor, 1982).
- **Pointing at Something Concrete:** the caregiver points to an object or person present in the room, at the time the conversation is taking place.

- **Pointing at Something Abstract:** The caregiver points to something that is not present or visible at the time of the conversation.
- **Pronominal Referencing:** The caregiver refers to people being discussed, by pointing, without them actually being present. The caregiver will point to a specific space, allocated to a specific individual or character, and will always go back to pointing to that space when referring to that particular person (Winston, 1991).

Spatial referencing is important in that it functions as a cohesive device in sign language, by providing the communicators with deictic referents throughout sections of discourse (Winton, 1991). In sign language, space is used as the medium for communication. Spatial reference is the productive use of space in establishing referents within a text (Winston, 1991). Thus space may be manipulated by the signer in order to link utterances together to establish entities in space—either abstract or concrete. Thus once established, referring to the area of the entity represents referring to that particular entity. Spatial referencing may be accomplished in a wide variety of ways:

1. Articulating the sign for the referent in space.
2. Physically stepping into the space and then producing the sign
3. Pointing to or indexing the space and articulating the sign in either the unmarked space in front of the chest, or within the marked space.
4. Directing one's eye gaze to the space.
5. Rotating either the head or torso towards the space.
6. Switching hands from dominant to non-dominant, in order to articulate the sign with the hand closest to the established space.
7. The use of agreement verbs, inflecting through movement either away from or towards subjects/objects.
8. The use of a combination of the above strategies (Winston, 1991; Liddell, 1990, in Winston, 1991).

Facial Expression for Linguistic Purpose

In sign language facial expression functions either to convey emotion as well as marking specific grammatical structures (McIntire & Reilly, 1988). Further, Reilly, McIntire and Bellugi (1990, in Ogilvy et al, 1994) found that facial expression used for affective function acts as a transition in to the facial morphology of the grammatical construct of sign language. Facial expressions displaying the basic emotions of joy, sadness, disgust, surprise, anger and fear are universal.

The following subsections under facial expression have been included:

- **Question face:** Grammatical facial expressions indicating question
- **Negation face:** Grammatical facial expressions conveying a negative tone
- **Adverbial/descriptive face:** Grammatical facial expression indicating adverbials

Eye Gaze

As mentioned previously, this involves any behaviour involving eye contact, gaze or orientation toward the other person or object (Wilcox, 1992), and is said to one of the most critical aspects of sign language acquisition (Ackerman & Woll, 1990), in children in particular. In sign language one needs to visually attend to the message, otherwise it will be missed. Both communication partners need to be looking at one another when communicating. As the deaf child's interest in the surrounding environment grows, the caregiver's role of controlling the child's eye gaze becomes increasingly difficult. The caregiver needs to gain the child's attention before providing information, as well as keeping that attention during signing.

- **Mutual Gaze:** This is when the caregiver and child make eye contact with each other, for communicative purposes (Parritt, 1990).
- **Gaze at the Communication Partner:** This occurs when the caregiver gazes at the child, without the child gazing at the caregiver. The child may be gazing elsewhere or at the object under discussion. (Wilcox, 1992; Botha, 1997).
- **Gaze at an object:** This occurs when the caregiver gazes at the book or at an object under discussion (Wilcox, 1992; Botha, 1997).

- **Gaze Aversion:** The caregiver turns her head away, thus breaking eye contact, halting the communication and terminating interaction.

D. Socio-linguistic Sensitivity

Attention Getting

As has been discussed before, communication in sign language can only be effective when both communication partners are looking at one another (Kyle & Ackerman, 1987). The caregiver frequently needs to use hand waving, or move into the child's line of vision, in order to gain her child's attention. This becomes increasingly more difficult as the child's interest in the surrounding world steadily grows. It is important for the caregiver to maintain the attention of the child, thus ensuring mutual eye gaze, before providing input. Kyle and Ackerman (1987) note that "learning to look" is key in the early interaction with deaf children.

- **Waving:** This involves waving within the visual field of the communication partner (Kyle & Ackerman, 1987). Communicative competency depends on how successful communication partners are at exchanging information and maintaining conversational fluency, which in turn is largely dependent on the appropriate use of attention getting strategies (Tye-Murray & Schum, 1994). Previous research has documented that physical attention getting does not occur as frequently as gestural attention getting such as waving.
- **Physical contact:** Physical attention getting is reportedly the most common attention-getting strategy (Ackerman & Woll, 1990).
- **Vocalisations:** This was included as a parameter of attention getting as a few of the caregivers used vocalisations- speaking their mother tongue (Xhosa), in an attempt to gain the child's attention. This was often accompanied with signs.

The following parameters refer to the caregiver's ability to adapt to the social needs of the situation, in each conversational unit (Penn, 1988).

- **Polite forms:** This is the child's sensitivity to turn-taking cues, and when appropriate, it reflects sensitivity to the demands of the communication situation.

- **Echolalia:** This occurs when the caregiver would merely echo the previous utterance of the child, due to a breakdown in communication, and thus a lack of understanding.
- **Humor/ Shared laughing:** On a number of occasions, shared laughter was seen between caregiver and child, and was seen to be an integral component of socio-linguistic sensitivity on the part of the caregiver.
- **Participation/ Shared Action:** Similar to shared laughing, this was seen to occur between child and caregiver and acts as another important parameter of socio-linguistic sensitivity.

Reliability and Validity

- **Measures of Validity**

The Communicative Signing Profile will be used for the assessment and analysis of the communicative data obtained in the study.

- **Measures of Reliability**

Adult deaf signers will be involved at all stages of the study, including the rating and analysis of the data collected. The researcher in conjunction with two raters/scorers (adult deaf signers) will score the entire range of video recordings. The second deaf adult will serve to crosscheck the analysis, and look for close agreement in judgements.

Prior to the scoring of data, the raters took part in training and practice of identification of communicative behaviours and classification of these behaviours using the Communicative Profile (Penn, 1988). This served to ensure the understanding of each parameter, and the way to classify the communicative behaviours.

2.7.2 Analysis of information gained from the focus group interviews

An analysis of the information gained from the focus group interviews regarding the caregivers attitudes and feelings toward the intervention programme deliver, as well as the impact of broader psychosocial and socio-economic matters was undertaken.

Focus groups involve a group of participants talking to one another under the guidance of a moderator, the purpose being to generate relevant data and information around a pre-arranged topic (Kitzinger, 1995; Katzenellenbogen, Karim & Joubert, 1999; Crabtree, Yanoshik, Miller & O' Connor, 1993). Through the process of answering questions, new ideas and connections are discovered from the interaction with other participants (Dilorio, Hackenberry, Balbach & Rivero, 1994; Krueger, 1994). This method allows the researcher to gain more information than other qualitative methods, as it relies on cueing (Morgan & Krueger, 1993).

Attitudes and perceptions do not develop in isolation, but rather develop through interaction with other people, and it has been shown that people interacting within a focus group, do influence each other with their own thoughts and ideas (Krueger, 1994). Individuals often change their opinions as the discussion progresses and the other participants' viewpoints are considered and discussed (Robson, 1987).

Furthermore, a group interview creates a "chain reaction" effect, where one response to a topic of discussion or open-ended questions by one participant will cause interaction and discussion from other group members. Stewart and Shamdasani (1990) believe that in a group situation participants feel more comfortable to divulge less conformative views as their responses will not be directly associated with them.

The interpersonal communication seen in the focus group situation is highly effective, as it provides insight into cultural norms and values. Thus, this methodology is highly beneficial in cross-cultural research (Kitzinger, 1995).

Focus groups examine participants' experiences and attitudes, where an individual's knowledge and experience is often not fully captured in responses to direct questions (Kitzinger, 1995). As participants compare and contrast their views to that of other group members, they become more explicit about their own views (Morgan & Krueger, 1993). Information is obtained from within a social context (Beaudin & Pelletier, 1996) This method of data collection is sensitive to cultural variables and take the needs of the community into account (Barbour, 1995).

The use of focus group methodology is favoured when there is a communication breakdown or misunderstanding between two groups (Kreuger, 1994), and when the weaknesses, strengths and necessary adjustments of a programme need to be identified and dealt with (Patton, 1990).

Data Collection

- **Structuring the Interview**

The Questioning Route was chosen above the Topic Guided Route as a means of facilitating the discussion. This was thought to be most appropriate as the analysis is more efficient and subtle differences in language are eliminated, which may alter the intent (Krueger, 1994).

Open-ended questions are used to encourage participants to identify relevant issues, while generating their own questions and pursuing their own priorities. A group discussion allows the participants to express and convey their opinions and ideas through the use of arguing, teasing, jokes and anecdotes. A structured one to one interview is not conducive to such communication methods (Kitzinger, 1995).

Approximately fifteen to twenty questions were compiled for each focus group. The questions were developed before each groups was held, allowing for them to be carefully

selected and phrased in advance ensuring maximum elicitation of information (Krueger, 1994). Further considerations to elicit maximum information included:

- Avoiding dichotomous and “why” questions (Kitzinger, 1995)
- Questions were arranged in a logical order.
- Initially broad questions were asked, followed by more specific questions (Krueger, 1994; Kingry, Tiedjie & Friedman, 1994). This broad questioning allowed the group members to discuss important issues as well as to generate new ideas and topics that were not discussed in the initial questions.
- The questions were clear and straightforward, encouraging feedback and giving the participants opportunity for reflection.
- The questions were worded and phrased appropriately, making them more understandable to the participants (Kreuger, 1994).

Participants within the focus group were not required to answer each question or to formulate an answer or opinion straight away. They were given opportunity to remain quiet until the opinions and ideas of other participants were raised before generating their own answer (Barbour, 1995).

- **Moderator Characteristics**

As with all research methods, there are limitations relating to the focus group, specifically when dealing with cross-cultural interviewing (Patton, 1990). Language differences often result in misunderstandings between interviewer or researcher and the participants. Furthermore, values and norms differ among different cultures, where a culture is governed by what is acceptable and unacceptable to others in that community (Patton, 1990).

An interpreter, who is a qualified speech-language pathologist/audiologist, fulfilled the role of the moderator, during the focus group interviews. She was trained to carry out the focus groups and was familiar with the protocol for the research as well as the topic of

study. It is believed that having a facilitator from the same cultural group and able to speak the same language, allowed the participants to be more comfortable in expressing their feelings and beliefs. If the moderator is from a different cultural group or group that he/she may be perceived as more superior, the participants may feel less eager to talk about personal information (Kreuger, 1994). Biographical details of the moderated are displayed in Table 2.3.

Table 2-3: Biographical details of the Moderator

<u>Home language</u>	Xhosa
<u>Other languages</u>	Xhosa, English, Afrikaans, Sotho
<u>Proficiency in English</u>	Good
<u>Medium of instruction at school</u>	Grade 12
<u>Educational level</u>	Qualified Speech-Language Pathologist
<u>Experience</u>	Cultural narratives
<u>Current job</u>	Community-based Speech-Language Pathologist

Attempts were made to take language and cultural differences of participants into account (Beaudin & Pelletier, 1996). The participants were grouped homogenously, and thus may have been more inclined to discuss topics relevant to their culture with similar views and opinions in mind.

- **Considerations before the Interview**

It is important that the participants be provided with sufficient background information regarding the research. Before the commencement of the focus groups the aims of the study were discussed with the group members. The participants were informed that their concerns, perceptions and needs were to be discussed. They were encouraged to talk amongst themselves in a natural conversational manner, instead of directly addressing the facilitator. Further, information regarding the use of the information obtained was provided and the participants' right to confidentiality was ensured.

- **Conducting the Focus Group**

The interviewer or facilitator asked a broad question according to the developed question format. The participants were then left to discuss this, while the interviewer adopted a passive role, only intervening when the participants diverged to unrelated topics (Robson, 1987). Variations to questions and additional specific questions were asked when new issues arose which needed further investigation.

Setting - The setting was carefully considered, as it is an important element to the success of a group discussion (Krueger, 1994). Focus groups were held within the home of one of the participants. Refreshments were served to create a relaxed atmosphere.

It was also ensured that the room in which the group was held created a relaxed and comfortable environment. It has been shown that this influences the degree or participation in the discussion (Robson, 1987; Dilorio et al., 1994). Special attention was paid to the seating arrangements to maximally enhance the interactions between participants and to minimise the involvement of the interviewer. It has been shown that the seating arrangement of the participants influences the perceptions of status, leadership activities, participation and emotional reactions (Johnson & Johnson, 1987). Thus during the focus group interviews, the participants were seated in a circular formation, so that it would be clear that no one position was viewed as a position of authority.

Time - Each focus group lasted sixty to ninety minutes. A focus group should last between thirty minutes and two hours. Participants tire and lose concentration if the interview lasts longer than this (Patton, 1990; Kreuger, 1994).

- **Recording the data**

All interactions were recorded onto videotape to ensure accurate data transcription. This method of data collection was preferred as it was felt that additional visual cues, such as gestural and non-verbal information would assist in the transcription process.

Treatment of data

- **Transcription of Data**

All focus groups, including the questions were transcribed verbatim from the videotapes to allow for a very detailed analysis (Patton, 1990). All transcriptions were transcribed and translated into English by a Xhosa speaking research assistant from analysis by the researcher. Discussions with the facilitator, who led the focus groups, were helpful with regards to her feelings and the ideas she received from facilitating the group.

- **Analysis of the Data**

A qualitative data analysis procedure, including 5 stages was developed, which was based on various theories (Patton, 1990; Corbin & Strauss, 1990; Marshall & Rossman, 1995). This procedure is summarised in Figure 2.2, below which is followed by a detailed description of the analysis process.

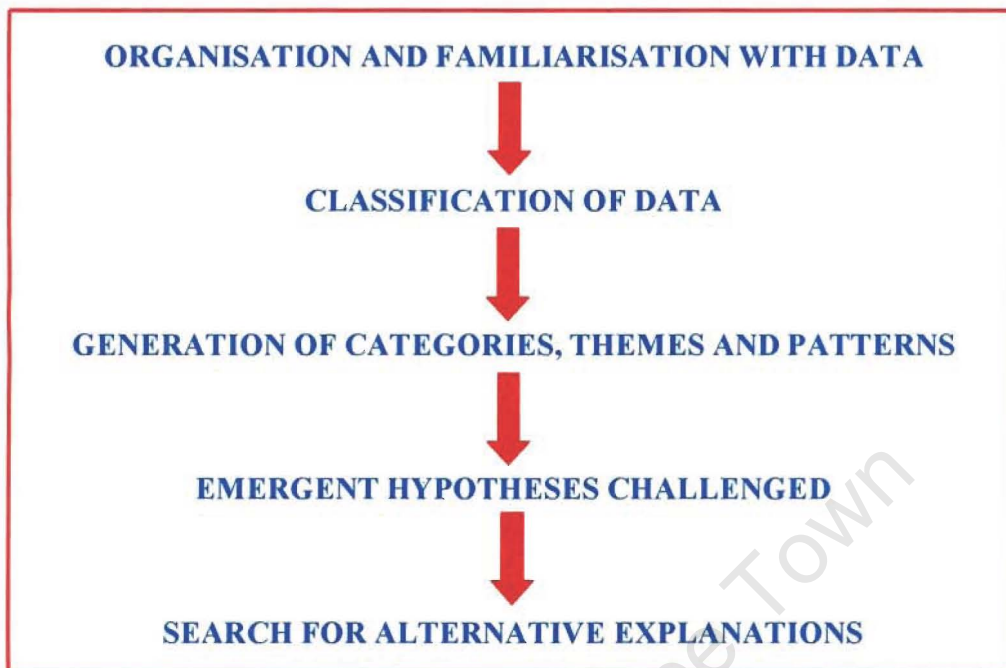


Figure 2.2: Diagram depicting the stages involved in data analysis

1.) Organisation and Familiarisation with the Data

Before analysis began, all raw data had been gathered. The transcriptions and translations, discussion with the facilitator of the focus group, together with the additional read-through of all the raw data, allowed the researcher to become familiar with the information, thus facilitating further analysis (Patton, 1990, Marshall & Rossman, 1995). The researcher was required to read through all transcriptions and make comments in the margin (Patton, 1990). The comments included the ideas and perceptions of particular observations, sentences and paragraphs.

2.) Initial Classification of the Data

The ideas, incidents or events were then each given a label. This process of labelling is known as open coding (Burnard, 1991; Corbin & Strauss, 1990). Incidents were then compared so that the common labelled phenomena could receive common names (Corbin & Strauss, 1990). The names were written in the margins of the transcripts (Patton,

1990). The data was conceptualised in this manner to facilitate the large amount of raw data in the transcription.

3.) Generation of Categories, Themes and Patterns

The phenomena were categorised, and the categories then provided with names, which were more abstract than the phenomenon labels. Categories were developed in terms of their properties and dimensions (Corbin & Strauss, 1990). Each category was then allocated to a separate category sheet. A coding procedure ensured that the context of the data remained intact during further analysis, where the information relevant to a specific topic was cut and pasted onto the relevant category sheet.

The categories were then examined for convergence and divergence (Patton, 1990). Patterns and categories were “fleshed-out” to assess what information could be appropriately fitted together in particular categories.

This was achieved by:

- i. Looking for regularities in the data.
- ii. Judging categories in terms of their internal homogeneity (the extent to which data in a category is held together) and the external homogeneity (the extent to which the differences between categories are clear).
- iii. Verify meaningfulness and accuracy of the placement of data within categories, by working back and forth between the data and classification systems.
- iv. Categories were tested for completeness by:

Extension: adding to information already known.

Bridging: making connections between different items

Surfacing: proposing new information and verifying its existence.

At this stage, sets of categories were joined together to form themes. A theme is defined as a statement of meaning that runs through all or most of the important data. Their impact is largely emotive and factual (Ely, 1991). The themes were then laid out in terms of priority, so that they could be reported in this order in the results and discussion.

4.) Challenge Emergent Hypotheses

Data was searched in order to challenge the established hypotheses, to find information that may not be in agreement with the hypotheses (Corbin & Strauss, 1990).

5.) Search for Alternative Explanations

If necessary, alternative explanations were then investigated, identified and described. It was necessary to demonstrate why a particular explanation was the most plausible (Corbin & Strauss, 1990).

- **Procedure to Enhance the Credibility and trustworthiness of Qualitative Research**

Research is said to be trustworthy if it is carried out fairly and the product is ultimately truly representative of the participants involved in the research (Evans, 1998). The following criteria, as adopted from Patton (1990), were used to ensure credibility and trustworthiness of the design and analysis procedure:

1. **Techniques for the Collection and Analysis of Data**

In establishing the trustworthiness of qualitative research, the following must be considered: credibility, transferability, dependability and confirmability.

Credibility

Although it is not possible to control all variables present in research (Miller & Kirk, 1986), the following attempts were made to control for the following variables:

Participants met the required selection criteria, thus the quality and credibility of the data was ensured.

Methods and subjects used have been carefully described and contextualised. By doing so, parameters were identified and the credibility and thus validity of the research is ensured (Patton, 1990).

Transferability / Generability

The triangulation of data methods is used to enhance generability (Patton, 1990). That is, one source of data is checked against a different source of information (DePoy & Gitlin, 1994). By using more than one research method, a larger database was obtained, thus allowing for further decoding and interpretation. Additional information obtained from informal conversations with the participants was compared to the information obtained from the interviews.

Confirmability

This relates to the construct of reliability or the objectiveness of the researcher (Marshall & Rossman, 1995). The interviewing style, relationships with participants and the analysis of the data are all subjective in nature. Thus the natural subjectivity of the researcher will influence and shape the research (Marshall & Rossman, 1995).

Peer Debriefing

This refers to when another individual aids in the analysis, so that multiple interpretations of the data are reflected (DePoy & Gitlin, 1994). An additional individual, also involved in research in the same area of study were involved in analysis and providing insight.

2. The Credibility of the Researcher

Intellectual Rigour

The researcher returned to the data, as well as the original video recordings, to ensure that the categories, explanations and interpretations of the data made sense. Patton (1990) notes that this is essential in ensuring that the analysis and interpretation of the data be a true reflection of the phenomena (Patton, 1990).

Perspectives

Although the form of the interview guide was primarily based on the theoretical and clinical knowledge of the researcher, it was essential that broad questions be included in the group discussions, so that the knowledge of the participants could be obtained.

3 RESULTS AND DISCUSSION

In this chapter the findings that emerged from three focus group interviews with the caregivers, as well as the findings of the caregivers' signed communication ability and development during the course of the long-term parent intervention programme, are presented. The findings are discussed under each of the themes that emerged from the thematic analysis of the data from the interviews. The themes are illustrated in Table 3.1 below.

Table 3-1 Themes emerging from the Thematic Analysis

SIGNED COMMUNICATION
CULTURAL APPROPRIATENESS OF THE LONG-TERM INTERVENTION PROGRAM
EMPOWERMENT & INCREASED AWARENESS
SOCIO-ECONOMIC IMPACT

3.1 SIGNED COMMUNICATION

Table 3-2: Attendance of caregivers at the intervention programme

	<u>Caregiver</u> <u>1</u>	<u>Caregiver</u> <u>2</u>	<u>Caregiver</u> <u>3</u>	<u>Caregiver</u> <u>4</u>	<u>Caregiver</u> <u>5</u>
<u>Week 1</u>	✓	✗	✓	✓	✓
<u>Week 2</u>	✓	✗	✓	✓	✓
<u>Week 3</u>	✓	✓	✗	✓	✓
<u>Week 4</u>	✓	✓	✗	✗	✓
<u>Week 5</u>	✓	✗	✓	✓	✗
<u>Week 6</u>	✓	✗	✗	✓	✓
<u>Week 7</u>	✓	✓	✗	✗	✓
<u>Week 8</u>	✓	✓	✓	✓	✗

As shown in Table 3.2, attendance at the weekly sessions was irregular for C2-C5. In addition the weekly sessions did not run consecutively from week to week, as initially planned. Poor attendance at the intervention programme resulted in planned sessions being

cancelled, disrupting the smooth running of the programme and prolonging the anticipated time of completion of the programme. It is believed that these disruptions were not beneficial and often resulted in caregivers forgetting what they had previously learned.

Table 3-3: An indication of reliable data collected for accurate analysis.

	Natural Conversation		Oral Narrative		Storybook tellingg	
	Pre	Post	Pre	Post	Pre	Post
Caregiver 1	✓	✓	✓	✗	✓	✓
Caregiver 2	✓	✓	✓	✓	✓	✓
Caregiver 3	✓	✗	✓	✓	✓	✓
Caregiver 4	✓	✗	✓	✗	✗	✓
Caregiver 5	✓	✓	✓	✗	✗	✓

- ✓ Task complete
- ✗ Task incomplete
- Data used for analysis

As can be seen in Table 3.3, the data collected for the purposes of analyzing the caregivers' sign language ability following the implementation of a sign language training programme, was found to be inconsistent. Not all caregivers completed the three tasks - storybook telling, oral narrative and natural conversation, both pre- and post- intervention. Issues relating to these problems will be discussed in further detail in the following chapters.

A summary of the communicative profiles of four of the five caregivers has been outlined. Caregiver 4's profile has been omitted, as the data collected was not suitable for accurate analysis. Even though her attendance at the weekly sessions was fairly regular, a number of factors contributed to the lack of appropriate data for analysis. Caregiver 4 is the maternal grandmother of the child, and thus considerably older than the other caregivers. During both the pre and post-intervention data collection, C4 was seen to be highly reserved when signing. Her signing predominantly consisted of pointing and gesturing, with very limited observable interaction with her child. The natural conversation task in particular involved a

baking activity, which resulted in C4 picking up the various objects and ingredients and handing them to the child, as opposed to signing instructions.

An important factor possibly contributing to C4's lack of accurate data is one that requires careful consideration when conducting research within a community setting. One of the primary aims of this study was to provide the hearing caregivers of deaf children a sign language intervention programme within their natural contexts, hence the importance of collecting data pre and post- intervention within similar surroundings. However the dwellings in which some of the caregivers reside, including C4, was not conducive to accurate data collection. The room in which data was collected for C4 was very small and cramped, and the lighting poor. Thus her signed conversations and movements were restricted, and often not clear, due to poor lighting. The seating arrangement between C4 and her child was inadequate and did not allow for appropriate eye gaze and visual attention during conversation, due to a lack of seating space.

Another factor which results from conducting research in a natural setting and leads to inaccurate data are the intrusions and disruptions from other family members and children, during data collection. This was evident for most caregivers, but particularly so for C4. Any disruption during signed conversation in particular, which relies so strongly on visual attention, results in communication breakdown.

Thus due to contributing factors resulting in a poor sample of C4's signed communicative ability, it was felt that this data was unsuitable for analysis and thus omitted from the data analysed.

The Communicative Signing Profiles for the tasks completed both pre and post-intervention by C1, C2, C3 and C5 are now presented with a brief description of each caregiver's signed communicative ability. The study will report on the observed communicative behaviours of the caregivers pre and post-intervention. A graph depicting the appropriate number of occurrences for each subcategory of the profile pre and post-intervention for each caregiver has also been included. Furthermore, these findings will be qualitatively described.

3.1.1 Caregiver one: C1

C1 displayed regular attendance at the sign language intervention programme. She is a highly motivated caregiver, who has accepted her child's deafness. She is integrally involved in her child's life, frequently engaging him in conversation. She is eager to learn sign language, and often asks the deaf adult role model for signs she does not understand. She has a good relationship with the deaf adult signer who ran the sign language lessons, and feels quite comfortable asking her questions.

C1 completed the tasks for natural conversation both at pre- and post-intervention stages of data collection.

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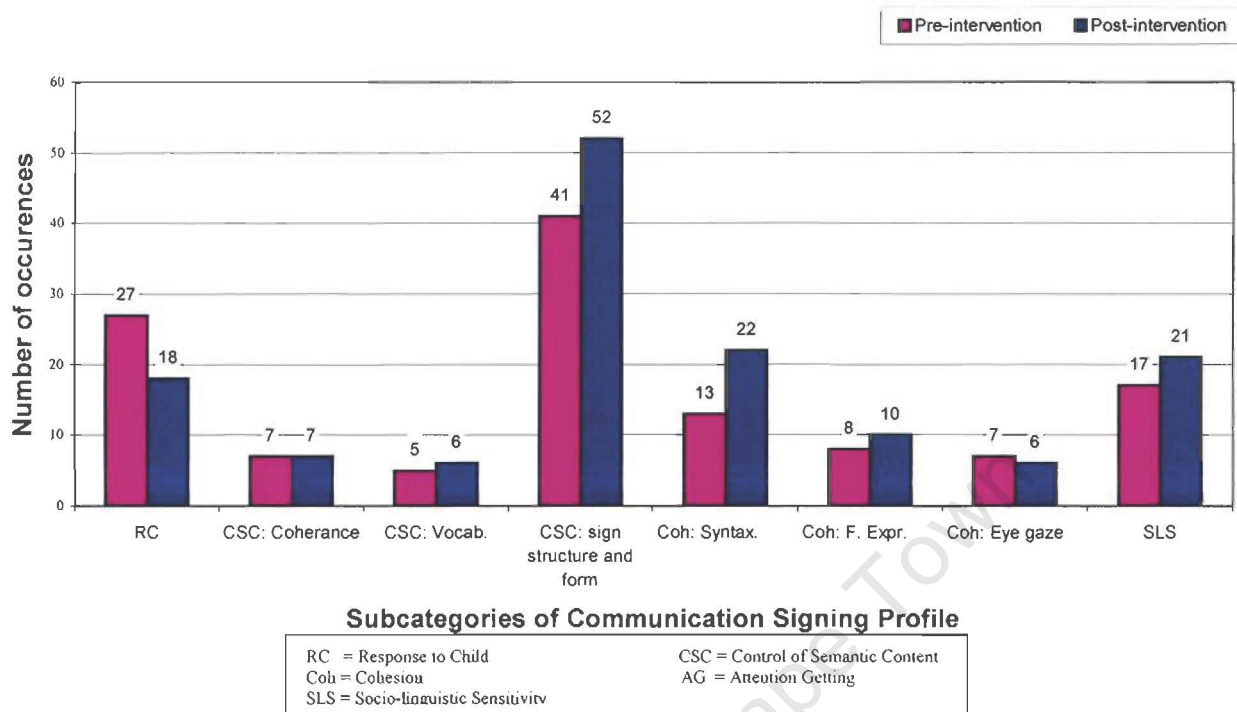


Figure 3.2: Appropriate occurrences for each subcategory of the CSP during Natural Conversation for C1

As can be seen from both the profile in Figure 3.1 and the graph in Figure 3.2, all categories were well-represented both pre and post-intervention during natural conversation, and it is believed that this task gives a good indication of C1's signed communicative ability. The most significant improvement as seen in Figure 3.2 is C1's increased appropriate use of grammatical structures in sign language. This was evidenced in increased use of short, signed sentences and spatial referencing post-intervention, as well as increased use of grammatical facial expression, particularly those indicating question and negation. Her sign structure and form also showed improvement for this task. Although no increased use of attention-getting skills was seen post-intervention, it is interesting to note that the strategies used for attention-getting differed pre-post intervention. For instance, she made increased use of appropriate physical contact post-intervention, while pre-intervention she only made use of waving within her child's field of vision. Although waving is considered more appropriate, it is believed that the nature of the conversation may have influenced her choice

of technique. Pre-intervention the conversational topic focused on what her child was watching on television, and thus by waving within his field of vision, when he was focused on the television, allowed him to attend to her. In contrast, at post-intervention C1 made use of appropriate physical contact, including gentle tapping on her child's knee and shoulder while conversing in order to gain his attention.

A detailed discussion of each category now follows.

Response to child

It was observed both at pre and post-intervention that C1 made use of requests most often accompanied by the correct grammatical facial expression, marking questions in sign language.



q
THAT WHAT
“What’s that?”

Figure 3.3: C1 demonstrating appropriate response to her child in her use of request with appropriate facial expression (post-intervention)

Request

q
YOU PRO.2 ME PRO.1 DINNER COOK
“Are you and I going to cook dinner?”

Probing question

_____q
 BULL WHERE COW WHERE
 "Where is the bull? Where is the cow?"

Clarification request

_____q
 BIG BLUE
 "The big blue thing?"

These requests are believed to be important as it implies that C1 is engaging her child in conversation. As can be seen in the above examples, C1 made use of probing questions and clarification requests both at pre and post-intervention and she made use of acknowledgement when something was eventually made clear and understood.

However, as suggested by Wood (1991), an increased use of questions may indicate directed and controlled conversational discourse between caregiver and child, which may limit the child's opportunity to initiate conversation and expand their communication.

Interestingly, although C1 did not ask many questions post-intervention or make many requests post-intervention, as seen pre-intervention, she continued to engage her child in conversation. She demonstrated more use of acknowledgement such as nodding, as her child was more involved in the conversation. Following the child's lead in conversation and the provision of language input based on the child's focus of interest or conversational topic facilitates the child's language development (Swisher, 1992).

The requests and responses made by C1 at pre and post-intervention were natural everyday questions regarding family, friends and household activities, to which her child responded appropriately. This possibly indicates that C1 is able to converse and engage in conversation with her child involving a wide range of discussion topics.

Although, C1's response to her child did not appear to improve pre-post intervention, it is interesting to note from Figure 3.1 that she made more use of a variety of the parameters

within the category, for example acknowledgement and reply. These serve to indicate good interaction between mother and child.

It is thought that the nature of the conversational dyad clearly played an important role in determining how C1 interacted with her child. At pre-intervention, conversation was about a television programme. In contrast, during post-intervention, interaction was examined during conversation between mother and child. At pre-intervention the conversational topic was based on a physical referent, the television, resulting in a concrete-based conversation. The absence of physical referents post-intervention resulted in the conversation being at an abstract level. Different parameters were thus evidenced pre and post-intervention. Further, fewer requests post-intervention may indicate a less directed and controlled conversation.

Control of semantic content

C1 introduced and adhered to the topic of conversation appropriately pre and post-intervention. Furthermore, she shifted topic appropriately pre and post-intervention when her child's focus of interest shifted. As noted by Swisher (1992), this may indicate her awareness and sensitivity to following her child's eye gaze and conversational lead.

- Topic Shift (Pre-intervention)

q
TELEVISION

"Do you want to watch television?"

C1 displayed an increased formal sign repertoire post-intervention as opposed to her more limited sign repertoire pre-intervention. Her signing of single words is largely accurate, however a few inaccuracies were seen for hand shape, movement, orientation and place both at pre and post-intervention. Pre-intervention where the interaction was focused on television, increased use of pointing, labeling and imitation was observed. Increased use of gesture and home signs was observed both pre and post-intervention when she was unsure of the formal sign. As the conversation moved away from a concrete object, C1 had to rely on her memory of signs. Thus, there appear to be more inaccuracies post-intervention, but this is thought to be largely due to the nature of the conversational discourse. However, this

did not appear to hinder interaction or result in communication breakdown, as the gesture and home signs were meaningful to her child.

The conversational task allowed for increased interaction with her child. C1's child corrected his mother's incorrect signs on a number of occasions, and C1 demonstrated appropriate imitation of signs both pre and post-intervention.



ROOSTER
"rooster"

Figure 3.4: C1 demonstrates response to her child and imitation of her child's sign (post-intervention)

Cohesion

Longer signed utterances, increased use of spatial marking indicating verb agreement and pronominal referencing were observed post-intervention, particularly noted during the natural conversation task.



(x: you PRO.2. x: me PRO. 1 x: Whitey) **WALK** ^(x:taxi) **WALK** ^(x:shop) **MONEY MEAT**
“You, me and Whitey walk to the taxi and the shop to buy some meat”

Figure 3.5: C1 signs a sentence, using spatial marking indicating verb agreement (post-intervention)

During post-intervention, C1 made appropriate use of pronominal referencing, when pointing to her child. However, no pointing was displayed at an abstract level, in the absence of a physical referent.



YOU PRO. 2 GIRL
“You’re a girl”

Figure 3.6: C1 demonstrates her appropriate use of pronominal referencing when pointing to her child (post-intervention)

Increased use of facial expression conveying question and negation post-intervention was observed. It was seen that although C1 confused the signs for questions “*who*” and “*what*” pre and post-intervention, she made more appropriate use of facial expression marking a question. She also made appropriate use of facial expression post-intervention for indicating negation, which was not observed pre-intervention.

Eye gaze, specifically mutual gaze was demonstrated particularly well during conversation post-intervention. Pre-intervention C1 tended to avert her gaze inappropriately, resulting in communication breakdown and loss of the child’s attention.

Socio-linguistic sensitivity

C1 displayed similar attention-getting strategies both pre and post-intervention during conversation, however pre-intervention she made more use of waving in the child’s field of vision as he was focused on the television, while post-intervention she made greater use of appropriate physical contact. Both these techniques are considered appropriate when used within the correct context. When waving within the child’s field of vision is not successful, gentle tapping is considered appropriate (Dyabuza, 2003, personal communication).

Humour, shared laughing and teasing her child were displayed more prominently post-intervention. This may be the result of the particular task being undertaken, and therefore one cannot conclude from these findings that this observation of socio-linguistic sensitivity is a direct result of the intervention programme.

3.1.2 Caregiver two: C2

C2 attended the weekly sign language lessons irregularly. Her child has been attending the pre-school for four years and C2 attended an early intervention programme prior to her child entering the school. She recently had another baby who has been identified with a profound sensori-neural hearing loss, and has thus commenced early intervention parent-training once again. It must be noted that C2’s signed communication is limited in terms of formal signs, facial expression and spatialised syntax. This is seen both pre and post-intervention, and

may be the result of a number of factors. C2 completed the oral narrative and natural conversation tasks both at pre and post-intervention.

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Natural conversation

		INAPPROPRIATE		APPROPRIATE	
		Pre-Intervention	Post-Intervention	Pre-Intervention	Post-Intervention
A: Response to Child	Request				✓✓
	Reply				
	Clarification request				✓
	Acknowledgement				
	Teaching probe			✓✓	
	Response with non-verbal action				
	Other				
B: Control Of Semantic Content	Topic information				
	Topic adherence				
	Topic shift				
	Lexical choice				
	Idea completion				
	Idea sequencing				
	Topic selection				
	Vocabulary				
	Single word signs	✓✓	✓	✓✓✓✓✓✓✓✓✓✓	✓✓✓
	<u>Sign structure and form</u>				
	Imitation signs				
	Prompted imitation				
	Hand shapes	✓✓✓			✓
	Movement	✓✓✓	✓		
Orientation	✓✓		✓	✓	
Place	✓✓		✓	✓	
Gesture	✓✓✓✓		✓	✓✓	
Pantomime					
Performatives					
C: Cohesion	<u>Morphology, syntax & spatial referencing</u>				
	Joined/ 2 or more words			✓✓	✓
	-Spatial marking indicating verb agreement				
	-Distinction between nouns and verbs				
	-Development of classifiers				
	-Pointing at something abstract	✓✓✓✓		✓	
	-Pointing at something concrete				
	-Pronominal referencing	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓✓✓
	Facial expression for linguistic purposes				
	-question face				✓
	-negation face			✓	
	-Adverbial face	✓		✓	
	-other				
	<u>Eye gaze</u>				
-mutual gaze			✓✓✓✓✓✓	✓	
-gaze at communication partner, partner focused on something else					
-Gaze at object					
-Gaze aversion					
D: Socio-Linguistic Sensitivity	<u>Attention Getting</u>				
	Waving	✓✓✓✓✓		✓	✓✓
	Physical contact	✓✓			
	Vocalizations				
	Polite forms			✓	
	Echolalia				
	Attention				
Humor/shared laughing			✓		
Participation			✓		

Figure 3.7: Communicative Signing Profile (CSP) of C2 for Natural Conversation

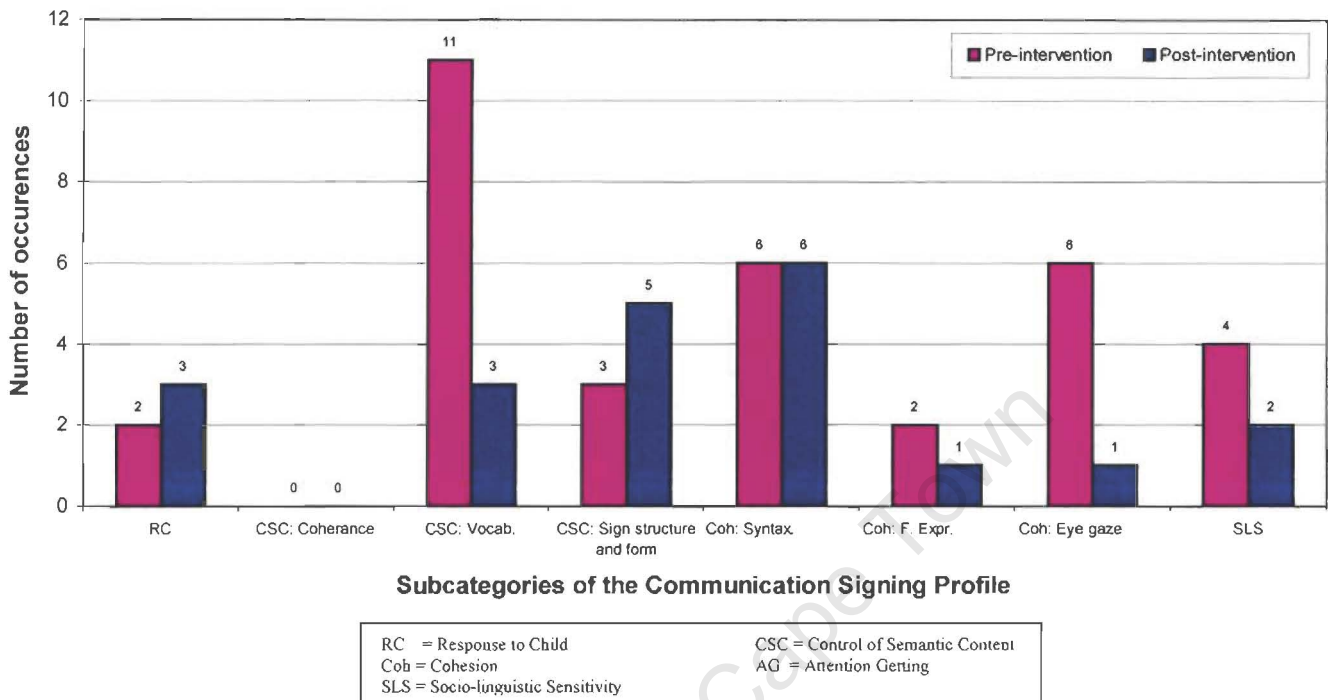


Figure 3.8: Appropriate occurrences for each subcategory of the CSP during Natural Conversation for C2

Natural conversation was generated between C2 and her child during a baking activity, pre-intervention, while post-intervention C2 tried to engage her child in conversation about her school day.

Figures 3.7 and 3.8 indicate no significant improvement in C2's signed communicative behaviours pre-post intervention. Greater response to her child was observed post-intervention where C2 made more requests, however a wider formal sign repertoire was observed pre-intervention, and once again it is highly probable that this is as a result of the nature of the task. As can be seen in Figure 3.7, increased use of gesture and home-signs pre-intervention was observed. Although meaningful to her child, it is believed that her increased use of gesture is indicative of C2 not having acquired formal signed vocabulary. C2 made more appropriate use of attention-getting strategies post-intervention. The

observed communicative behaviours at pre and post-intervention indicate a limited formal sign repertoire, limited use of spatial referencing and limited use of facial expression.

As was observed pre-intervention for the conversational task C2's attempts to use gesture and home signs that were meaningful to her child, appeared to allow greater interaction with her child, and this is evidenced in increased use of mutual eye gaze. The conversational task pre-intervention lent itself to greater use of meaningful gesture, as the conversation was concrete-based. This was significantly more difficult post-intervention when the conversation was abstract and C2 had to rely on her limited formal sign repertoire.

A detailed discussion of each category now follows.

Response to Child

Both at pre and post-intervention C2 displayed a limited understanding of formal signs. This was evidenced in her limited number of appropriate occurrences of response to her child. At post-intervention, when her child was not focused on the conversational task, C2 made more use of requests and made an isolated use of clarification request.

Control of semantic content

C2 struggled to engage her child and maintain her attention on the topic of discussion. A limited repertoire for formal signs was observed both pre and post-intervention, however as noted previously, the number of single word signs is greater pre-intervention. Her lack of single word signs appears to affect her ability to respond to her child and maintain control of semantic content in terms of topic information, topic adherence and idea completion. When deaf children progress beyond the initial stages of one- and two word sign utterances, fluency, accuracy of productions and an intact grammatical model of language become increasingly important to the child's language development (Spencer, 1993). The lack of these aspects within C2's language model, negatively affects the interaction with her child.

Cohesion

Post-intervention a limited use of signed sentences, morphology, syntax or spatial referencing was observed. Due to limited signed vocabulary, C2 relied on pointing and gesture to indicate what she was communicating. This was considered inappropriate as her limited use of formal signs resulted in her pointing in instances where it would have been more appropriate to use the formal sign.

C2 used limited appropriate facial expression during conversation pre and post-intervention. Only isolated incidences of facial expression indicating a question were noted. C2's eye gaze was appropriate both pre and post-intervention, however was more evident at pre-intervention.

Socio-linguistic sensitivity

C2's attention-getting strategies were seen to be inappropriate specifically at pre-intervention, where she used physical contact and vocalizations. At post-intervention more appropriate use of physical contact was made, however no waving within the child's visual field was demonstrated. Although attention-getting techniques were noted as being inappropriate pre-intervention, when attention was held, it was maintained through appropriate mutual eye gaze. Mutual gaze promotes successful communication between two communication partners. It is the mutual gaze at the beginning of the conversational turn or utterance that signals to the signer that he has the communication partner's visual attention. Thereafter, mutual gaze during conversation allows monitoring of the partner's understanding of the message (Richmond-Welty & Siple, 1999). Gaze at one's communication partner at the beginning of a conversational turn is important to ensure that visual attention has been gained, emphasizing the importance of appropriate visual attention-getting strategies.

C2 displayed isolated incidences of humour and shared laughing with her child pre-intervention. It is believed that the increased shared interaction and shared laughing may be

due to the nature of the conversational task and the greater number of utterances and signs that were meaningful to her child pre-intervention.

Narrative Task

		<u>Pre-Intervention</u>	<u>Post-Intervention</u>	<u>Pre-Intervention</u>	<u>Post-Intervention</u>
A:	Request				✓
Response to Child	Reply	✓			
	Clarification request				
	Acknowledgement				
	Teaching probe				
	Response with non-verbal action				
	Other				
	Topic information			✓	✓
B:	Topic adherence			✓✓	
Control Of Semantic Content	Topic shift				
	Lexical choice				
	Idea completion		✓	✓	
	Idea sequencing		✓		
	Topic selection				
	<u>Vocabulary</u>				
	Single word signs		✓✓✓✓		✓✓✓✓✓✓
	Sign structure and form				
	Imitation signs				
	Prompted imitation				
	Hand shapes				✓✓
	Movement		✓✓		
	Orientation		✓✓		
	Place				✓✓
	Gesure	✓✓✓	✓✓✓✓	✓✓	✓✓✓✓
	Pantomime				
	Performatives				
	<u>Morphology, syntax & spatial referencing</u>				
	Joined/ 2 or more words			✓	✓✓
	-Spatial marking indicating verb agreement		✓		✓
	-Distinction between nouns and verbs				
	-Development of classifiers	✓			
C:	-Pointing at something abstract	✓			
Cohesion	-Pointing at something concrete			✓	
	-Pronominal referencing				
	<u>Facial expression for linguistic purposes</u>				
	-question face				
	-negation face				
	-Adverbial face				
	<u>Eye gaze</u>				
	-mutual gaze		✓✓✓✓✓	✓✓✓✓	✓✓
	-gaze at communication partner, partner focused on something else				
	-Gaze at object				
	-Gaze aversion		✓		
	<u>Attention Getting</u>				
D:	- Waving				
Socio-Linguistic Sensitivity	- Physical contact	✓✓✓	✓		✓✓✓
	- Vocalizations	✓✓✓✓	✓		
	Polite forms				
	Echolalia				
	Attention				
	Humor/shared laughing				
	Participation				

Figure 3.9: Communication Signing Profile (CSP) for C2 for Narrative Task

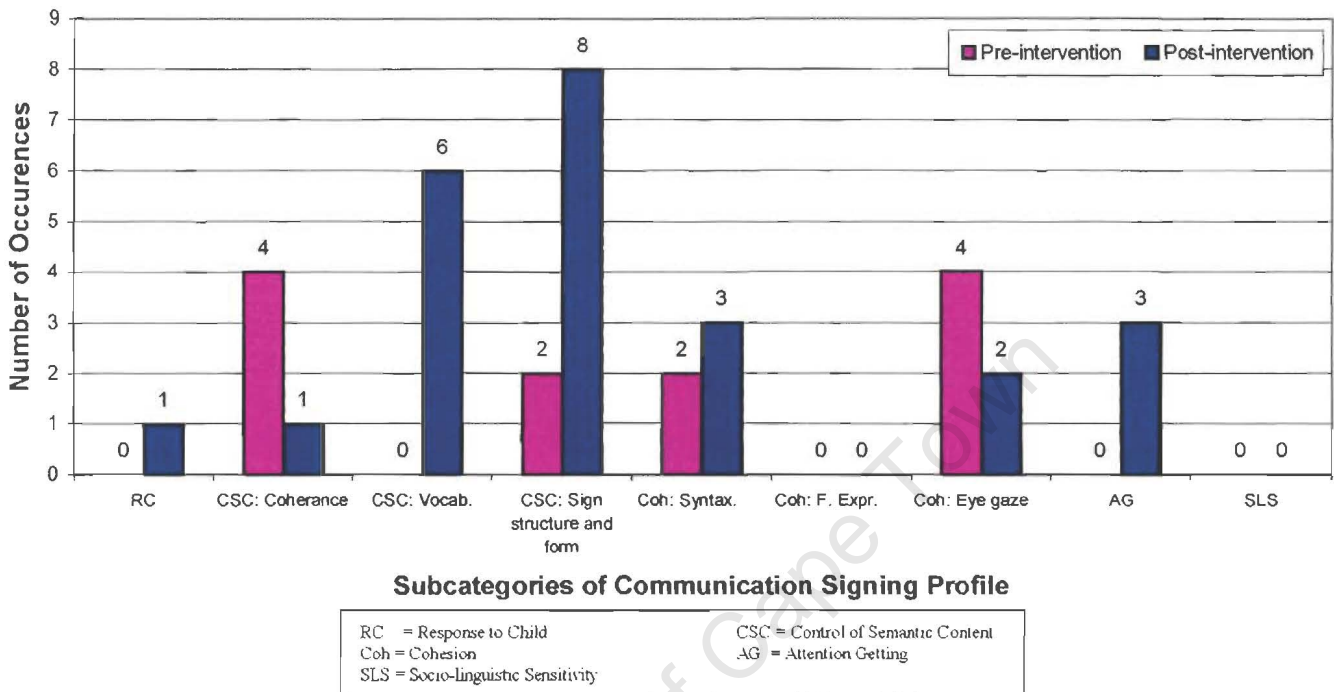


Figure 3.10: Appropriate occurrences for each subcategory of the CSP during Narrative for C2

As illustrated in Figure 3.9 and Figure 3.10, the most significant difference for this task pre-post intervention was the observed increased use of single word signs post-intervention. Increased use of short, signed sentences and cohesive devices, unique to sign language such as spatial referencing and pronominal referencing were also observed post-intervention. C2's lack of mutual eye gaze may relate to her limited use of appropriate attention getting strategies observed, as is clear in Figure 3.9 where she primarily made use of vocalizations, as was also noted for the conversation task. Limited facial expression was observed both pre and post intervention during the narrative task.

In general, significant communication breakdown was observed between C2 and her child for this task. It is believed that C2's observed limited sign repertoire, particularly at pre-

intervention, resulted in ineffective signed communication. Increased use of gesture and home signs were evidenced most prominently. Although she remained focused and attended to her child's communicative interaction, it is believed that due to her observed limited formal sign repertoire, she had difficulty in following her child's lead during conversation. There appeared to be a lack of understanding between mother and child. C2's increased use of Total Communication, involving the simultaneous use of sign language and speech, appeared to confuse her child.

A detailed discussion of each category now follows.

Response to Child

A limited response to her child was observed pre-intervention. It was observed that she struggled to follow her child's lead and did not respond appropriately to her input. At post-intervention, her ability to respond was still limited.

Control of Semantic Content

Although, C2 introduced the topic well both pre and post-intervention, her stories lacked structure, were not logically sequenced and were not coherent. Post-intervention, C2 concluded by signing that the story was "finished"; however the idea was not completed. This may indicate a limited ability to appropriately sequence and complete ideas. C2 struggled to keep her child's attention as the narrative was thought to not be sufficiently captivating or interesting to her child. C2 displayed a limited vocabulary span for formal signs, both at pre and post-intervention, however at post-intervention she used more appropriate single word signs. Interestingly, it was observed that C2's sign structure and form was more well developed and showed improvement pre-post intervention. This was primarily seen for the parameters of handshape and place of signs and meaningful use of gesture. C2 made excessive use of home signs and gesture, however they were considered appropriate, and appeared to be mostly meaningful to her child.



LOOK-AT-ME

Figure 3.11: C2 demonstrates her use of home signs (pre-intervention)

Cohesion

No significant difference was observed pre-post intervention in C2's use of spatial referencing in the narrative task. It must be re-iterated that the skills of appropriate spatial referencing involving verb agreement, nominal and pronominal referencing were taught in the sign language lessons as part of the programme. Although C2 displayed an isolated use of spatial referencing post-intervention, she does not appear to employ the use of spatialized syntax in her discourse.



FATHER MOTHER SIT (x: table)
Father and Mother sit at the table

Figure 3.12: C2 demonstrates isolated use of appropriate spatial referencing (post-intervention)

During the narrative task, C2 did not make use of appropriate facial expression to mark questions, adverbials or negatives pre and post-intervention. A bland, unemotional face in sign language does not lend itself to excitement and captivation, nor does it convey the necessary grammatical markers. A deaf child, who is unable to perceive emotional warmth via the tone of one's voice, would naturally use visual information presented, and consequently respond more actively and with more interest to an interesting communicative face (Swisher, 1992). C2 struggled to maintain her child's attention, which is thought to be largely due to the child's lack of understanding of her mother's sign language and her limited use of facial expression and animation.

Socio-linguistic sensitivity

The attention-getting strategies observed pre and post-intervention – namely physical contact and vocalizations were largely inappropriate. Her use of Total Communication may have contributed to this in that she frequently called her child's name in an attempt to gain her attention. She also made greater use of tapping her child, instead of initially waving within her field of vision.

Although C2 tried hard to communicate effectively with her child, no shared laughing or participation was observed both pre and post-intervention. Her stories were unclear and unstructured. This may have resulted in her child's lack of understanding and high level of disinterest, as was displayed in her behaviour.

3.1.3 Caregiver three: C3

C3's child has attended the pre-school for deaf children for three years. C3 was involved in the early intervention sign language programme. Although requested to be involved in the long-term intervention programme, C3's attendance was inconsistent due to work commitments. C3 completed the tasks for narrative and storybook telling both at pre and post-intervention.

Narrative Task

		INAPPROPRIATE		APPROPRIATE	
		Pre-Intervention	Post-Intervention	Pre-Intervention	Post-Intervention
A:	Request			✓✓✓	
Response	Reply			✓✓	
To	Clarification request			✓✓✓	✓
Child	Acknowledgement			✓✓✓	
	Teaching probe			✓	✓
	Response with non-verbal action				
	Other				
	Topic information			✓	✓
	Topic adherence			✓	✓✓
	Topic shift			✓	✓
	Lexical choice			✓	✓
	Idea completion			✓	✓
	Idea sequencing				
	Topic selection				
	Vocabulary				
B:	Single word signs			✓✓	✓✓✓✓✓✓✓
Control	Sign structure and form				
Of	Imitation signs			✓✓	
Semantic	Prompted imitation				
Content	Hand shapes	✓		✓✓✓	✓✓✓✓✓✓
	Movement			✓✓✓✓	✓✓✓✓✓✓
	Orientation			✓✓✓	✓✓✓✓✓✓
	Place			✓✓✓✓	✓✓✓✓✓✓
	Gesture				
	Pantomime				✓
	Performatives				
	Morphology, syntax & spatial referencing				
	Joined/ 2 or more words			✓✓✓✓✓✓✓✓	✓✓
	-Spatial marking indicating verb agreement	✓			✓✓✓
	-Distinction between nouns and verbs				
	-Development of classifiers	✓	✓		✓
	-Pointing at something abstract				
	-Pointing at something concrete				
C:	-Pronominal referencing			✓✓	✓✓✓✓
Cohesion	Facial expression for linguistic purposes				
	-question face				✓
	-negation face				✓✓
	-Adverbial face			✓✓	✓✓✓
	Eye gaze				
	-mutual gaze			✓✓	✓✓
	-gaze at communication partner, partner focused on something else				
	-Gaze at object				
	-Gaze aversion	✓✓			
D:	Attention getting				
Socio-	· Waving			✓	
Linguistic	· Physical contact	✓		✓✓✓✓✓✓✓✓	✓
Sensitivity	· Vocalizations				
	Polite forms				
	Echolalia				
	Attention				
	Humor/shared laughing			✓✓✓	✓✓✓✓
	Participation			✓✓✓	

Figure 3.13: Communication Signing Profile (CSP) of C3 for Narrative Task

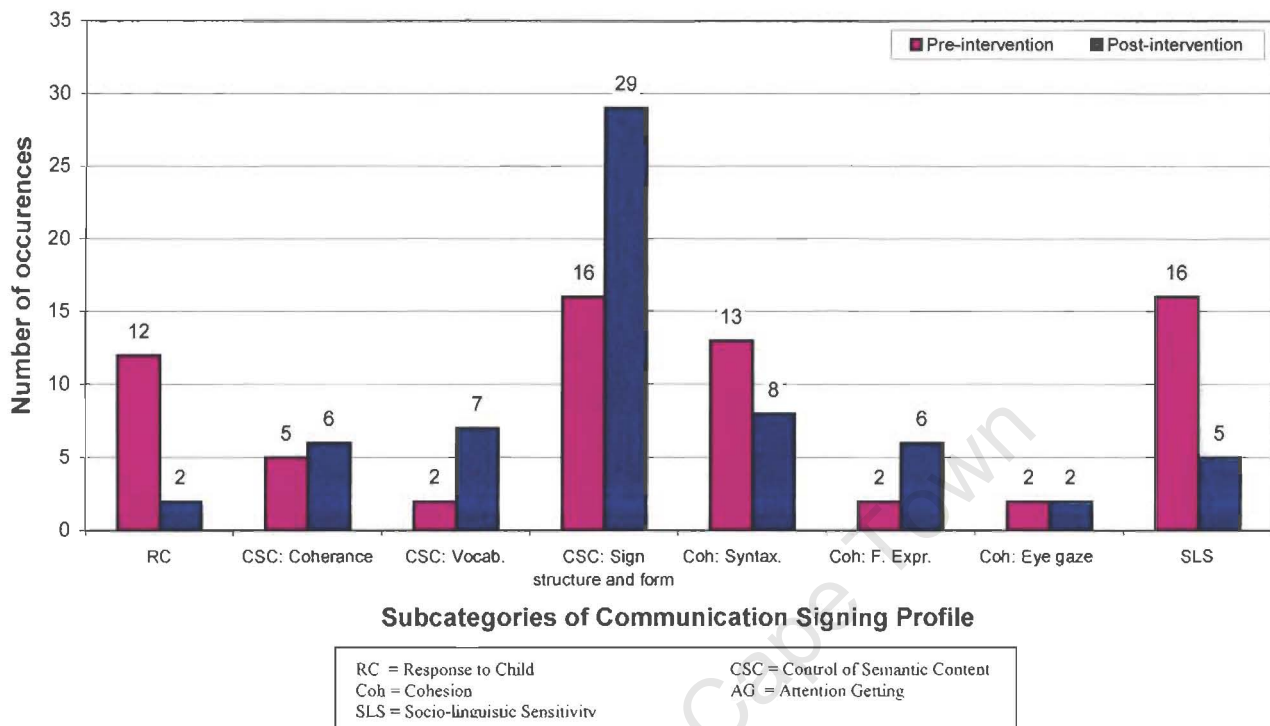


Figure 3.14: Appropriate occurrences for each subcategory of the CSP during the Narrative task for C3

As is evident from Figures 3.13 and 3.14, C3's sign language skills were demonstrated well in story-telling ability both pre and post-intervention. Increased control of semantic content, a larger formal sign repertoire, increased facial expression and a well developed sign structure and form was observed post-intervention. Her ability to maintain coherence and her appropriate use of facial expression to convey questions, negation and adverbials post-intervention, as compared to pre-intervention is a good indication of her story-telling abilities in sign language. It is believed that this may be as a result of the intervention as these skills were prominent features taught during the sign language intervention programme. An increased use of attention-getting strategies was observed pre-intervention, however it is highly probable that this is as a result of her child being distracted. Thus it is believed that it was out of necessity that C3 was required to use more of these techniques, in contrast to post-intervention where her child was engaged and interacting well.

A detailed discussion of each category follows.

Response to her child

C3 responded appropriately to her child and their communication was highly interactive. Requests, reply, clarification requests, acknowledgement and teaching probes were observed, both pre and post-intervention. C3 responded to her child's teaching probes through the use of clarification requests on both occasions.

- Clarification request (pre-intervention)

____q

GIRL

"Is it a girl?"

_____q

BERRIES BLACK

"Are they black berries?"

Control of Semantic Content

This was considered appropriate both pre and post-intervention. C3 introduced the story well, adhered to the topic across conversational turns and provided spontaneous topic information. Her stories were well-structured and showed appropriate idea sequencing and completion. Her child was intrigued and she succeeded in maintaining his undivided attention for the duration of the story. Her good use of suspense on both occasions kept her child entertained.

With regard to the parameter of sign structure and form, C3 demonstrated appropriate imitation of her child's signs at both pre and post-intervention. Here, C3 responded appropriately to corrections made by her child, specifically for incorrect hand shape. This is a good reflection of appropriate and successful mother-child communication as it indicates that the mother is willing to learn from her child.

The children are learning new signs on a daily basis, at a rate that far exceeds the pace at which the caregivers are learning sign language, and thus there exists an ever-increasing gap in communicative ability between caregiver and child. Brown (2000) noted that the caregivers in her study were being taught signs by their children. The children used the surrounding context to demonstrate an action or object. Thus, the ability to attend and to respond to the child's communicative input is believed to be important in effective caregiver-child communication.

At both pre and post-intervention, there was appropriate use of pantomime when story telling, most often accompanied by highly appropriate adverbial facial expression.



Figure 3.15: C3 demonstrates appropriate use of pantomime (post-intervention) in describing that the bull was angry. She extends her arms, clenches her fists, using used facial expression with a furrowed brow and pursed lips to depict anger.

Pantomime is a descriptive gesture, where the form of the gesture mimics its referent (Mogford, 1996). It is largely body movement and posture. Lederberg (1984) describes pantomime as hand and arm movements without an object, used to mimic the visual or kinesthetic characteristics of an object or event. Furthermore, pantomime is observed in both hearing and deaf children at different stages of linguistic development, often used to compliment gesture and serves to convey their intended message, when their linguistic skills are not yet advanced enough sign or speak the message (Lederberg, 1984). Similarly, it is

believed that pantomime would serve to assist adults acquiring sign language to convey their message when linguistic skills are limited, and also in addition to the signed verbal message to enhance the effect.

On a number of occasions, C3 made use of appropriate home signs meaningful to her child both pre and post-intervention.



DRESS-PRETTY
"A pretty dress"

Figure 3.16: C3 demonstrates her appropriate use of a meaningful home sign (post-intervention)

As seen in the following examples, C3 displayed appropriate use of single word signs and adjectival phrases post-intervention.

- Single word signs (post-intervention)

SIT-UP

"sit up"

- Adjectival phrase (Post-intervention)

FLOWERS PINK RED YELLOW

"Pink, red and yellow flowers"

Cohesion

From the observations made at pre and post-intervention, it is highly probable that C3 has a basic understanding of the grammatical elements of sign language. It is believed that this is reflected in her appropriate use both at pre and post-intervention of pronominal referencing, spatial referencing and classifiers.

- Appropriate use of spatial referencing within a signed utterance

GIRL SIT EAT DRINK

“The girl sits, eats and drinks”

- Appropriate use of pronominal referencing within a signed utterance

_____ a

LONG-AGO GIRL DRESS RED DRESS RED BASKET ^(x:girl)CARRY BASKET

_____ a

FULL APPLES

“Long ago, a girl in a red dress carried a basket full of red apples.”

C3 displayed increased use of affective and grammatical facial expression post-intervention during her narrative production. Appropriate use of facial expression marking negation, question and adverbials was observed. As a focus of the long-term intervention programme, it is believed that the increase in use of this aspect of sign language may be a result of the programme.

In contrast to the grammatical use of facial expression observed in sign language, the use of affective facial expression conveys emotion such as joy, sadness, anger, fear, disgust and surprise, and they considered universal (Ekman, 1972; Ekman & Friesan, 1978; Izard, 1971, all in McIntire & Reilly, 1988). As observed for C3, the caregivers often made use of affective facial expression, and although not a formal element of sign language, its use was believed to be highly functional and effective. The grammatical use of facial expression assists in the cohesion and coherence of the conversation, while the use of facial expression

for affect and emotion assists in conveying meaning, creating suspense and maintaining interest.

C3's eye gaze, specifically mutual eye gaze, was appropriate, both pre and post-intervention for story telling.

Socio-linguistic sensitivity

C3's attention-getting strategies involved isolated incidences of waving within her child's visual field, and physical contact. She tapped him gently on the knee or arm to regain his attention. As has been discussed previously the lower occurrences of attention-getting strategies, in Figure 3.14 used post-intervention is a direct result of C3's child improved attention and interaction. Appropriate use of humour and shared laughing were observed pre-intervention and post-intervention.

University of Cape Town

Storybook Telling

		INAPPROPRIATE		APPROPRIATE	
		Pre-Intervention	Post-Intervention	Pre-Intervention	Post-Intervention
A: Response to Child	Request			✓	✓
	Reply				
	Clarification request				✓
	Acknowledgement			✓✓✓✓✓	✓✓
	Teaching probe				✓✓
	Response with non-verbal action				✓
	Other				
	Topic information			✓	
B: Control Of Semantic Content	Topic adherence			✓	
	Topic shift				
	Lexical choice				
	Idea completion				✓
	Idea sequencing				✓
	Topic selection				
	Vocabulary				
	Single word signs	✓	✓✓	✓✓	✓✓✓✓
	Other				
	Imitation signs			✓✓✓	✓✓✓
	Prompted imitation				
	Hand shapes				✓✓✓✓
	Movement				✓✓✓✓
	Orientation				✓✓✓✓
Place				✓✓✓✓	
Gesture	✓✓	✓✓	✓✓	✓	
Pantomime	✓✓	✓	✓✓	✓✓	
	Performatives				
	Morphology, syntax & spatial referencing				
	Joined/ 2 or more words		✓	✓✓✓✓	✓✓✓✓✓✓✓✓
	-Spatial marking indicating verb agreement	✓	✓✓✓✓	✓✓✓	✓✓✓✓
	-Distinction between nouns and verbs				
	-Development of classifiers				✓
	-Pointing at something abstract				
C: Cohesion	-Pointing at something concrete	✓✓✓✓	✓✓	✓✓	✓✓✓
	-Pronominal referencing			✓✓✓	✓✓✓✓✓
	Facial expression for linguistic purposes				
	-question face				✓
	-negation face			✓	✓✓
	-Adverbial face			✓✓	✓✓✓✓
	Eye gaze				
	-mutual gaze			✓	✓✓
	-gaze at communication partner, partner focused on something else	✓✓			
	-Gaze at object		✓✓	✓✓✓	✓✓✓
	-Gaze aversion	✓	✓✓✓		
D: Socio-Linguistic Sensitivity	Attention Getting				
	· Waving				
	· Physical contact	✓		✓✓✓✓	✓✓✓✓✓
	· Vocalizations				
	Polite forms				
	Echolalia				
	Attention				
	Humor/shared laughing				✓
	Participation				

Figure 3.17: Communication Signing Profile of C3 for Storybook Telling

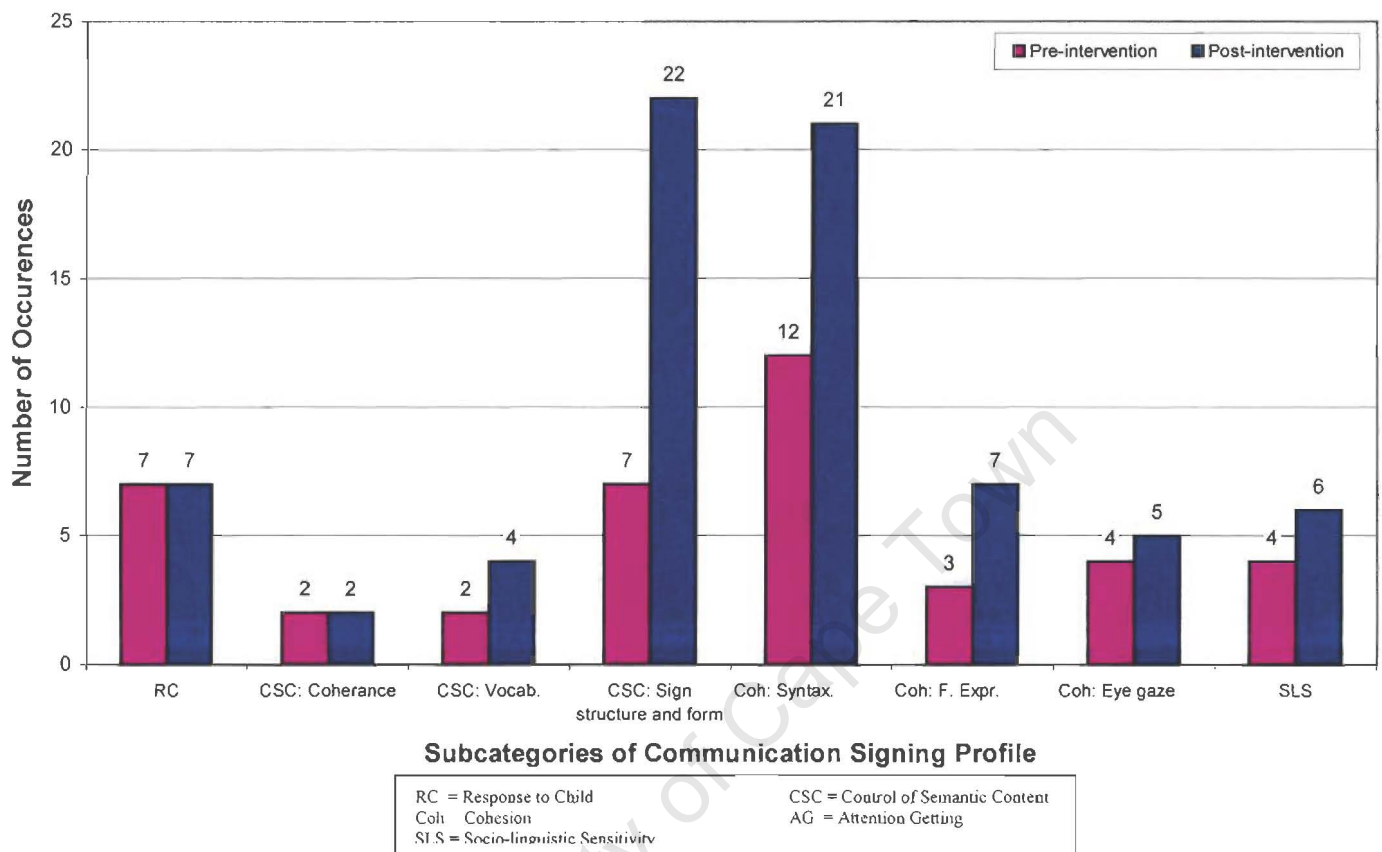


Figure 3.18: Appropriate occurrences for each subcategory of the CSP during Storybook Telling for C3

As illustrated in Figures 3.17 and Figure 3.18, C3 demonstrated skilled sign language ability and communication skills during storybook telling both pre and post-intervention. A larger sign repertoire, increased use of appropriate sign structure and form, more appropriate use of grammatical structure and spatial referencing for sign language, increased use of facial expression and attention-getting strategies were observed post-intervention. Her response to her child and her control of semantic content remained constant both pre and post-intervention. C3 responded appropriately to her child pre and post-intervention. This indicates that she was aware of his interaction and contribution to the conversation.

In general C3's communication was animated, full of grammatical and affective facial expression and pantomime, and her eye gaze was also highly appropriate. C3's attendance at the long-term intervention programme was inconsistent. Hence, a number of reasons could be attributed to her success in sign language skills in comparison to the other caregivers. C3 has accepted and understands her child's deafness and lack of spoken language. She does not use Total Communication, and has embraced sign language as her son's primary mode of communication. C3 has had contact with other deaf adults with whom she socializes. She also has a very good relationship with the deaf adult involved in the programme and she feels comfortable requesting assistance with regard to developing her sign language skills. This highlights the importance of a deaf adult role model in the intervention of deaf children and their families. It is believed that having early contact with deaf adults would benefit hearing parents greatly, in helping them appreciate and understand Deaf Culture and deaf individuals, as well as accepting Deafness (Barry, 1995; Bragg & Tranchin, 1994; Brown & Gustafson, 1995; Busch & Halpin, 1994; Cary, 1994; Ladd, 1994; Okwara, 1994, in Watkins et al, 1998).

Response to her child

Pre-intervention C3 demonstrated use of requests and acknowledgement. Post-intervention she appropriately used requests, clarification requests, acknowledgement, teaching probe and response with a non-verbal action. It was especially interesting to see that C3 was open to being corrected by her son, responding well to his corrections. In requesting information from her child, C3 accompanied her question with the appropriate facial expression marking a question.



$\overline{\text{q}}$
WHAT THESE
“What are these?”

Figure 3.19: C3 demonstrates use of request with the appropriate facial expression marking a question (post-intervention)

Control of semantic content

Although instructed to tell a story from the pictures of the storybook, C3 tended to read the words of the story and signed exactly what was written. It is thought that it would have been more beneficial to sign what was happening in the accompanying picture and thus structure a basic story, as this is where the attention of the child is focused.

C3 made appropriate use of topic adherence and topic shift pre-intervention. This however was not observed post-intervention. Post-intervention she demonstrated appropriate idea sequencing and indicated idea completion across conversational turns, as well as indicating the end of the story. She used single word signs appropriately both pre and post-intervention.

In isolated incidences where C3 used signs inappropriately, her child was quick to correct her, unsatisfied until she executed the correct hand shape. She thus demonstrated appropriate sign imitation and prompted imitation pre and post-intervention.

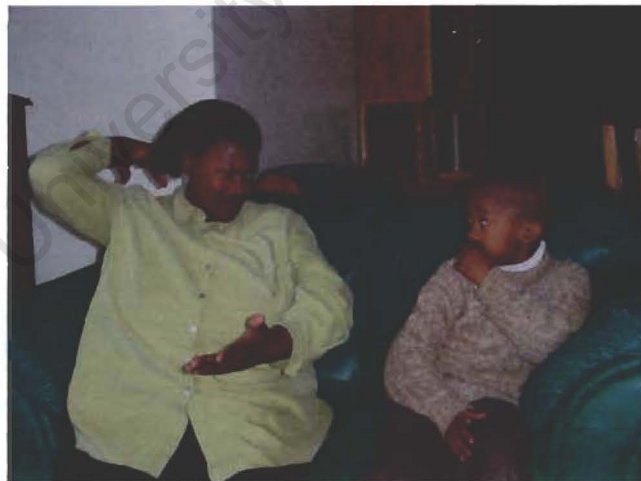


q
COW

Figure 3.20: C3 demonstrates appropriate use of imitation accompanied with appropriate use of facial expression indicating a teaching probe (post-intervention)

Cohesion

C3's development of morphology, syntax and spatial referencing was noted post-intervention as she was seen to use spatial marking, tense markers and classifiers.



a
LONG-AGO
"A long time ago"

Figure 3.21: C3 demonstrates appropriate use of tense markers indicating time (post-intervention)

It must be re-iterated that the concept tense markers and the use of space to indicate time in sign language was taught within the sign language intervention programme.

C3 used spatial referencing appropriately, when describing the direction in which the cow looked – hence the appropriate use of space was used to indicate an adverb of place.



(x: cow) **LOOKED**
“The cow looked over there”

Figure 3.22: C3 demonstrates appropriate use of an adverb of place (post-intervention)



(x: man) **PICK** (x: berries) **IN** (x: basket)
*“The man picked the berries and put them **into** the basket”*

Figure 3.23: C3 demonstrates a signed sentence making appropriate use of spatial referencing (post-intervention)

C3 demonstrated a number of concrete points to the storybook, during the storybook telling task pre and post-intervention.

C3's facial expression was highly appropriate both pre and post-intervention. She exhibited excellent use of facial expression to convey adverbs, questions and negation when telling a story. Furthermore her increased use of affective facial expression pre and post-intervention served to create suspense and interest.

C3's eye gaze was seen to be appropriate in general, however inappropriate gaze at object and gaze aversion was seen occasionally, this could be attributed to the nature of the task, where she was focused on the book. Hearing parents may experience difficulty in carrying out signed communication when the child needs to share visual attention between the focus of conversation, for example pictures in a storybook, and the caregiver's signed utterances (Swisher, 1992).

Socio-linguistic sensitivity

C3 used appropriate attention-getting strategies and maintained her child's attention well both pre and post-intervention. She primarily made appropriate use of physical contact.

C3 displayed an awareness of appropriate turn taking, and required her child to wait his turn to speak. C3 also participated in shared laughing with her child post-intervention, highlighting the participation between the two communicators.



ME PRO.1. TALK YOU PRO. 2 NO TALK YOU PRO.2. QUIET
"I'm talking, not you. You keep quiet"

Figure 3.24: C3 demonstrates an appropriate signed sentence (post-intervention)

Although in the above example C3 may be interpreted as being too controlling, it is believed that in this instance C3 was teaching her child turn-taking skills, a crucial element of socio-linguistic sensitivity. It is acknowledged by the researcher that turn-taking skills in sign language is a difficult task to master and it is proposed that training in such skills be implemented into future intervention programmes.

3.1.4 Caregiver five: C5

C5 attended early intervention sign language training prior to her child attending the pre-primary school for deaf children. C5's attendance at the long-term sign language intervention programme, was fairly regular.

C5 completed the natural conversation tasks both pre and post-intervention.

Natural conversation

		<u>Pre-Intervention</u>	<u>Post-Intervention</u>	<u>Pre-Intervention</u>	<u>Post-Intervention</u>
A:	Request	✓✓	✓	✓✓✓✓✓	✓✓✓✓✓✓✓✓✓✓
Response to Child	Reply	✓✓✓			✓✓✓
	Clarification request			✓✓	✓✓✓✓✓
	Acknowledgement				
	Teaching probe				✓✓
	Response with non-verbal action				
	Other				
	Topic information	✓			✓
B:	Topic adherence	✓	✓		
Control Of Semantic Content	Topic shift	✓✓✓	✓✓	✓	
	Lexical choice				
	Idea completion	✓	✓		
	Idea sequencing	✓			
	Topic selection				
	Vocabulary				
	Single word signs	✓		✓✓✓✓✓	✓✓✓✓✓✓
	Sign structure and form				
	Imitation signs			✓	✓
	Prompted imitation				
	Handshapes	✓✓	✓	✓✓	
	Movement	✓✓✓✓✓	✓	✓✓	✓✓
	Orientation	✓✓	✓	✓✓	✓✓
	Place	✓	✓	✓✓	✓✓
	Gesture		✓✓✓✓✓		
	Pantomime			✓	✓
	Performatives				
	<u>Morphology, syntax & spatial referencing</u>				
	-Joined/ 2 or more words	✓	✓	✓✓✓✓✓	✓✓✓✓✓✓
	-Spatial marking indicating verb agreement		✓✓✓	✓	✓✓✓
	-Distinction between nouns and verbs				
	-Development of classifiers				
	-Pointing at something abstract				
C:	-Pointing at something concrete		✓	✓	✓
Cohesion	-Pronominal referencing				✓✓✓
	Facial expression for linguistic purposes				
	-question face		✓		✓✓✓✓
	-negation face		✓	✓✓	✓
	-Adverbial face			✓✓	✓✓
	<u>Eye gaze</u>				
	-mutual gaze				✓✓✓
	-gaze at communication partner, partner focused on something else				
	-Gaze at object				
	-Gaze aversion	✓✓✓✓✓✓			
	<u>Attention Getting</u>				
D:	· Waving			✓✓	✓
Socio-Linguistic Sensitivity	· Physical contact	✓✓✓✓✓✓✓✓✓✓	✓✓	✓✓✓✓	✓✓✓✓✓✓
	· Vocalizations		✓		
	Polite forms				
	Echolalia				
	Attention				
	Humor/shared laughing				✓
	Participation				✓

Figure 3.25: Communication Signing Profile of S5 for Natural Conversation

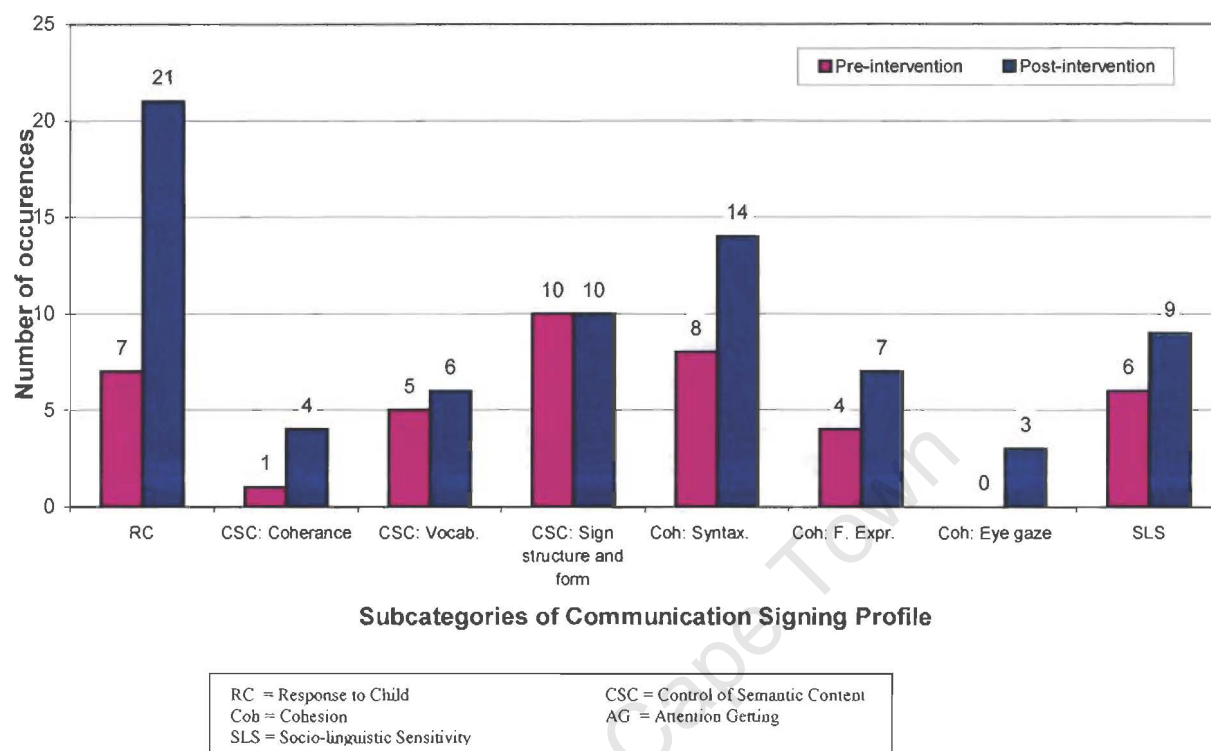


Figure 3.26: Appropriate occurrences for each subcategory of the CSP during Natural Conversation for C5.

As evident from Figures 3.25 and 3.26, the conversation task reflected C5's signed communication skills clearly both at pre and at post-intervention, and greater use of appropriate signed communication was observed post-intervention. The most notable difference in her communicative ability observed pre and post-intervention is her increased use of appropriate response to her child. C5 engaged and interacted with her child to a greater extent, thereby allowing for greater responses, requests, clarification and acknowledgement. An increased formal sign repertoire, greater use of spatial referencing and facial expression was observed post-intervention. Spatial referencing and facial expression for linguistic purposes were two key elements taught in the intervention programme. There was also greater and significantly more appropriate use of attention-getting techniques, as indicated in Figure 3.25.

Response to child

Pre-intervention C5 made increased use of inappropriate requests. In order to gain her child's attention and engage him in conversation, she made many requests about unrelated topics, shifting the topic at each turn with no appropriate idea sequencing. Her replies to her child were inappropriate, as she appeared not to understand her child and did not follow his topic of conversation. For example, she continuously and inappropriately told her child to sit, when he was already sitting. As seen in Figure 3.27, this example depicts how C5 made a number of requests that were considered inappropriate, and she did not allow her child time to answer. When her child gave her an answer she disregarded his answer or replied "no". She made isolated clarification requests.



$\frac{\text{q}}{\text{WANT TOILET}}$ $\frac{\text{q}}{\text{WANT TEA}}$ $\frac{\text{q}}{\text{TOILET}}$
"Do you want to go to the toilet? Do you want tea? The toilet?"

Figure 3.27: C5 demonstrating her inappropriate requests to her child (pre-intervention)

Post-intervention C5 made increased use of appropriate requests, responses, clarification requests and teaching probes than observed pre-intervention. This resulted in the interaction between caregiver and child being significantly more interactive.

Control of semantic content

Although both at pre and post-intervention C5 shifted topics frequently and displayed limited ability to adhere to the topic, this was observed as being more marked pre-

intervention. Post-intervention she was seen to offer more topic information, interacting with interest with her child. For example, at post-intervention, C5 held a conversation with her child over a number of conversational turns, with both conversation partners taking part and C5 interacting and responding well to her child. C5 spontaneously signed more single words post-intervention.

Both pre and post-intervention C5 made use of gesture, as she did not have the formal sign for a particular word. However these were thought to be appropriate as they were meaningful to her child.

Cohesion

From the observations made at pre and post-intervention it is suggested that C5's morphology, syntax and spatial referencing skills for sign language are developing. There was more appropriate use of spatial marking indicating verb, increased evidence of short, signed sentences and pronominal referencing post-intervention. However, there was no apparent use of classifiers or use of pointing at something abstract.



(x: you pro.2.) **GO** (x: hospital) **TEETH PULLED-OUT**
 “You’re going to the hospital to have your teeth pulled out.”

Figure 3.28: C5 demonstrates a signed sentence making use of appropriate use of pronominal referencing (post-intervention)



SIT-BACK
“sit back”

Figure 3.29: C5 demonstrates use of appropriate spatial marking. C5 correctly signs “sit”, moving her sign backwards toward the back of the chair (post-intervention).

C5 displayed increased use of facial expression at post-intervention. Although her signs indicating questions were frequently incorrect, she used appropriate facial expression to mark the question. Her signed communication post-intervention was more expressive and animated due to increased use of affective expression.

C5’s eye gaze was seen to be significantly more appropriate post-intervention. Pre-intervention she frequently averted her gaze, which caused communication breakdown. Post-intervention, however C5 and her child held mutual gaze for extended periods, which resulted in improved interaction and communication, as is evidenced under the category for response to child.

Socio-linguistic Sensitivity

Pre-intervention, C5’s attention-getting strategies were seen to be highly inappropriate. She used a lot of firm physical contact, for example pulling her child’s arm, in an attempt to engage his attention. Post-intervention she made less use of inappropriate physical contact, instead using gentle tapping. However inappropriate use of vocalization demonstrated pre-intervention was still displayed post-intervention.

Pre-intervention C5's attention was often not focused on her child. She did not attempt to participate appropriately in her child's conversation. Post-intervention C5 displayed humour and shared laughing, and participated eagerly in the conversation with interest.

3.1.5 Summary of findings and general trends according to the subcategories of the profile

A. Response to Interlocutor

Most caregivers responded to their children by making more requests particularly at pre-intervention. However, it needs to be considered whether this was used to compensate for lack of signs, thereby engaging the child as much as possible by pointing, requesting and labeling. As was noted for C5, excessive use of questions may in fact indicate a directed and controlled conversation (Wood, 1991). This increased control results in the child not initiating conversation, and a lack of encouragement of the child to expand their communication, which results in short utterances and consequently an impoverished language-learning model. Such a linguistic environment offers no opportunities for hypothesis formulation, speculation, negotiation or imagination. It is suggested that this contributes to a deaf child's linguistic and academic delay.

Anxiety at a lack of continuing successful conversation between caregiver and child or the expectations of hearing caregivers that communication should occur at a specific rate may be factors in increased requestive behaviour, seen pre-intervention (Swisher, 1992).

Requests for all tasks were predominantly accompanied by appropriate facial expression marking a question. Thus, when the incorrect sign for the question had been used, the utterance was still meaningful to the child.

It is suggested that the child within the caregiver-child communication dyad contributed to the quality of communicative interaction. A growing body of research describes the linguistic and social interaction of deaf preschool children and their hearing mothers

(Meadow, Greenberg, Erting & Carmichael, 1981; Lederberg, 1984; Erting, 1988; Erting, Preziosa & Heynes, 1990; Swisher, 1990; Wang, Mylander & Goldin-Meadows, 1995; Botha, 1997). The deaf child's communicative competence strongly influences the quality of the mother-child interaction, as was seen clearly with C3's child.

Furthermore, differences in the mother and child's enjoyment of the interaction, as well as the tendency of hearing mothers of deaf children to be more intrusive and controlling of an interaction, influences the quality of interaction (Meadow et al, 1981).

B. Control of Semantic Content

As noted in previous studies (Fox, 1999), the caregivers in the study appeared to present with better control of semantic content when their sign language skills were more competent and they had received more sign language input from their children and other deaf adults.

It was evident for many of the caregivers that their vocabulary span and knowledge of single word signs was limited compared to their children. Furthermore, the findings in this study regarding the structure and form of the signs produced by the caregivers concur with those of Spencer (1993). It was suggested that although the caregivers in their study produced few signs with accurate handshape or action, which relates to the parameter of sign structure and form, this did not negatively affect the ability of caregiver and child to share meaning. The children of the caregivers in the present study were often quick to notice the inaccuracy and correct it.

Gesture, Total Communication and home signs were incorporated into the caregivers' signing. These three features were most evident in C2's signed interaction for all the tasks. Furthermore, her use of simultaneous speech appeared to result in communication breakdown. The use of simultaneous communication has been associated with poor signing skill (Erting, 1980, in Joseph & Alant, 2000), and it has been argued that it does not in fact serve as effective communicative interaction (Sacks, 1989; Lane et al, 1996, all in Joseph & Alant, 2000).

Home signs were used frequently both pre and post-intervention by some caregivers, particularly those who had a very limited knowledge of single word signs. Many of the caregivers in this study made use of gesture or home signs during natural conversation and narrative discourse. Hearing mothers have been found to use twice as many gestures as their deaf children (Lederberg & Everhart, 1998). This may be a result of mothers trying to express ideas although they clearly had a lack of knowledge of single word signs or the grammatical structure of sign language.

Stokoe (1990) reports that home signs quickly disappear when children are exposed to formal signing. As with the study carried out by Joseph and Alant (2000), the caregivers in this study clearly have not had adequate exposure or access to the system of signing being used at their children's school.

A comparison may be drawn in this study between the conversational dyads of C2 and her child and C3 and her child. It is believed that C2's increased use of Total Communication that was observed both at pre and post-intervention may be impacting on her child's sign language development. In contrast, C3 used limited Total Communication, concentrating on her sign language skills, and as has been noted previously, her child's sign language skills are better developed than that of his peers. These findings concur with those of Lederberg and Everhart (1998) who found that mothers' use of sign was extremely limited, and speech still became the dominant means of interaction with their child. Such a linguistic environment is not ideal or sufficient to support language learning in deaf children, and can be evidenced in the frequent occurrence of delayed language of deaf children of hearing parents.

All caregivers responded well to the corrections of the signs provided by their children indicating the presence of appropriate sign imitation. Further, it demonstrates that the caregivers are willing to learning signing skills from their children. It has been shown that deaf children use strict criteria when describing their parents' ability to sign (Gregory, Bishop & Sheldon, 1995, in Joseph & Alant, 2000). This was particularly clear during

storybook reading between C3 and her child. Her child corrected her signing, which she imitated appropriately, however her child only accepted an accurate imitation of the sign.

As will be focused on in the following category, Cohesion, the caregivers' morphology, syntax and spatial referencing abilities, use of facial expression and eye gaze all play a vital role in their ability to maintain a conversation and sustain interaction, as these aspects are the building blocks of cohesion and hence coherence.

C. Cohesion

It is believed that the caregivers' observed sign language skills in terms of morphology and syntax affected their ability to maintain and sustain interaction and conversation with their deaf child.

The ability to construct sentences is required in order to communicate efficiently at a discourse level (Joseph & Alant, 2000). For children who have progressed beyond the initial stages of one and two-worded signed utterances, the necessity for caregivers to become mature in their fluency, accuracy of productions and striving toward a grammatical model of language becomes more apparent (Spencer, 1993).

Kemp (1998) points out the challenge involved in attempting to acquire American Sign Language (ASL), and it is suggested that the same is true for learning South African Sign Language (SASL).

Kemp (1998) outlines a number of factors contributing to the difficulty in learning sign language, one of which involves the transfer of one's first language grammar to the second language grammar. In the case of sign language, second language learners tend to sign in sentences that follow the grammatical structure of their first language, their spoken language.

Although limited, an increase was observed post-intervention for all caregivers in their appropriate use of morphology, syntax and spatial referencing. Some of the caregivers' use of accurate grammatical structures, such as spatial referencing and pronominal referencing were more apparent post-intervention than pre-intervention, indicating a possible improvement over time. These findings support those of Spencer (1993), who noted that although the caregivers' signed utterances were not fully grammatically accurate for SASL, they appeared to be making progress in the signing of at least short utterances. It is essential that this important area of spatial referencing as well as pronominal referencing be addressed in future sign language programmes.

The caregivers generally showed a marked improvement pre-post intervention in their use of facial expression for linguistic purposes for all tasks. C2 was the only caregiver who did not use facial expression effectively. They demonstrated good facial expression depicting questions, adverbials and negation. It is believed that this improvement may be attributed to the intervention programme, as the correct use of facial expression for grammatical purposes was a prominent feature of the programme. Although the caregivers were initially uncomfortable using the unfamiliar facial expressions, they grew more accustomed to it, realizing its importance and necessity. Koester and Trimm (1991, in Swisher, 1990) found that hearing mothers of deaf infants use more exaggerated facial expression than hearing mothers of hearing infants. This demonstrates the important role that facial expression plays in the absence of being able to perceive vocal intonation.

Schumann (1978, in Kemp, 1998) notes that when one learns a new, second language he or she may feel a little uncomfortable. SASL is a manual language, and the use of one's hands to communicate is a truly foreign concept to many and requires adjustment for new learners. Furthermore, the use of facial expression for linguistic purposes is unusual for hearing individuals. The findings of this study support Schumann (1978, in Kemp, 1998) where the caregivers were initially embarrassed to use appropriate facial expression when interacting with their children.

Eye gaze was generally seen to be appropriate for all caregivers and they appear to understand the importance of maintaining mutual eye gaze when communicating with their deaf child. The caregivers in the current study displayed an awareness of initially gaining and thereafter maintaining their child's visual attention using mutual eye gaze. It was interesting to note that if gaze was inappropriately averted, for example during storybook telling, the visual attention of the child was lost.

The caregivers struggled to maintain mutual gaze during storybook telling, as they had to share their child's visual attention between the focus of conversation and the caregiver's signed utterances. The task of adjusting one's communicative behaviour when a deaf child is born into a hearing family cannot be under-estimated. In order to communicate with a child who is solely reliant on the visual mode for communication requires the caregiver to ensure that the child is attending to them visually when they are communicating. Deaf children lack an intact auditory channel, and thus rely on their visual mode, not only for communication but also in order to learn about the world around them. They are therefore highly visually distracted (Swisher, 1992). Hearing mothers of deaf children need to learn to coordinate their communication with their child's visual attention (Lederberg & Everhart, 1998). Past research has indicated that hearing mothers and their deaf pre-schoolers are not skilled in coordinating their visual attention with their communication, and it often happens that the child misses a third of their mother's visual communication (Swisher 1992, in Lederberg & Everhart, 1998).

Deaf Culture is foreign to hearing people. Eye gaze is one of many Deaf Cultural behaviours that can be observed in the Deaf Community, and it has been noted that it is important that it be dealt with and taught in sign language classes (Smith, Lentz & Mikos, 1988, in Kemp, 1998). It is proposed that as a result of this feature being a prominent aspect of the intervention programme, the caregivers adopted a renewed awareness and understanding of its importance in conveying a message visually. This was evidenced in their increased use of mutual eye gaze post-intervention.

3.1.6 Task Effects

In studying the performance of the caregivers' communicative abilities across the three different tasks, it became clear that their ability differed significantly, according to the task being carried out.

The *storybook telling task* for many caregivers was a contrived, unfamiliar activity, the language used was not their first language, and for many mother-child dyads, this task did not lend itself to effective and rich mother-child interaction. The caregivers were instructed to form a story based on the pictures within the storybook. It was observed for most of the caregivers that they struggled to create a story. Instead they merely used the pictures to point and label objects within the pictures primarily using single word signs, often with the assistance of their children. Their stories thus lacked global structure and coherence. It is believed that this may be as a result of their lack of sign language development, as well as the unfamiliarity of the required task. As mentioned previously past research has indicated that hearing parents of deaf children seldom use storybooks for storytelling (Meadow, Schlesinger & Holstein, 1972, in Lartz, 1993).

The general interaction between caregiver and child during the *narrative task* was seen to be limited, both pre and post-intervention. C3 however exhibited greater response to child pre-intervention, and less post-intervention. This may be largely attributable to the active role that her child played during this task, as he was highly engaged and interactive during this task, pre-intervention.

This task did however allow the caregivers to use their own imagination, drawing on their knowledge of signs, instead of pointing to the pictures and labelling, or questioning the child for single-word signs. It is suggested that this is attributed to the fact that the storybook telling was a concrete task, while the narrative task was abstract, and perhaps more familiar to the caregivers.

During *natural conversation* increased interaction between mother and child pre-post intervention was displayed for C2 and C5. This task allowed opportunity for relaxed and naturalistic conversation about everyday topics. C5's communication profile for natural conversation reflects how well she responded to her child post-intervention, with more appropriate use of the parameters than observed pre-intervention.

A more mature conversation consists of symbolic-based interaction as opposed to object-based interaction. Although these caregivers would not be considered as mature conversationalists in terms of their signing competence, the nature of the narrative task forced the caregivers to think symbolically, without the use of a book to point to. This highlights the importance of incorporating a narrative discourse task into such a programme. In order to better understand the situation of these caregivers and the daily difficulties they face, focus groups were undertaken with the hope of highlighting some core issues.

3.2 CULTURAL APPROPRIATENESS OF THE LONG-TERM INTERVENTION PROGRAMME

It has been stated time and again that health professionals, from different cultural and socio-economic backgrounds to those in which they work, need to respect and understand the differing and unique cultural values and interpretations of different ethnic groups (Christensen, 1992; Litterst, 1985, Wells, 1991, in Blanche, 1995). They need to be aware of these values, expectations and experiences of different cultural groups, relative to their own (Blanche, 1995). The development of the current program was based on the assumptions and perceived beliefs of the researcher.

Programme development and implementation within a community setting is best viewed as a process of interaction and integration, involving both researchers and community members working together to identify relevant health issues and to develop appropriate action (Weiss, 1995 in Potvin et al, 2003). It is only through open lines of communication where there is a basic understanding and respect for the culture and context that allows for continued negotiation during the implementation and evaluation phases, that results in the constant evolution and transformation of the programme as it progresses.

3.2.1 Culture and Intervention

A culture consists of a group of people who share values, customs, habits, rituals, social rules of behaviours, perceptions regarding human nature, natural phenomena, interpersonal relationships, time and activity (Sodowsky, Kwan & Pannu, 1995). Furthermore, it is viewed as an organization of social relationships, activities and processes evolving from a group's adaptation process and is a person's most important tool of adaptation (Cohen, 1980, in Blanche, 1995).

As cultures are varied and differ, cultural differences exist in terms of the explanation, cause, acceptance and treatment of disability across cultures. Where a condition is considered a disability in one culture, it is viewed differently in another. The value attached to the disability will differ, depending upon the societal expectations and established parameters of normalcy (Kalyanpur, 1999).

There is a widespread belief across different cultures that the birth of a disabled child is a sign of evil spirits or parental misconduct (Scheer & Groce, 1988, in McConkey, 1995). Additionally it is also believed that it may be the result of a curse due to a sin committed by an ancestor or by the disabled person. These perceptions and explanations have been known to cause immense parental guilt, leading to the seclusion of the disabled child from neighbours or in extreme circumstances, infanticide. Families would thus seek the assistance of traditional healers over modern health care services (McConkey, 1995). Danesco (1997, in Kalyanpur, 1999) states that a family's perception of the cause of the disability will greatly impact on their decision to ask for help, as well as influencing their decision regarding the type of intervention to seek. Some cultures, for example the Maasai, believe that the community must accept a disabled child as the impairment is understood to be an act of God beyond comprehension and cure (Talle, 1995, in Kalyanpur, 1999).

A fatalistic approach toward acceptance leads to a belief that they have been given a special responsibility. This can result in low expectations of the child or an over-emphasis on

physical care and protection (McConkey, 1995). Although such acceptance was expressed by caregivers in the present study, it was not thought to impact on their future hopes and expectations for their children.

C5: I was thinking that God made this for me and is teaching me something...

C4: No, I was thinking it is a gift that God gave me...

Families have been shown to seek intervention, depending largely on what is perceived to be the cause of the disability. In this study, families who perceived the disability to be an act of God were more likely to seek the intervention of a modern medical practitioner at an established medical facility. This supported the findings of Serpell, Mariga and Harvey (1993, in Kalyanpur, 1999).

As is evident in the current study, variability exists across studies within different cultures. (Scheer & Groce, 1988, in McConkey, 1995; Danesco, 1997; Talle, 1995 in Kalyanpur, 1999). There are broad generalizations and variations in beliefs existing both cross-culturally as well as within a culture (McConkey, 1995).

Research implications indicate that in order to establish improved intercultural communication between the professionals and the caregivers, for which the programme has been implemented, it is necessary to investigate and analyse diverse cultural assumptions from both sides (Whyte & Ingstad, 1998).

When working within different cultures, health professionals make assumptions about their clients needs, based primarily on their own experiences. However, there has been a dramatic shift toward family-centred intervention, care and rehabilitation, where the families' beliefs, desires and resources are primarily addressed (Hanft, 1988, in Blanche, 1995). It is important that there be a rich, interactive relationship between professional and community so that the family's input regarding their needs and wants is incorporated into the intervention process. Public health programmes should thus be based on community participation (Rootman, Goodstadt, Potvin & Springett, 2001, in Potvin et al, 2002).

Past research has shown how those programmes based on community participation potentially reduce inequities in health and promote social justice (Purdey, Adhikari, Robinson & Cox, 1994, Travers, 1997, in Potvin et al, 2002).

3.2.2 The involvement of a deaf signing adult from same community

Tarimo and Fowkes (1989) note the importance of matching the skills and manpower found within the community with the tasks to be carried out. An adult deaf sign language user, from the same community was integral in the programme development, implementation and evaluation. Although she is deaf, the caregivers in the current study expressed satisfaction and admiration, emphasizing her familiarity within their community. As mentioned previously, no linguistic limitations were imposed, due to her adequate ability to use spoken language.

C1: We are also used to

C2: We don't have a problem, I am telling you

C4: She lives near to us...if we have problems she is close by

Hearing parents of deaf children lack information and exposure to Deaf Culture and the Deaf Community. As noted by Watkins et al (1998), it is strongly believed that they would benefit greatly from early contact with deaf adults. This contact would assist the parent in understanding, appreciating and accepting deaf people and the Deaf Culture, thus aiding in the full acceptance of their deaf child.

Furthermore, the deaf adult plays the important role of being a role model both for the children and the caregivers. The caregivers are able to see that deaf people are able to succeed in life, and this seemed to give them a sense of hope for the future of their own children. McConkey (1995) notes further that being exposed to children and adults with disabilities, involved in everyday activities and being profitably employed, has proven effective.

The significance of incorporating individuals from the same community within the implementation phase was considered and respected in this study, with the inclusion of an adult deaf signer living within the same community as the caregivers. The caregivers in this study acknowledged that she had a greater understanding of their needs and wants, and thus they felt comfortable around her, and were able to relate to her.

C1: We are also used to her.

C2: We don't see a problem, I'm telling you.

It is important that those with "disability" play a primary role in rehabilitation. A disability rights movement worldwide has established outspoken and articulate disability-led groups. Such groups and organizations are fundamental in encouraging the social, economic and political inclusions. Health care professionals, although vital in establishing rehabilitation programmes, are unable to achieve success alone. They are able to use an already established stand in the national and regional programme and work alongside those with disabilities and their families to strengthen their voice (Groce, 1999).

Intervention programmes may be in conflict with traditional child-rearing practices, for example differences in caregiver-child interaction patterns may exist. There is widespread cross-cultural variation in the extent to which mothers rely on face-to-face communication (Rogoff, Mistry, Goncu & Mosier, 1991, in McConkey, 1995).

The necessity of direct eye contact when using sign language was raised as a potential barrier to community acceptance of the child and their use of sign language. Caregivers however felt this not to be of consequence, and they felt that community members were understanding and accepting of the necessity for an alternative form of interaction between adult and child.

C1: Grown ups in our community eventually understood that the fact that this child when he is speaking with his hands, is supposed to look at you, and you must speak to each other

face to face. So they eventually saw that it is not a problem even if he points at, he is not swearing.

As noted by Vankatesh (1995), cultures evolve continuously, responding to changes within the environment. A culture is a learned phenomenon, thus individuals within a specific culture are able to change their identities and interests through assimilation, conversion or migration (Smedley, 1993, in Carter & Qureshi, 1995).

An issue relating to differing cultures is one of linguistic diversity, with the potential of creating language barriers between health professionals or those implementing programmes, and the community members. When involved in the management of different cultural groups, communication is central to interaction. As found by Saxby (2002), racial and language barriers were noted as being factors influencing the relationship between community members and researcher. In the current study however, such barriers did not affect the relationship between the researcher or the deaf adult using sign language as her primary mode of communication, and the caregivers.

The involvement of a community member during implementation was critical to the success of this programme. Although deaf and using sign language as her primary mode of communication, the deaf adult's use of spoken language is appropriate and was easily understood by the caregivers. Thus during the implementation phase of the study, linguistic accessibility was addressed, and no linguistic barriers were experienced.

C2: Yes, a person doesn't need to struggle, because you can understand what she is saying when you are looking at her.

Furthermore, although the researcher was present during the evaluation phase of the study, the facilitator was directly involved with the caregivers. She was able to communicate with the caregivers at the appropriate linguistic level, thus once again posing no linguistic limitations.

The caregivers indicated the critical importance of an interpreter when interacting with a professional from a different linguistic and cultural background as their own, suggesting they hold linguistic accessibility very highly.

C3: We never used to understand them, but we were helped by the fact that you translate for us and we would understand that when she is saying this, she means that now.

The issue of linguistic accessibility was further evidenced in the materials chosen for the intervention programme. Some materials used in the intervention programme were not always linguistically appropriate for the population and community. Although the task is named “storybook reading”, as mentioned in the methodology, the aim of this task was to encourage story telling based on the picture, as opposed to storybook reading. Thus, the storybooks were chosen based on their colourful outward appearance and pictures and also that the children of the caregivers had had prior exposure to some of the stories and expressed enjoyment in reading them. Hence the text in some of the chosen stories was English, and not the first language of the caregivers. This posed a problem to some of the caregivers, who attempted to read the English stories.

C3: We like it when we get the isiXhosa ones because though we know English we don't know it very well. Yes we like it when there is isiXhosa as well because sometimes you can see what it is but you won't know what is that in isiXhosa, and now is there is both and English one and a isiXhosa one you will know what that means.

Initially assumed as culturally appropriate, isiXhosa folktales were also incorporated into the intervention programme, however the caregivers in this study reported that their use within the community, is reportedly very rare, contrary to what was assumed. Furthermore, this would partly explain the difficulty in trying to locate the traditional folk tales, indicating the rarity of their use within families and the community as a whole.

C1: Elderly people are scarce

C2: That is rare, there are no elderly people who would normally tell folk tales

C1: Telling folk tales, that is rare, really you won't normally be hearing a folk tale.

3.3 INCREASED AWARENESS, ACCEPTANCE AND EMPOWERMENT

The birth of a deaf child to a hearing mother brings about emotional trauma and associated problems, stresses and issues unique to the child and family. The manner in which the caregiver reacts to this life-changing event is dependent on her coping strategies and acceptance of her child. This will inevitably have its effect on how accepted and valued that child will be as a functioning member of the family and of society in future.

Coping involves the ability to constantly adjust and alter cognitive and behavioural efforts in managing both external and internal demands, which influence a family's available resources (McCubbin & Patterson, 1983, Lazarus & Folkman, 1984, in Taanila, Syrjala, Kokonen & Jarvelin, 2002). Coping strategies thus aim to establish a sense of balance between demands and the resources available (Patterson, 1988, in Taanila et al, 2002).

Poverty, lack of support and a lack of knowledge about what can be done to improve the situation, results in an inability to adequately cope with the care of a disabled family member (Ingstad, 1999).

Sterling (1990, in Oka & Ueda, 1998) identified six important resources that assist a caregiver in coping:

1. Knowledge and skills
2. Time
3. Coping strategies
4. Support
5. Professional resources
6. Material resources

The final theme that emerged from this research was how knowledge, increased awareness about deafness and sign language, and the empowerment of the caregivers played an

important role in the caregivers' acceptance of their child, as well as their development of sign language.

Provided with the necessary support and intervention, disabled people and their families are able to better understand and analyse their situations, deciding the most effective way in dealing with them. It is suggested by Chaudhury, Menon-Sen and Zinkin (1995) that working through processes is enabling and empowering, which helps persons with impairments and their families to recognize, strengthen and build on the positive aspects of the situation.

It was clear that although living within poor conditions and faced with many challenges, the caregivers became more empowered and motivated in the rehabilitation of their children. It is proposed that this sense of empowerment has its roots in gained information, heightened awareness of deafness and sign language and the acceptance of the child, by the caregiver, family and community members.

C5: No I thank the fact that they helped me with the fact that even though he is not going to speak, he can use his hands to communicate.

C1: The grown ups in our community eventually understand... ..most people adore the way he speaks

C2: People understand that it is necessary that she has to look at your face

C3: At home I have books, but we get them from the library, they are from the library.

C1: At first they were devastated and shocked...I told them he is going to a crèche and there are other children like him. Now they (the family) are happy to see him communicating

It is suggested that when implementing an effective intervention and rehabilitation program, the health care professional is integral in the initial phases of empowerment. However, as noted by McKenzie (1992), there is an essential need for the participation of the community within the service, and health care professionals must not fall into the trap of professional arrogance.

“doctors and medical experts are like roosters – they think the sun will not rise, that health will not happen if they do not crow” (Kaseje, 1991, in McKenzie, 1992, p. 54) .

Even so, health care professionals have knowledge, and it is the process of information giving and the sharing of their knowledge that allows the first seeds of acceptance and empowerment to be sown. In order to obtain community involvement, education of the community is considered vital (McKenzie, 1992).

3.3.1 The importance of information giving

Appropriate information given to caregivers of disabled children is essential to their effective involvement in their child’s management. Information giving is a process that should be effectively implemented from diagnosis (Welch, 1996, in Eleweke & Rodda, 2000). However as a result of a number of factors, particularly pertaining to the caregivers in the current study, a low socio-economic status impacts on the information getting process.

The majority of caregivers within the current study did not complete secondary education, as a result of the inequitable education system of Apartheid South Africa. As a result of a low standard of education and poor access to printed information, many caregivers from low-income backgrounds are misinformed regarding the expected developmental norms and the behaviour of their child (Lequerica, 1997).

C1: What is happening is that we only noticed when he was already grown up. ...I said to his father, no this child can hear but may be it is because he was not old enough so he was supposed to turn when he can hear, so it may be nothing serious.

C3: but the thing is it was not noticed that this child cannot speak. He grew up and grew up. When she was older then he started walking but still couldn't say Mama

A component of the current study was a focus on the importance of information giving, understanding the significance of appropriate information beyond the level of diagnosis and

early intervention. The caregivers expressed their eagerness in acquiring new information throughout the intervention programme.

C3: Before, we didn't know what schools to take our children to...

C3: By coming here you get advice on what to do with your child.

C5: We gain a great deal of knowledge.

Parents need to be given factual information about the causes of disabilities and how the child might be helped (McConkey, 1995). They need to be provided with relevant, accurate and unbiased information, as the process of informed decision-making is largely dependant on the availability of adequate information (Welch, 1996, in Eleweke & Rodda, 2000). Quine and Rutter (1994, in Eleweke & Rodda, 2000) found that 74% of the parents in their study reflected that the information they received at diagnosis was inadequate. Furthermore, many parents of children with special needs spend many years finding professionals who will provide them with the information, explanations and advice they need (Mittler, 1995, in Taanila et al, 2002).

In this study the caregivers expressed great satisfaction with the information they had received, and the process of management and intervention they had followed. Although, some caregivers expressed their interest in expensive technology for their children, they realized how the socio-economic situation in which they found themselves, dictated their options.

M1: There are doctors who are specialists who can make him hear, and they said I need R50 000. Where would I get R50 000 now?

The lack of financial resources affects accessibility to quality health care, which in turn impinges on the human rights of the deaf child. The poor economy of developing countries, such as South Africa dictates the choices made regarding the rehabilitation of deaf children – essentially, the option to provide all deaf children with technologically advanced hearing

aids is unavailable (Penn et al, in press). As stated further by Penn et al, (in press, p. 14) "...a person's human right is to thrive linguistically, economically and socially..."

As the caregivers gained in knowledge and understanding of their child's deafness and the associated implications, in terms of communication, and consequently acceptance of their child, a concept of "self-empowerment" is suggested.

Based on Sterling's six key criteria for effective coping (1990, in Oka & Ueda, 1998), it is the caregivers' use of knowledge and skill, time, their personal coping strategies, a social support system, professional resources and material resources that leads to a sense self-empowerment. The caregivers made use of these resources to gain confidence, aiding in their social upliftment, acceptance and a strong view toward the human rights of their child.

C5: You also need to stand up and be strong and do not always give up

C3: They (community members) will respect you afterwards.

C4: No, I see that their lives are going to be the same as the lives of other children, who are able to speak, and more so by the fact that they are at school. It would have been different if they were not at school.

C1: ...this child, he is a gift and I told myself that the bottom line is as long as there are schools for them I won't give up.

C4: ...as long as when he is ready for big school, she will get a school

C1: I am happy about the fact that he is deaf, I like this thing that a child who is deaf gets along with a child who is hearing

Information giving, intervention, support both from family, friends and community members in general plays an important role in the acceptance and coping strategies of the caregivers.

Within the community, individuals, families and community groups have the opportunity to engage in activities that improve their own health (Tarimo & Fowkes, 1989). This is empowering for the individuals. The caregivers in this study were aware of the desires for

themselves and for the welfare of their children, and they knew their own needs and the challenges that face them on a daily basis. They expressed motivation to help themselves and their children with the support of health services, and this is a positive indication of self-empowerment.

C2: I told myself that if there is an appointment on that day, I am supposed to know that day there is nothing else that I'll be doing besides that one...

Research has shown that some families may never fully adjust to a physically or intellectually disabled child, suggesting that coping is a highly individual process (Koller, Richardson & Katz, 1992, Gibson, 1995, all in Taanila et al, 2002).

In their study, Taanila et al (2002) found that those parents who were not coping well, were experiencing difficulty in acceptance, including the acceptance of the child by the family, and community members. Furthermore, where the mothers had accepted the child's disability, often fathers were still struggling to accept it. An inability to cope and difficulty in acceptance manifests in a fearful attitude toward the future of the child. The parents in their study also had a very small, primarily formal social support network. The informal support of family members and friends was in fact regarded as unbeneficial and annoying. In the current study however, most of the caregivers expressed the value of the social support they received both from family and community members. This may have resulted in an acceptance of their children, an increased ability to cope and a highly positive outlook toward the future of their children.

3.3.2 Acceptance by caregiver

In the present study, the caregivers expressed upheaval and disbelief when hearing the initial diagnosis of profound deafness for their child. This supports the research conducted by Oka and Ueda (1998) who found that mothers suffered immense shock and disbelief when learning of their childrens' diagnosis.

C1: At that time I was devastated

C6: I cried at the hospital, thinking that what I have been told is beyond my control.

One of the major implications of deafness that arose from the interviews in the current study was the fact that their children would not be able to speak. This arose more strongly than the fact that their child was deaf, and how the implications of deafness would affect his or her functioning in society.

C1: So I was devastated to hear about that. As a result I cried as well. I cried because ...you become devastated when you hear that your child is never going to change. How is he going to go pee on his own? How is he going to know when I say he must go to the toilet? Because I am unable to speak to him and her is also unable to speak.

Communication and linguistic competency influences interaction. Deafness, with its linguistic limitations within a hearing society, may negatively affect the development of one's self-concept. The attitudes of the parents of a deaf child influence and shape the building of the child's self-concept. Deaf parents of a deaf child will interact with their child naturally and spontaneously, whereas the hearing parents of a deaf child find parental acceptance more difficult, particularly if the parents have not received counselling (Moore, 1978, in Cambra, 1996).

Although great sadness was expressed initially, over time the mothers stated that they grew to value their children very highly, displaying complete acceptance of their child's inability to talk.

C2: I did not have a problem about him not being able to speak. I don't have a problem (with it) even now.

C4: Her mother accepted the fact that her child cannot hear and us too. I did not see anything wrong. We also accepted it

C3: No, we eventually accepted it and we accepted him

C1: So I'm not worried about the fact that he is not talking.

Thus, the importance of long-term intervention and effective information giving is once again emphasised.

C5: As we know, our children develop at school, so if just sit down and they continue, we are not going to know and they will continue progressing at school.

C4: Because they will be getting plenty of knowledge and ours will be less if we stop.

C1: That child is learning and is progressing with his learning and he is going to be way ahead of you with his sign language and you won't even understand what is being said (if you don't attend the parent training).

C4: They helped us a lot, because before we couldn't communicate with your child, but now you can communicate with him.

C5: What I learnt from here is that I can touch him gently and show him whatever I want to show him, so I would say it is through the communication that I can peak to him a lot.

Health care professionals implementing intervention programmes within communities are frequently faced with diversified concerns, such as problems of discipline and behavioural management at home (Costello, 1986, Costello & Pantino, 1987, all in Lequerica, 1997). Differing cultures between professionals and community members may lead to varying methods and opinions in dealing with discipline. In the current study however, the integral involvement of a deaf adult from the same community was highly advantageous. Her insight and understanding of effective methods of discipline were appropriate from the viewpoint of being a member of the Deaf Community, as well as a being a member of the same community as the caregivers.

C1: When he wanted something, he used to be forceful. Even if he wanted food he would bang forcefully...he can now play with the other children and the other children like him a lot because he is not naughty and he plays well.

3.3.3 Acceptance by family members

Caregivers of low-income backgrounds are diverse with regard to age, care-taking abilities, available support systems and individual patterns of family organization. Family structures differ - a stable home with two parents, a single parent with different partners, single parent alone, an absent mother with grandmother as the primary caregiver or a dysfunctional home (Lequerica, 1997). Parents of disabled children both in developing and developed nations experience similar emotional trauma. However, caregivers within developing countries have the benefit of sharing the responsibilities involved in caring for the child within the extended family structure, despite the gross underdevelopment of Western-type support systems (Kisanji, 1995).

The support of a family is critical to the coping strategies and degree of acceptance of the mother. A wider family circle, especially grandparents can exert an important influence on the parents, hence the importance of providing information to the extended family (McConkey, 1995). This was evidenced in the current study, with the caregivers expressing the value and importance they attributed to the support and their child's acceptance by family members.

C4: Me too, I was helped by my sister-in-law...they said they have not forgotten about her...

C2: If I have a problem, I would sit down with my mother and tell her...

C2: You see that, they are going to spoil this for her... they will make her unable to accept this thing about her child

Contrastingly, Wortmann and Lehmann (1985, in Hintermair, 2000) state that friends and family members have been known to distance themselves, as they feel inadequate and helpless in facilitating the coping process.

C7: What I am saying is that even at home...even my mother she says she blames me

In her study, Thorburn (1999) noted that the presence of the father appeared to positively affect the acceptance of a child's disability. The role of the paternal family or the father's side of the family is held highly within the Xhosa culture, as the paternal side of the family is strongly related to the family structure. Health-related issues, for example are reported directly to the paternal family (Mbengshe, personal communication, 2002).

C1: I first told my husbands family and I told them that I have problem like this about my child. So they were shocked and devastated and how was he going to be...they were satisfied when I told them that there are other children like him. I was devastated by the fact that how was I going to be able to speak to the child.

When it was clear to families that the children are able to communicate and function within society, they appeared to be more accepting of the child, which created an awareness and interest in the child. Families in a study carried out by Taanila et al (2002) noted that the relationships between family members, family cohesion and feelings of togetherness and cooperation are very important. In the current study, interest in the child and his language indicated strong familial relations.

C1: So they are now happy to see him communicating even his aunt is now asking about everything he says and what it means

C3: He makes us happy here at home.

C1: They love him at my in-laws - even my mother in law and his Grandfather. They love him a lot. They enjoy the way he speaks. They try to guess what he is saying.

This is in contrast to findings by Brown (2000), who noted that caregivers in her study suggested that family members were not interested or willing to learn sign language.

3.3.4 Acceptance by community

McConkey (1991, in McConkey, 1995) prescribes three strategies effective in the education of communities and altering their cultural perceptions regarding disability:

1. Individuals with disabilities or their families advocating that they are productive members of society.
2. A community leader advocating for the disabled.
3. The integration of children with disabilities in normal community activities.

The education of the child and the ability to communicate plays a significant role in the acceptance of the child by the community. Exposure of the child's deafness and use of sign language to the rest of the community coupled with the implementation of the programme within the community has created an interest and curiosity in sign language, among friends and community members.

C5: they used to be shocked at the beginning, but now they are used to him, I can see that they want to learn and get advice from you on how to speak to him.

C3: People accept that's the way he speaks in such a way that they do want to go to a school where they can learn how to speak with him.

C2: In my area they know that they won't just do anything to her because they understand now that this person can actually speak in her own way.

However, for one caregiver, there remained community resistance to the child and a sense that the community had not accepted him, as he is unable to adequately communicate his needs adequately. The caregiver felt that she and her child had been marginalized and discriminated against by other community members.

C5: because he plays with the other children he can come from afar crying. He likes the hearing children. When he is playing with children his age, he comes back crying and children his age beat him. Children do not understand that he is different

C3: It goes like that in those halls. It is just the same as in my situation; it goes like that in the shacks.

C1: No you live in difficult conditions

C4: I sometimes cry as well and think that it will be better if I leave to the rural areas at home than this.

Current views on disability within developing countries often take the viewpoint of Western education and culture. The emphasis is placed on negative attitudes toward impairment and disabled people (Marfo, Walker & Bernard, 1986, in Kisanji, 1995).

However, as a disabled person, growing up in a socio-economically disadvantaged community within a developing country, Kisanji (1995) notes that the overt reactions of the community have in fact been ones of sympathy and acceptance. He notes further that within many African rural communities, people with hearing, visual and physical impairments are well integrated in society. This illustrates that the marginalization experienced by one caregiver in the current study does not exist within rural villages. An explanation for this may be a result of the migration of people from rural to urban areas, has resulted in the separation of strong support systems that would normally be available to caregivers of disabled children in rural settings (Kisanji, 1995).

Taanila et al (2002) note that social ties provide emotional support, knowledge and information. This is seen as critical in the process of value, coping and acceptance. Parents, who coped well, had an extensive and supportive formal and informal social support network.

In the present study, the caregivers expressed how the community in general has accepted their children, and have shown a growing interest in sign language. This is critical in empowering community members, building knowledge and creating awareness of deafness within the communities in which they live. By exposing the children to the rest of the community as well as implementing a programme within the community, they have created an interest and curiosity in sign language.

Furthermore, evaluation of the impact of early as well as long-term intervention programmes might be useful in monitoring changes in family and community perceptions of disability and their attitudes to the place of disabled people within communities (McConkey, 1995).

3.3.5 Awareness and acceptance of the Deaf Culture and Sign Language

The children in the study attend a school where it is emphasised that sign language is their first language. They constantly interact with adult deaf adults, who have begun to instill in them, a sense of Deaf Identity and Deaf Culture. It thus falls on the caregiver to accept sign language and their child's immersion into Deaf Culture, as a part of their lives.

Caregivers expressed an understanding that their children are independent individuals who will be successful in life, able to make their own decisions and be valued members of society.

C1: Maybe one day he has his own office or else to be whatever. The thing is we would wrongly say I want him to be this and that would be something maybe my child is not going to be.

Knowledge and awareness of deafness, as well as prior contact with deaf individuals clearly makes acceptance of their child easier to deal with. As implemented in the current study, the importance of involving a deaf adult signer in the intervention programme played an important role in the acceptance and sense of hope and future for the caregivers. She had consistent and continuous contact with the caregivers, and acted as vital a link between the children, the caregivers and their contact with the Deaf Community. As she was also from the same community, she had an intricate understanding of their ideals, values and future hopes for their children.

The caregivers expressed motivation to learn sign language and become involved in their children's lives. They understand that they're able to draw upon the services made available to them. This attitude created a sense of hope, empowerment and confidence, allowing them to make suggestions regarding their needs for intervention.

C1: what would be nice is for her to do the things that the children were taught at school and come here and tell us ...so we can carry on from what they have done.

Although the caregivers were generally happy with the way in which the parent training sessions were implemented, they expressed a need for more information regarding Deaf Culture, an integral part of their children's lives. This is significant in that it suggests an acceptance and understanding of Deaf Culture, as well as an interest in it.

C1: The thing is because we don't know all the sayings about deaf people.

3.3.6 Social Support networks

In their study, Oka and Ueda (1998) found that the availability of a support network a source of immense strength for the caregiver. Furthermore, it was found that the support of their own mothers and grandmothers to be highly valuable, as well as the presence of a husband or father figure during times of distress. Additionally, the support of caregivers having experienced the same experiences, within a social support network, had an effect on the caregivers' ability to overcome anxiety and distress.

Meeting others within a group regularly gives caregivers the chance to talk to others, helping them gain new perspectives (McConkey, 1995). They are given opportunity to share their concerns, tell their own stories and to break the isolation they often experience as a results of being geographically separated from the supports of the small communities where they grew up (Lequerica, 1997). The caregivers in this study expressed their need to meet together as a group, as opposed to meeting individually to learn sign language. Not only did they have opportunity to learn new signs from one another, but it also served as an essential social support network.

C1: Because we are learning in a group, it gets absorbed quicker. You understand what is being "said" faster. But when you are alone, it would be difficult to be absorbed.

C3: I know that if there is something I have forgotten about, I would even come to 's mom and say let's discuss.....

C1: Yes, we do support each other

C1: When you are together as parents like this, you get something because you see when you tell your problem there is advice ...

Within the current study, support emerged as critical amongst the mothers. Caregivers showed immense empathy and understanding toward caregivers who were struggling to accept their child's deafness.

C1: No, don't worry, we are there for you. You are making me feel pain as well

Caregivers need to adjust and cope with the changing problems extended over a period of time, and thus the continued support from caregivers who have experienced similar situations, as well as the support of health care professionals is important. This observation supports those of Hintermair (2000) who reported how those caregivers who met frequently with others who were experiencing similar situations, showed evidence of warm, accepting and trusting relationship with their child.

The support of caregivers dealing with similar issues, and having experienced the same process of acceptance, has been shown to have an effect on the mothers' ability to overcome anxiety and unhappiness (Oka & Ueda, 1998). Oka and Ueda (1998) found that being able to share their experiences with one another who had experienced similar heartache, seemed to release them from the loneliness, and were able to offer emotional support.

The emotional support expressed during the interviews was significant. Although all caregivers experienced similar implications and problems in having children with a profound deafness, they were at different stages of acceptance. It was clear that other caregivers are a source of understanding and support for those who are struggling with acceptance of their child.

C2: I see it as a disappointment to a parent if your child is not able to talk. I have not yet accepted the fact that she will never be able to talk.

C1: To be honest, you did not make your child to be like that.

C1: Don't cry, we are all here for you.

C3: You also need to stand up and be strong and do not always give up.

*C3: These parents have children who are the same as your child. You are not the only one.
And they are making you stronger.*

The importance of a social support network was provided by means of the long-term intervention programme. Caregivers were able to identify and comfort those caregivers who had not yet fully accepted the deafness and the associated implications. They recognised the importance of time and a process through which they must go.

The caregivers in this study expressed insight into their responsibility as parents, in empowering and motivating themselves with regard to the intervention, planning and decision-making in the management of their children.

C1: You are not supposed to push us. We are the ones who should be showing interest because we are the ones with the problem with our children

C5: start again next week. Then in two weeks look at our attendance of the training. If we do not attend the training in those 2 weeks, you must change back, and we as people who want to learn we then go and return to that place (centre-based intervention)

3.3.7 Future and Hope

A category of future and hope also emerged within this theme. Empowerment encourages a positive attitude toward the future for themselves as well as their children.

At the initial diagnosis of profound deafness, caregivers in this study felt anxious and expressed concern regarding the future lives of their children. They were unaware of the services available to them, lacking the knowledge and insight into deafness, alternative communication and Deaf Culture.

However, the caregivers' outlook changed over time and they now express a sense of hope for their childrens' futures, placing increased emphasis and importance on their education, as well as their ability to communicate and cope within society.

C1: I see his future as bright...even better than those that are hearing.

C2: Me, too I see her as having a bright future.

C3: He also likes school and does not want not to go to school. He doesn't like to miss school at all. That shows he likes school and that he is going to be something.

C1: If he continues with his schooling and concentrates on his studies and on his sign language...

C3: I see doing very well. If he concentrates on his schooling...this girl is going far. Some day we will see him driving his own car

The caregivers' future hopes for their children often include themselves, indicating a full sense of acceptance and deep love for their child. God played an important role in the views they have for their children's futures.

C2: I'm asking from God to be with me and live so that I can see my child and be with her too, to live and grow up to her adulthood, so that I can also see her bright future.

C2: I see my child that she is going to do big things for me too because of the way she loves me. She is the one child that I see is even better than those who can speak are.

C3: I also wish God to be with me to live and see grown up and see him when he has finished his studies and also see him married

The necessity for long-term intervention programs for hearing parents of deaf children to be implemented within the communities is clear. The needs of the caregivers are constantly changing throughout their childrens' lives and programmes thus need to meet and target those changing needs.

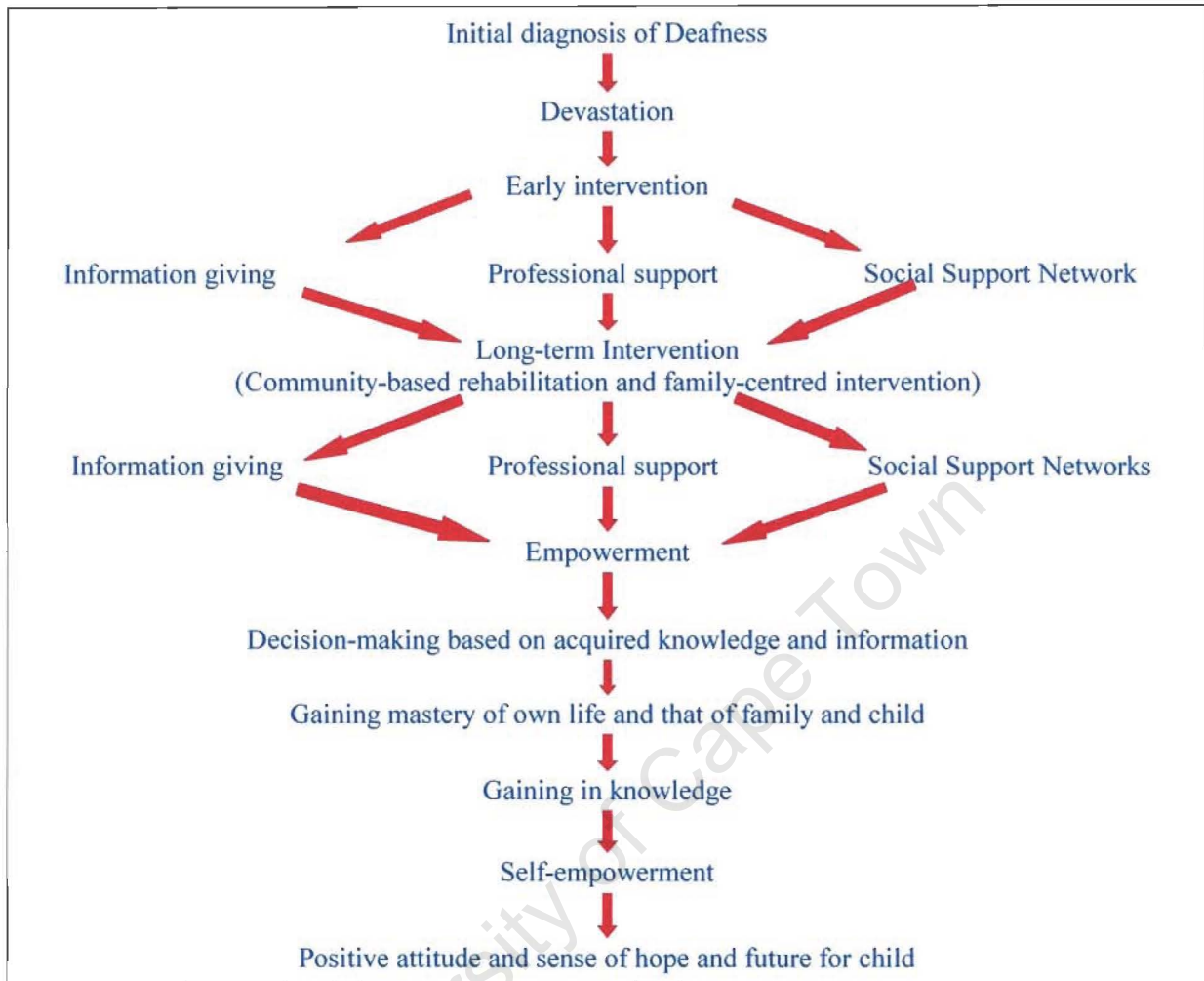


Figure 3.30: A Proposed Model of Empowerment and Self-Empowerment

3.4 SERVICE DELIVERY AND THE LONG-TERM INTERVENTION PROGRAM WITHIN A SOCIO-ECONOMICALLY DISADVANTAGED COMMUNITY

There remains a gap between the “assumptions” of programme implementers, on which programmes are often established, and the realistic situations in which people with disabilities actually live (Whyte & Ingstad, 1998). In the current study, the researcher, being sensitive to cultural and linguistic diversity, aimed to ensure that the intervention programme that was implemented, was both culturally and linguistically accessible to the caregivers. Furthermore, as mentioned in the methodology, being aware of the extreme

socio-economic situation of the caregivers, the researcher considered and aimed to overcome the financial barriers that may limit programme accessibility and success.

The caregivers involved in this study live within a severely socio-economically disadvantaged community. They are faced with many challenges in their everyday lives, and it is often that the needs of their child may not be prioritised. The burden of household chores leaves little time or energy to devote to the child. In very poor families, the concern and stress involved in not being certain of basic needs, often results in the disabled child coming low on the list of priorities. It is important for programme implementers and researchers alike to realize and understand that when parents have no security of any kind, it becomes difficult for them to have any confidence in their capacity to change their situation (Chaudhury et al, 1995).

3.4.1 Poverty

Poverty refers to a lack of resources needed to meet an individual's daily needs. It is determined by family size and income (Dunbar & Reed, 1999).

It has been found that children from families in lower socio-economic groups are at greater risk for health and environmental problems, predisposing them to adverse developmental and behavioural outcomes, and developmental delays (Hanson & Lynch, 1992; Kaplin-Sanoff, Parker & Zuckerman, 1991, in Dunbar & Reed, 1999; Bowman, 1992; Hanson & Carta, 1995, Lequerica, 1993, in Lequerica, 1997). Consequently, children living in poverty tend to have more serious health problems and less access to intervention services. Not only are children at greater risk for physical problems, but under conditions of poverty both the child and parent are at heightened risk of contributing to relationship difficulties and having less stable attachment patterns (Halpern, 1993).

The relationship between disability and poverty has been well documented. Poverty-related factors lead to preventable impairments, as in the case of deafness, the high incidence of Meningitis within socio-economically disadvantaged societies. Furthermore, the social-

disadvantage of poverty exacerbates the impairment, such as limited accessibility to good health care, late identification and lack of early intervention and the accessibility to educational facilities.

Children living in poverty are at a high risk of experiencing family stress and poor social support. As noted by Blanche (1995), not only is this increased by language barriers between community members and health care professionals, but also by a severe lack of financial resources. It is often very difficult to adequately assist very poor people, regardless of cultural and linguistic diversity, as they simply do not have the resources to participate in the rehabilitation programme. As Whyte and Ingstad (1998) clearly state, it would be a gross over-simplification to blame such a situation merely on differing cultural beliefs.

The establishment of rehabilitation programmes relies largely on the human and economic resources available, as well as the priorities for the use of such resources. Health care professionals thus need to carefully consider the differing abilities of households to cope (Whyte & Ingstad, 1998).

3.4.2 Accessibility to healthcare, service delivery and rehabilitation

Within a socio-economically disadvantaged community, service delivery in terms of health care is generally poorer than that experienced by more economically advantaged communities. Low-income families often spend long hours in waiting rooms, because hospitals for the poor are often overcrowded and understaffed. Overcrowding, long lines, long waits and lack of bilingual personnel contribute to poorer perceptions of health care facilities (Lequerica, 1993; Rhodes, Fischer, Ebert & Meyers, 1993; Weisbourd, 1996, in Lequerica, 1997).

Further barriers to equitable health care within low socio-economic communities include community members having inadequate knowledge of available services, poor access to professionals, due to language barriers or transportation difficulties, and discomfort and

uneasiness in dealing with professionals (Lequerica, 1993, Weissbourd, 1996, in Lequerica, 1997).

All the caregivers involved in this study used the services of a large tertiary hospital for initial diagnosis and continuing medical intervention. They expressed great satisfaction and admiration for the services provided, as the process allowed for their children to receive the necessary education and opportunities to attend intervention programmes.

C1: I did get help. They told me that he is not going to be able to hear, and I also told myself that I am not going to question that

C2: ...they referred me to that big hospital, till they tried means for her to come to the school

However, although highly satisfied with the tertiary health care facilities, their concern regarding the overcrowding and inaccessibility due to transport difficulties have led the caregivers themselves to suggest alternatives, such as more specific services available to their children, within the community.

C1: ...another place on this side to provide services for them.

C3: because the big hospital is so busy

C1: even if the big hospital is providing services there should have been another place that will also be helping with the provision of the services together with the hospital.

As evidenced in this study, past research has indicated that families have been frustrated over the lack of transition from centre-based care to “care near and at home”. They have strongly voiced their opinions in support of community-based, family-centred and culturally responsive care. This empowers parents, placing them in a key care-planning role with professionals (Kaplan, 1999).

The caregivers involved in this study previously attended the early intervention sign language programme which was held at a tertiary health care facility, situated a considerable

distance from their homes. Thus, in order for this service to be made fully accessible to them, they were remunerated for transport to and from the parent training sessions on a weekly basis. The provision of such incentives becomes problematic within under-privileged communities. In a community where poverty is rife, incentives such as this may generate greater expectations of future incentives (Mitchell, Nakamanya, Kamali & Whitworth, 2002).

In the current study, the intervention was made fully accessible to the caregivers within their own homes, allowing them to attend the parent training on a weekly basis without being concerned with money for transport.

C1: we were happy about it, anyway I was. Let me say I was happy about it in this way, let me say the money issue. You see here at my house my husband gets paid at the end of the month during the week, understand...on Wednesday. I need money to go to the hospital for parent training. So I was happy because they are making it easier for us, understand.

C2: No, me too, that makes me glad because the money issue becomes a problem because I am not working. but the problem is money, so now it's better.

C3: It also made me glad that they have bought this nearby, because we are not working. The money is the problem

C1: I have a problem that my husband works night shift. Because then he is here I cannot attend because I have to give my attention to him, but if they are not in my house, I can quickly do everything for him and prepare things and them leave him a go. So when it is here in the township it is once like that.

The mothers expressed that it was more convenient for the intervention to take place within the community. They felt that it allowed time for them to complete household chores and to prepare dinner.

C1:...making it easier for us, understand. Because if we come to our houses, there is no problem because we aren't working. It would have been (a problem) if we were

working and we were coming back late. So we are here in the township, we can make it for 3:30 and be ready for this training

C2: Because now I can finish up with my other problems and make sure that I am finished with them in the afternoon. I can finish them up on that one meeting during the week I know that on that Tuesday I have to come here.

One of the major issues resulting in the intervention program being moved into the community, in which the caregivers live, is due to the immense expense of travelling to and from a centre-based intervention program. In this socio-economically disadvantaged society, financial constraint and struggles are part of everyday life. Brown (2000) noted in her study that financial difficulties were often the most significant stress factor, and even more so, in that it affected their accessibility to the health care provider. Quane and Rankin (1998) stated that socio-economic issues are an ongoing source of stress experienced by caregivers. As also found by Brown (1998), other factors associated with living within socio-economically disadvantaged society included violence.

C1: There was the taxi violence maybe...you were never able to use a bus because they involved the buses in the violence sometimes. Since we were scared of the violence that was going on outside.

Although the intervention programme had been made highly accessible to the caregivers, there remained a lack of consecutive attendance from week to week, which disrupted the smooth running of the programme.

A lack of attendance does not necessarily indicate lack of motivation or interest, as previously assumed by the researcher. Whyte and Ingstad (1998) point out that health care professionals and others establishing rehabilitation programmes become despondent when families seem to be uncommitted to long-term intervention and extended rehabilitation effort over long periods of time. Families, in contrast become disappointed when there are not immediate results or improvement in their family member's condition.

Caregivers living within low socio-economic communities frequently fit the profile of one who has several young children, often close in age (Lequerica, 1997). As mentioned previously, within a context of poverty and lowered socio-economic status, a disabled child is often placed low on the list of priorities. It was expressed clearly by the caregivers in this study that they understood the importance and value of the intervention programme. However, within such a community where unemployment is rife and financial stress overwhelming, other priorities arise which are often considered important.

C3: you see, I may be caught up in so many other things and when that date comes I may have this problem and that one.

C1: My husband works night shift. When he is here, I cannot attend, because I have to give my attention to him

Even within the context of the current study, within a lowered socio-economic status, families are diverse in both physical and emotional resources, their family structure and level of social support. Where one caregiver may feel strongly regarding regular attendance, another may be under overwhelming financial stress or suffering depression, affecting her attendance.

Harrison and Roush (1996) have noted that professionals often attribute lack of parental cooperation as factors in the failure of early identification and intervention programmes. However, parents may not agree with professional regarding treatment and priorities, thus displaying a lack of interest. This however was not evidenced by the caregivers in this study, as all caregivers expressed their satisfaction with the programme.

Even so, the importance and emphasis of intervention still needs to be a priority for the family, by engaging them in the process of negotiating and decision-making, so that mutual respect and understanding of one another's values and perspectives is established (Bailey, 1996).

3.4.3 Care dependency grant

In their study, Taanila et al (2002) indicated how the social benefit or as in South Africa is known as a care dependency or disability grant were viewed as being very helpful, as it allowed the caregiver to chose if they wanted to work or remain at home.

However, although the caregivers in this study receive a care dependency grant for their child's well being, and they realise the importance of using it for the needs of the child, the amount received each month is reportedly not enough to cover all the costs.

C3: ...yes, there is grant money, but it is finished soon because of these problems, you would finish them up and the money is finished. You have not had any money by the end of the month.

C1: There are people with problems who are not working and do not have working husbands to give them money. Are they dependent on this R600 grant money? This child must be fed and clothed and everything from that. Return to and from Red Cross is R30 now. Sometimes she doesn't have that...

Problems associated with a socio-economically disadvantaged society are vast, and clearly affect the delivery of health care, as well as rehabilitation of a deaf child. The importance of rehabilitation should not be ignored and quality health care and rehabilitation needs to be made accessible – linguistically, culturally and economically.

As has been found in the current study accessibility of intervention does not rely solely on geographical location. It is affected by a number of other variables - often specifically relating to poverty. Challenges affecting accessible health care and intervention include:

- A severe lack of human and physical resources
- Lowered standard of education of caregivers leading to inadequate knowledge of developmental norms as well as available services
- Poor access to professionals as a result of language barriers and inadequate or costly transport.

In the current study however, the intervention programme sought to overcome these challenges. For example accessibility to services, previously limited by linguistic and financial barriers, was considered, in providing the intervention within the community in which the caregivers lived. Furthermore, the inclusion of a deaf adult signer from the same community aided in reducing linguistic barriers, as was previously discussed. A lowered standard of education is not a barrier that is easily overcome, however with continual information giving, caregivers' awareness and knowledge is continuously increasing.

University of Cape Town

4 GENERAL DISCUSSION, CONCLUSION AND IMPLICATIONS

4.1 GENERAL DISCUSSION

South African Sign Language is the primary mode of communication and instruction within many schools for deaf children in South Africa. However, communication through this medium within a hearing home is often severely limited. This has long-term and serious implications on the personal well being academic success and social integration of the child, as well as devastating effects on family relationships (Joseph & Alant, 2000). Hence the importance of hearing parents learning the language of their children is recognized, so that they are able to effectively communicate with each other. However, it has been shown that many challenges influence the acquisition of sign language for hearing parents, and it is proposed that within a socio-economically disadvantaged society, a common occurrence within the South African context, these barriers are intensified. Parents often face challenges in their attempts to learn to sign language, which frequently results in inadequate signing proficiency. These include distance from the learning center, transport difficulties, time constraints due to family responsibilities and employment, language barriers between parents and educators within the school setting, lack of immersion within a signing environment or exposure to the Deaf Community and a severe lack of resources (Swisher & Thompson, 1985; Cohen, 1996, Lynas, 1994, in Joseph & Alant, 2000).

These were all clearly evidenced in the current study, which sought to overcome and reduce the impact of these barriers placed on the acquisition of sign language. However, as limited improvement pre-post intervention was observed, further issues have been proposed that may account for the findings indicated on the communication profiles of caregivers.

- **The Challenge of Learning SASL**

Learners and teachers of sign language need to realize the difficulties involved in successfully learning and teaching the language (Kemp, 1998). This difficulty was acknowledged and considered when devising the programme.

However, as stated by Kemp (1998), regardless of the skills of the sign language instructor, there will always be some students who are simply unable to master the language. This, coupled with many influencing factors may be attributable to C2 and C4's apparent difficulty in acquiring sign language.

Furthermore, with the learning of a second language such as sign language comes the adjustment to a different culture - the Deaf Culture. As has been mentioned before, Deaf Culture and Deaf Etiquette is different and foreign to the culture of the caregivers.

For example one needs to be aware of:

- Eye contact between signers
- Avoiding interrupting conversation by walking in between two signers
- The importance of using appropriate attention-getting techniques, such as waving within the visual field and tapping one's shoulder (Sacks, 1990, in Kemp, 1998).

These concepts are often foreign to hearing individuals and for hearing parents of deaf children, it is out of necessity that they adopt an understanding of this rich culture.

It was noted that although initially the caregivers in this study felt uncomfortable and embarrassed to make use of the "unusual" facial expressions that denote linguistic meaning in sign language, towards the end of the programme they displayed better use of facial expression. In order for a learner to become accustomed to this different culture, one needs to have exposure to Deaf Culture and the Deaf Community. When a culture is

more foreign to a second language user, it is difficult for the learner to become accustomed to that culture and hence to learn the language (Schumann, 1978, in Kemp, 1998). The use of an adult deaf signer to run the programme in this study was highly beneficial, in that it exposed these aspects of sign language to the caregivers in a natural, unthreatening manner. The adult deaf signer also introduced the caregivers to other members of the Deaf Community.

As with all languages, sign language is not mastered easily beyond a basic level, and mastery requires time, exposure and practice, hence the importance of a long-term intervention programme.

The acquisition of sign language demands dedication, effort and time. The caregivers in this study had previously attended an early intervention programme, until their children began attending school. Thus the implementation of the long term intervention programme was aimed at encouraging the continuing development of the caregivers' signing competency.

When hearing individuals first begin learning sign language they tend to learn a great deal in a relatively short time period. This would have been noticeable to the caregivers while attending the early intervention programme. However, over time it is highly discouraging to learners to realize that it takes longer than expected to improve their signing proficiency, as their sense of progress decreases (Kemp, 1998). However, as long as learners consistently expose themselves to the language and the Deaf Culture, they will continue to learn. This emphasizes the importance of a long-term intervention programme that progresses through a number of years, for example the Five-Year Sign Language Intervention Project (Takala et al, 2000).

Powers and Saskiewicz (1998, in Takala, et al, 2000) emphasized the need for parents of deaf children to meet with each other, exchange information and learn sign language, in settings detached from a school context. These guidelines were acknowledged in the present intervention programme. Similarly, in their study, Takala et al (2000) found that a

period of linguistic intervention led to the development of a family's signing competence, resulting in improved signed communication and the development of a social support network.

According to Bornstein (1990, in Joseph & Alant, 2000) learning to sign requires time and effort, which hearing parents are often unable or unwilling to invest in, particularly in an environment where unemployment and poverty are rife. In the current study, where the caregivers came from a socio-economically disadvantaged environment it became clear that family responsibilities, household duties and other factors frequently took priority over the weekly sessions. As mentioned previously the intervention programme was affected by irregular and inconsistent attendance by some of the caregivers. It is acknowledged by the researcher that time is needed for the development of communicative skills in sign language. However, due to the scope of this study time constraints affected the desired duration during which to observe the caregivers' communicative development and the time period in which the signed communication of the caregivers was evaluated, was too short.

In the current study it is suggested that differences amongst caregivers are the result of varying reasons, such as an unstable family structure and a high incidence of single mothers. Findings indicating variability in signing performance of the caregivers are not unique to the present study. These findings concur with those of Spencer (1993), who found that mothers differed in the degree to which they signed during interactions with their children. Spencer (1993) noted however that mothers in her study lived in different locations and were involved in different intervention programmes, and proposed that differences in signing were related to the skills of the signing instructor. Contrastingly, in the current study caregivers lived in the same location and were taught by the same signing instructor. Rather, as noted by Spencer (1993), access to signing communication partners and general social emotional support of family members, where the mother is not the only designated sign learner, is believed to be integral in acquiring sign language.

Caregivers (C1 and C3) who had the support of family and who had frequent contact with deaf adults showed noticeably better signing performance. This supports Spencer (1993) who found that caregivers signing performance was associated with the number of adults - family members or friends, who made an effort to learn and use signs. The general social-emotional support coupled with a communication partner may have contributed to better signing performance. The findings of the current study support these, in that C1-C5 had the social support of family and community members.

Schumann (1978, in Kemp, 1998) outlines two motivations for learning a second language, these being instrumental and integrative. Those who are instrumentally motivated learn sign language for the purposes of getting a job, salary increase or a promotion. On the other hand those who are motivated in learning sign language, have a desire or need to socialize with deaf people, and in the case of this study, communicate with their deaf children.

According to Schumann (1978, in Kemp, 1998) instrumentally motivated individuals have a minimal chance of acquiring sign language and reaching a required signing proficiency. In contrast, motivated learners such as those in the current study seek opportunities to interact with members of the Deaf Community, and have been shown to reach and maintain higher levels of signing and cultural contact. The importance of frequent contact with deaf people to facilitate learners in acquiring the language cannot be underestimated (Kemp, 1998).

It is evident from the data collected from the focus group interviews that programmes representing and reflecting the caregivers' needs and requirements need to be implemented within the communities. The caregivers have expressed insight and understanding into the necessity of long-term intervention programs. This highlights the need for community participatory intervention, whereby community health interventions are based on community participation (Potvin et al, 2002). Programmes should be evaluated and adjusted according to the reciprocal relationship between the programme and the context in which it is placed (Green, Richard & Potvin, 1996, in Potvin et al,

2002). Hence, there is a need for flexibility and the opportunity for the context (the caregivers) to be influential in moulding the programme according to their own needs.

In evaluating the intervention programme carried out in this study, it became clear that certain assumptions regarding the needs of the caregivers had been made. One of the primary aims of the study was to implement a program that attempted to overcome certain challenges and barriers that exist in the implementation and evaluation of intervention at a community level - where cultural and language difference between programme implementer and caregivers abound. Cultural and linguistic barriers were initially thought to be more influential in this context, and thus were accounted for in a number of different ways.

It was recognized and acknowledged by the researcher that the community in which the programme was implemented is socio-economically disadvantaged, and thus lacking in physical resources. This was addressed by providing materials to the caregivers for use during the programme. However, the significance and impact the low socio-economic status of the caregivers had on their daily living and life experience, and hence on the success of the intervention programme and its evaluation, was not expected.

Barriers and challenges that exist in conducting community-based research

This study has emphasized the difficulties involved in conducting research within a natural context. It is only through such research that we actually experience the difficulties involved in conducting community-based research.

Challenges and barriers experienced by the researcher, and the possible reasons and associated problems are hereby outlined:

- **Socio-economic status and lack of physical resources**

Socio-economic status and lack of physical resources was experienced on a number of levels. All data was collected within the impoverished homes of the caregivers. Space

was often limited, which resulted in the seating arrangements not being ideal during data collection and the lighting was often poor. Mutual gaze was frequently affected, and the visual field was obscured.

Additionally, family members, friends and children were present during data collection, which disrupted the data collection process. Attention and concentration was significantly affected by these very real and everyday disturbances. Saxby (2002) found in her study that additional people present during her interviews did not disrupt the interview process or impact on results. In the current study however, the opposite was seen. As sign language is highly dependant on visual attention, any distraction will draw the attention away from the communication partner, which leads to communication breakdown and a disruption in the data collection procedure.

- **Control of Input**

In her study Saxby (2002) noted that language differences impacted significantly on her findings, due to misinterpretations, poor phrasing of questions and racial stereotypes. This was not experienced in the current study, as one of the aims was to reduce the impact of linguistic barriers. During the data collection phase in the current study, it was unnecessary for the researcher to interact directly with the caregivers. The facilitator, who was appropriately trained in the data collection procedure necessary for focus group interviews, is a Xhosa - speaking health professional. She had the necessary insight into the data collection procedure, as well as sharing similar cultural and language backgrounds with the caregivers. Differences in intercultural communication thus did not impact on the data collected during the focus groups interviews, as the researcher was not directly involved in the interview process.

The procedure for data collection of the caregivers' signed communicative ability differed, in that the deaf adult, who had been involved in the implementation of the intervention, collected the data for analysis. Although deaf, her use of spoken language is good, and the caregivers expressed their ability to understand her adequately. During the

course of the intervention programme, she developed a good relationship with all the caregivers. The caregivers expressed their admiration for her, and their ease in understanding her speech.

- **Irregular attendance at the sign language lessons**

Health care professionals from different cultural and socio-economic backgrounds to those in which they implement programmes frequently feel frustrated and unaccomplished when community members drop out or don't attend intervention programmes. However, blaming individuals only serves to deepen the feelings of isolation between professional and consumer (Lequerica, 1997). Rather, it is proposed that the health professional needs to adopt sensitivity and attempt to understand the situation of many families within poverty-stricken communities. As has been mentioned previously, often the burden of household chores, and caring for other young children leaves little time or energy to devote to their child. Furthermore, it is proposed that the lack of security for even the most basic of needs may leave caregivers with little hope or confidence in their ability to change their situation.

In summary, as is clear from the difficulties experienced in this study, community-based research is fraught with barriers and challenges. Researchers from different cultural and socio-economic backgrounds often implement interventions and studies within communities based on personal experience, assumptions and their own agendas. It is not until community members have been made to actively participate within such studies and their needs and difficulties made known that true evaluative research begins to play a role.

However, Wade (2003) emphasizes the importance of evaluative research, as evidence supporting most interventions does often not exist. It is important that health care professionals have the confidence to admit that their decisions are often not based on sound evidence, and it is only through research that interventions and service are made most effective.

As has been outlined, the current study addressed this pertinent issue of involvement on a number of levels. As mentioned previously, the integral involvement of a community member in the planning, implementation and evaluation phases of the intervention programme, was highly significant and advantageous. Being both a member of the Deaf Community, as well as living within the same community as the caregivers, she was able to contribute valuable insight and information into aspects of sign language and Deaf Culture, as well as acknowledge and understand the needs and wants of the caregivers. She experiences similar challenges to the caregivers, and thus being sympathetic to their situation, she was able to convey vital information to the researcher. In addition, being deaf and having experienced additional barriers so often encountered by disabled individuals, she has a thorough understanding of the importance of the signing competency of the caregivers. She thus served as an effective link and mediator between the Deaf and hearing culture as well as between the caregivers and the researcher.

The problems that arose during this research, and particularly the data collection procedure merely highlight the difficulties involved in conducting research within the community, as opposed to centre-based research where conditions are more easily controlled. One of the aims of the study was to create as natural conditions as possible, hence running parent training groups and collecting data within the homes of the participants.

As noted by Cooper, Landman, Tomlinson, Molteno, Swartz and Murray (2002), although difficulties exist in working and conducting research within a peri-urban environment, it is possible to conduct rigorous research. This needs to be embraced in future research as there is a dire need for community involvement in planning, implementation and evaluation (Potvin et al, 2002).

4.2 CONCLUSION

In conclusion this study set out to develop, implement and evaluate a community-based long-term intervention sign language programme for hearing caregivers of deaf children from a socio-economically disadvantaged context.

The major findings of this study indicated that although there was limited improvement in the caregivers' signed communication skills, the long-term intervention programme was thought to be beneficial in terms of a number of aspects, in that it was community-based and the hearing caregivers had exposure to a deaf signing adult. In addition the social support provided by one another within the group created a social support network and allowed for a platform for them to provide each other with support, share ideas and experiences, gain in knowledge and become more empowered.

The implementation of the long-term sign language intervention programme at a community-based level was not only beneficial in making it easily accessible to the caregivers, but it also exposed them to sign language within a natural context, assisting the caregivers in realising the importance of natural communication and interaction with their child. Furthermore, the contact and exposure of the hearing caregiver to the deaf adult, and Deaf Culture, is believed to better equip the caregivers in their move toward an understanding and an acceptance of their deaf child as a member belonging to the Deaf Community and Culture.

It is believed that with time and increased knowledge, the caregivers move toward becoming more empowered and better able to accept and manage their deaf children. The importance of imparting knowledge regarding deafness, sign language and Deaf Culture, as an integral part of the programme appeared to have contributed towards their empowerment.

The long-term sign language intervention programme was made both linguistically and culturally appropriate by employing a deaf adult from the same community, to implement

the programme, impart knowledge and provide information. The advantage of coming from the same community as the caregivers was that she had an in-depth understanding of their situations, and was able to approach the intervention with their perspectives in view.

A need for extended long-term intervention, emerged not only from the parents requests, but also from the acknowledgement of the difficulties that parents experience in acquiring sign language. This is exacerbated by the fact that their children continue to develop their own sign language skills on ongoing basis.

In terms of their caregivers' signed communication development, little expected improvement was observed at the time of evaluation, and this is believed to be as a result of a number of factors previously mentioned.

The irregular attendance of caregivers at the intervention programme may appear at face value to indicate weaknesses in the programme itself and may be interpreted by professionals as programme failure or a lack of interest and motivation on behalf of the caregivers. It is proposed by the researcher, having gained much information and insight from the focus group interviews that indeed there may be more complex and more pressing social needs that prevent caregivers from attending the intervention which may be beyond the programme organizers understanding or life perspective.

In addition programmes being culturally and linguistically sensitive and appropriate, it is believed that community-based interventions strongly need to consider the larger more complex socio-economic impact on the lives of those attending the programme. Emerging from this would be the implementation of future long-term intervention programmes for hearing caregivers of signing deaf children that were driven by the deaf themselves, from their immediate community. This in turn would empower the disabled within the community, would remain community-based and would lead to greater sustainability of the intervention programmes.

Although the long-term intervention programme in this study had clear objectives, it was influenced by the needs of the caregivers and resulted in it being more fluid and flexible in its structure and content. It is proposed that this in itself is a valuable insight, as it is considered important that the community itself contribute towards the development of the programme. Programme evaluation allows for a dynamic, ongoing process adapting to the specific needs of the caregiver at that particular point in time, which in turn contributes towards further programme development. Hence it is strongly believed that programme evaluation should form an integral component of any intervention, which would result in more appropriate and relevant programme delivery.

In implementing research of this nature, we as programme implementers and researchers from different cultural and socio-economic backgrounds often create our own misperceptions based on what we know and believe from within our own cultures and socio-economic backgrounds. However, our pre-conceived ideas and goals do not always materialize, as we would wish. This type of research needs to be considered within the context in which it is being delivered as well as from the perspectives of those within the particular community. It is believed that a move from a fixed research framework toward one that is action-oriented, involving community participation be adopted.

One of the major limitations of the current study was that the time period in which the signed communication of the caregivers was evaluated was too short. Unfortunately due to the scope of this study there were external time constraints and additional extension time was not possible. This directly impacted on the research design of the study. Where a time-based series design was initially considered to have been a more effective design to employ when measuring the developing communication skills, due to the aforementioned influencing and unanticipated factors, a pre-post research design had to be adopted.

4.3 IMPLICATIONS

Numerous future research, clinical and theoretical issues emerged from this study.

To date little research has focused on the development, implementation and evaluation of long-term sign language intervention programmes for hearing parents of deaf children in South Africa. Considering the large number of deaf children requiring the use of sign language as their primary means of communication, further research regarding such programmes is clearly needed.

There is a need for further examination of hearing caregivers' development and acquisition of more complex aspects of sign language, such as spatialized syntax and facial expression. An in-depth investigation needs to be undertaken regarding the development of interaction between deaf child and hearing caregivers, and the influencing factors involved in communication breakdown in this light.

The current study revealed the child's involvement in teaching their caregivers sign language. Thus, further examination needs to be undertaken to determine the role of the child in sign language instruction, within a naturalised context.

The current study presented the integral and influential role of a deaf adult from the same community in the development, implementation and evaluation of the programme. Hence, in line with community-participatory research, this warrants further examination and documentation of the process of empowerment not only of deaf individuals, but also of the caregivers, community members and deaf children, involved in community-based rehabilitation.

Furthermore, due to the vast diversity in culture and socio-economic status, there is a great need for this type of research to be undertaken within the community, ideally with the integral participation of community members and a clear and unbiased understanding of the larger socio-economic and cultural influences involved.

Clinically, there is a dire need for long-term sign language intervention programmes for the hearing caregivers of deaf children. It is believed that these intervention programmes are most beneficial when implemented at a community-based level, within the naturalised context of the caregivers. Past sign language intervention programmes have focused specifically on the expansion of vocabulary. However it is believed that there is a greater need for programmes to focus on the more complex aspects of signed grammar, so that signed communication moves beyond a single word level, to one that may be used in natural conversation and interaction with their deaf child.

There is also a great need for sign language intervention programmes to instruct the caregivers in issues surrounding Deaf Culture and Deaf Etiquette, as it is acknowledged that these aspects of sign language are not naturally acquired.

Increased knowledge is believed to be highly beneficial and influential contributing towards the process of acceptance and empowerment of the caregivers. Hence the importance of imparting knowledge, integrating aspects of information giving into intervention programmes, as well as providing a social support network amongst the caregivers is considered critical, in conjunction with the development of their signed communication skills.

Theoretically, nothing exists in isolation, and similarly an intervention programme implemented at a community-based level cannot be seen in its entirety as a programme on its own. Rehabilitation and intervention is a complex, constantly evolving, dynamic process that is intricately bound to the contextual situation as well as to the personal and broader social issues of those involved. One cannot adopt a naïve, blinkered and simple approach to community – based rehabilitation and programme implementation.

The most significant theoretical implications for the researcher has been the need for those who develop and implement community-based rehabilitation to acknowledge and recognize the complexities involved in providing intervention. However, challenges,

barriers and difficulties experienced during this process, should not deter one from future efforts.

**“ There is great power in resolution that has no reservations in it...
a strong persistent, tenacious purpose, which burns all bridges behind it
And which clears all obstacles from its path and arrives at its goal,
No matter how long it may take, no matter what the sacrifice or the cost”**

-Orison Sweet Marden-

University of Cape Town

APPENDICES

APPENDIX 1(a): PARTICIPANT CONSENT FORM (Xhosa)

UNIVERSITY OF CAPE TOWN



Division of Communication Sciences and Disorders

School of Allied Health Sciences

Faculty of Health Sciences
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Head: Assoc. Prof. S. K. Tuomi

Isaziso kubazali nesivumelwano

Igama lam ndingu Ann Commerford ndingumfundi kwiyunivesiti yaseKapa. Njengenxenywe yezifundo zam yokuphumelela iMaster Degree BSc yeLogopaedics, ndiqhubela ukugqibezela iprojekti yokuphahada. Ndingwenela ukuqala ngeSign Language (ulwini lokuthetha ngezandla). Lwezifundo zabazali zeprogram nabazali abaliqela elincinane abanabantwana abangevayo. Ngayo leprogram ndingathanda ukufunda ukuba lomqulu wezifundo uqhuba njani, izifundo zoomama zokuthetha ngezandla ziyaphumelela na. Njengoba unomntwana ongevayo ongenela isikolo sabaqalayo, ndingavuyo, kakhulu ukuba ungathatha inxaxheba yokungenele ezizifundo.

Umqulu wezifundo uzakuqhuba kanye ngeveki, iiveki ezilishumi elinesibini. Izifundo zizakuqhubeka kwiqela elincinci iiveki ezilishumi elinesibini. Izifundo zizakuqhubeka kwiqela elincinci ekhayeni lakho phakathi kwecommunity yakho. Akukho mali ibizwayo. Umqulu wezifundo uzakuba yinzuzo enkulu kuwe, njengoba usebenzela ekubeni neziphumo nolwazi lokuthetha ngezandla, nokukwazi ukuqhakamshelano nomntwana wakho ube nokuqonda nendlela eyodwa yezithulu ekuthiwa (yiDeaf Culture).

Ndingwenela ukulinganisa impumelelo yenu ekuthetheni ngezandlo nolwazi lwenu, ngako oko ndingathanda ukwenza ivideo apho uzakube uncokola nomntwana wakho ekhayeni lakho kwizahluko ezibini (phambi kokuqalisa umqulu wezifundo nasemva koko). Ndikuqinisekisa ukuba zonke izaziso ziyaku phathwa ngokuyimfihlelo.

Mna _____ ndiyavuma ukufotwa ngevideo endlwini yam, nokungenelela izifundo zokuthetha ngezandla zabazali ezikumqulu ozakuqaliswa ngu Ann Commerford. Nokuba asebenzise izifundo neziphumo nophando lomsebenzi wakhe evumile eukuba oko kuyakubayimfihlelo egciniweyo. Ndiyaqonda ukuba umqulu wezifundo uyakuba yinzuzo kum kwaye andizikuhupha ndleko ngezifundo.

<u>Umzali name</u>	<u>Savina</u>	<u>Date</u>
_____	_____	_____
<u>Inggina name</u>	<u>Savina</u>	<u>Date</u>
_____	_____	_____
<u>Umphandi name</u>	<u>Savina</u>	<u>Date</u>
_____	_____	_____
<u>Umkhokeli name</u>	<u>Savina</u>	<u>Date</u>
_____	_____	_____

APPENDIX 1(b): PARTICIPANT CONSENT FORM (English translation)

UNIVERSITY OF CAPE TOWN



Division of Communication Sciences and Disorders

School of Allied Health Sciences

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 E47 Old Main Building - Groote Schuur Hospital - Observatory 7925
 Telephone: 406-6313
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 Email: STUOMI@UCTGSH1.UCT.AC.ZA
 Head: Assoc. Prof. S. K. Tuomi

Parent information and consent

My name is Ann Commerford, and I am a student at the University of Cape Town. As part of my studies for the Master Degree BSc. Logopaedics, I am required to complete a research project. I wish to begin a Sign Language Parent Training Program with a small group of mothers who have Deaf children. Throughout the program I would like to study how well the program works and how the mothers' Sign Language improves. As you have a Deaf child attending pre-school, I would be most grateful if you would partake in my study.

The program will run once a week for twelve weeks. It will take place in a small group in one home within your community. There will be no cost involved. The program to be highly beneficial to you, as you will be working towards improving your Sign Language skills, communicating with your child and understanding a little more of the Deaf Culture.

I wish to measure the improvement in your Sign Language ability, therefore I would like to videotape you communicating with your child, within your home, on 2 separate occasions (before beginning the program, and at the end of the program). I assure you that all information will be treated confidentially.

I _____ agree to be videotaped within my home, and to be involved in a Sign Language Parent Training program implemented by Ann Commerford. And that she use the results of the investigation for the purpose of her thesis, provided my confidentiality is maintained. I understand that the program will be beneficial to me and that there will be no cost involved.

Parent name: _____ Signature: _____ Date: _____

Witness name: _____ Signature: _____ Date: _____

Researcher name: _____ Signature: _____ Date: _____

Supervisor name: _____ Signature: _____ Date: _____

APPENDIX 2(b): PARTICIPANT QUESTIONNAIRE (English translation)

UNIVERSITY OF CAPE TOWN



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Head: Assoc. Prof. S. K. Tuomi

Questionnaire

Name:

Date of Birth:

Child's name:

Child's date of birth:

How are you related to the child?

Who do you live with?

In what area are do you live?

What language do you use when communicating with your deaf child?

What is you marital status?

Are you working?

How many people are working in you family?

What is you monthly income? R0-500

R500-750

+R1000

Where does this money come from? -Wages

-Care Dependency grant

-Maintenance Grant

How many people stay in your house? -Adults >18 years

-Children < 18 years

If you do not work, how do you spend your day?

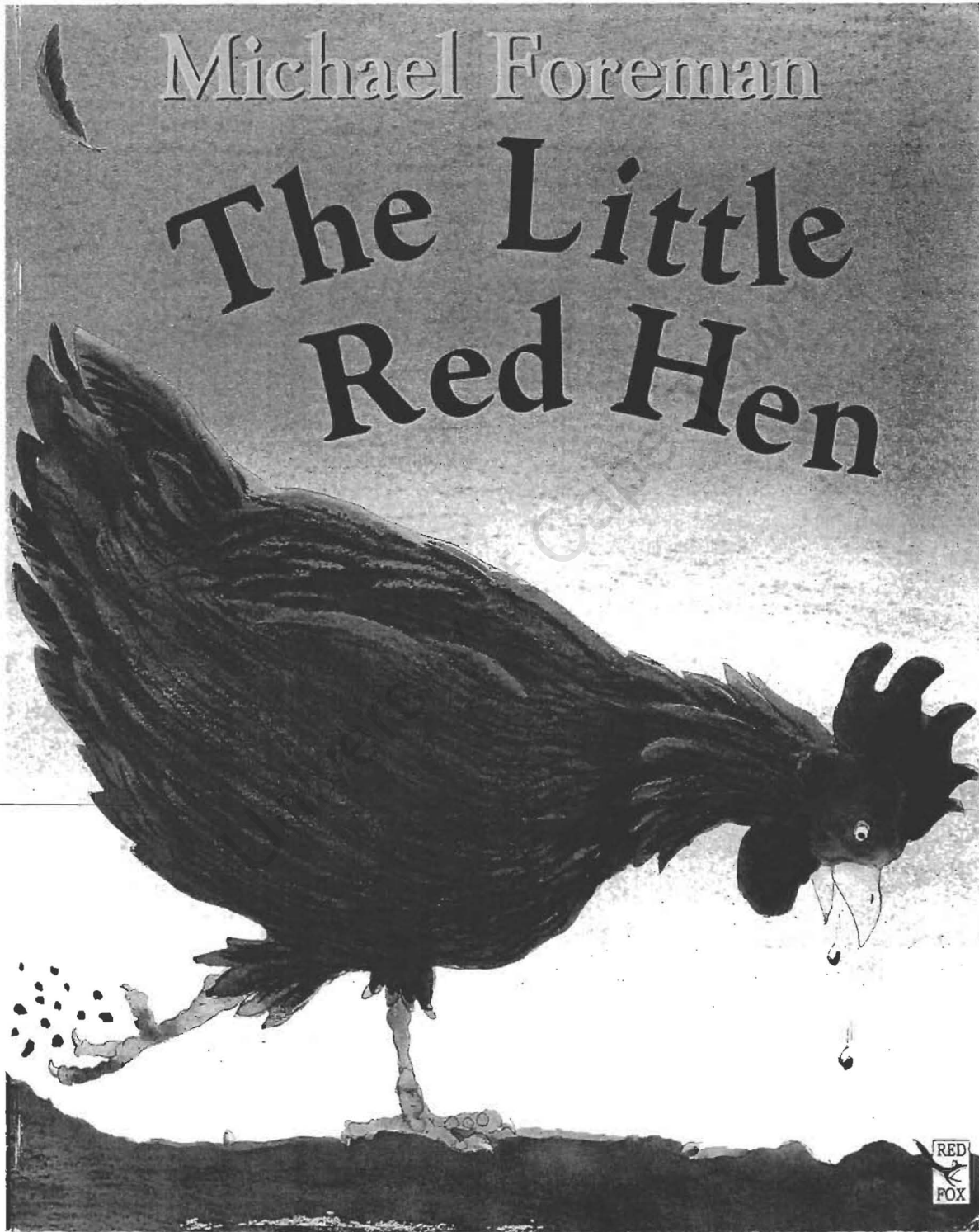
What level of education did you pass?

Did you attend parent training when you first found out your child was deaf?

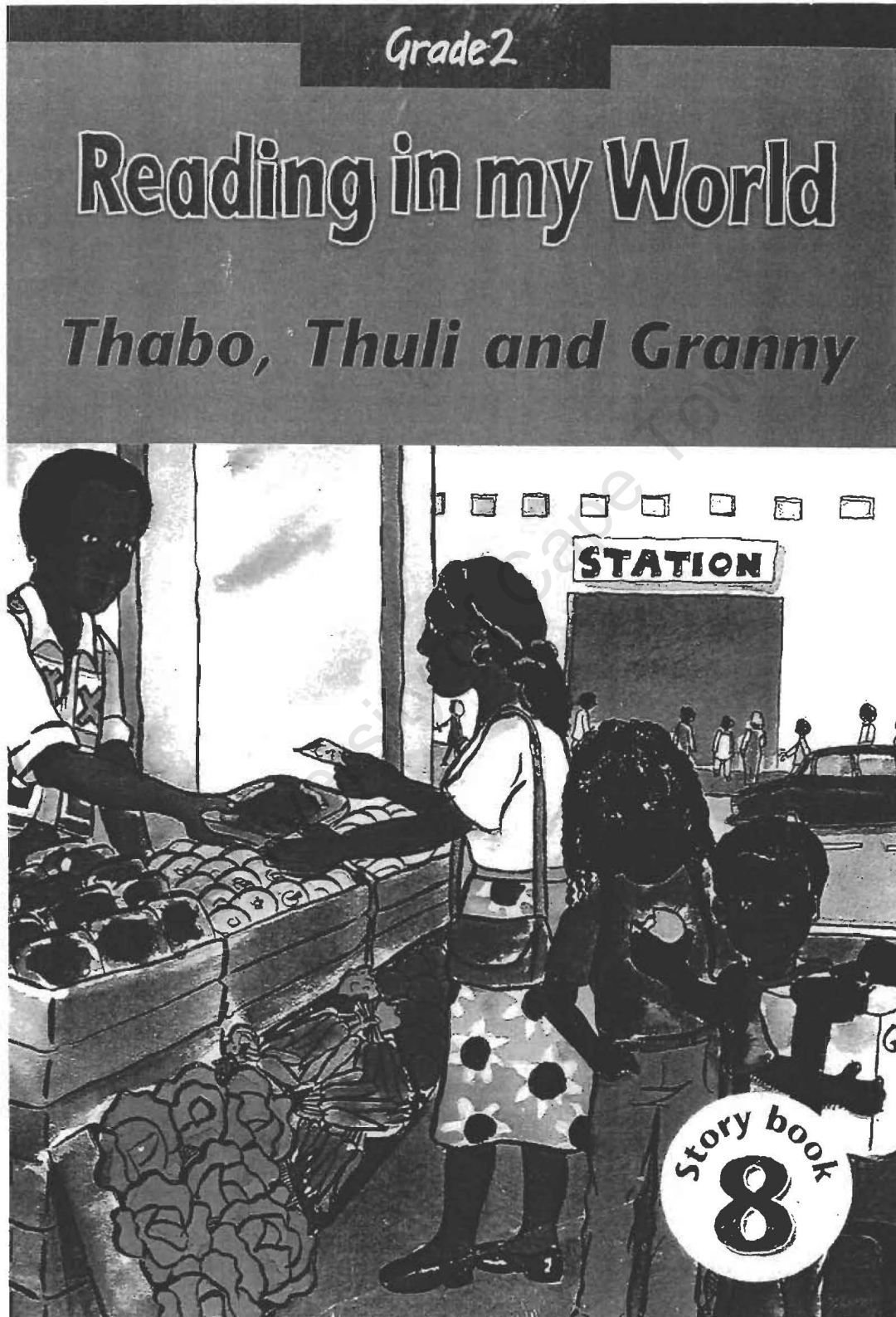
Where did you attend parent training and with whom?

How long did you attend parent training?

APPENDIX 3(a): STORYBOOK
The Little Red Hen (Michael Foreman)



APPENDIX 3(b): STORYBOOK
"Thabo, Thuli and Granny" (Patricia Baker and Belle Wallace)



 APPENDIX 4(a): ORAL NARRATIVE
STORY 9**Umgwebi Usokhetye**

Kwathi ke kaloku ngantsomi, kwaye kukho iikati ezimbini. Ezi kati zachola isonka samasi. Zaye zaxambulisana ngokwahlulelana ngokulinganayo kodwa ke zehluleka kukuvumelana. Zaye zacinga ngokuya kumgwebi uSokhetye, inkwau. USokhetye wasahlula phakathi isona samasi wazu wabona ukuba awalingani amaqhekeza amabini. Waya waluma eli qhekeza likhulu kunelinye ukuze lilingane nelinye. Waphinda wafumanisa ukuba elinye iqhekeza lincinane kunelinye waza waluma kweli likhangeleka likhulu kunelinye waza Wafumanisa ukuba ngoku leli elincinane. Wenjenjalo ke ukuwaluma loo maqhekeza kwuza kwasala liqhekezana elincinane. Zakhala iikati ezimbini zaza zamcela ukuba asele ezinika elo qhekezana liseleyo. Wala umgwebi ngokuthi elo liseleyo yintlawulo yakhe. Watcho eliginya umaqingashe imkhulu. Zaba ke azicholi naphantsi ezo kati zimbini kweso sonka samasi.

Phela-Phela ngantsomi.

Sokhetye the Judge

Once upon a time there were two cats. They found a piece of cheese, and had an argument about dividing it equally between them. They decided to visit Sokhetye the Judge, who was a monkey.

Sokhetye divided the cheese into two pieces, but he saw that they were not equal. So he took a bite of the bigger piece to make them equal. But then he noticed that the other piece of cheese was now bigger, so he bit into the other piece to try and make them equal. Once again he found that it was now smaller than the other piece! He kept on biting into the two pieces, trying to make them the same size, until suddenly there was only a little piece of cheese left.

The cats begged him to give them the last small piece of cheese. But he refused, and saying that that small piece was payment for all the work he had done, and so the cats ended up not having a piece of their own cheese at all!

The end

APPENDIX 4(b): ORAL NARRATIVE

STORY 11Imbila yaswela umsila ngokuyalezela

Kwathi kekaloku ngantsomi, kude kudala mandulo. Izilwanyana zonke zasehlathini zazingenamisila. Kwaye kwafika umyalelo wokuba zizakunikwa imisila zonke. Yaye yafika imini yokuya kulanda imisila yazo. Inkawa yahlangana nembila igcakamele ilanga emaweni.

Yabuza yathi, "He mbkia mfandini akuyi kulanda umsila wakho namhlanje. Mna ndiya khona."

Imbila yathi enkawini, "Sewundikande owam uniphathele."

Yavuma inkawu yatsho ihamba.

Yafika ngenene yawufumana umsila wayo yaza yacela nowembila yaza yawunikwa nawa. Inkawu yaba nomqwenomde yaza yawuthabatha umsila wembila yawudibansia kowayo.

Yyo loo nto uyibono inomsila omde. Imbila yalinda kwada kwotshona ilanga inkawu ingandanga yafika.

Kwagqitha ihagu kude kufuthsane nalapho yayikhona imbila. Yabuza imbila ehagwini ukuba isafumaneka na imisila. Ihagu ya phedula ngelithi. "Hayi iphelile mfandini nam ndiye ndafane ndafumana lo msilana mfutshane." Yaba ke imbila iswela umsila ngokuyalezela.

Phela-phela ngantsomi.

Why the dassie has no tail

Once upon a time, a very long time ago, all the animals had no tails. They were told that they would all get tails. The day arrived when all the animals were going to get their tails. On the way to fetch his tail, a monkey saw a dassie sitting by some caves, basking in the sun.

The monkey said the dassie, "Hey dassie, my friend, aren't you going to fetch your tail today? I am going to fetch mine."

The dassie said to the monkey, "Can you bring mine along with you?"

The monkey agreed and went on his way.

He got a tail for himself and one for the dassie. But the monkey was greedy, and decided to add the dassie's tail onto his own tail. That is why a monkey has got such a long tail.

The dassie sat and waited and waited for his tail, until dusk. Then pig passed by, and dassie asked him if there were anymore tails.

Pig said, "No there are no more tails. Look at my tail. It is very small because it was the only one that was left."

That is why the dassie has no tail.

The end

	<u>Week 1</u>	<u>Week 2</u>	<u>Week 3</u>	<u>Week 4</u>	<u>Week 5</u>	<u>Week 6</u>	<u>Week 7</u>	<u>Week 8</u>
<u>StoryBook</u>	“Handa’s Surprise” by Eileen Browne	“Wow! It’s great being a Duck!” by Joan Rankin	“Why does Lion King cry?” by Diane Case	“The Man and the Goat” by Belle Wallace & Patricia Baker	“Hanna” by Reviva Scherbruckner & Jean Fullalove	“Thabo, Thuli and Granny” by Patricia Baker & Belle Wallace	“Have you seen the Crocodile?” by Colin West	“The Little Red Hen” by Michael Foreman
<u>Folk Tale</u>	<i>Ixhego namakhosikazi alo</i> “An Old Man with His Wives”	<i>Udyakalasha NoMvolufu</i> “The Jackal and the Wolf”	<i>Umgwebi Usokhetye</i> “Sokhetye the Judge”	<i>Umalusi nengcuka</i> “The Shepherd and the Fox”	<i>Kwathi Ke Kaloku ngantsomi</i> “The Hare and the Tortoise”	<i>Iqula Iamanzi</i> “The Fox and the Goat”	<i>Ingozi ehlathini</i> “Danger in the Forest”	<i>Imbila yaswela umsil ngokuyalezela</i> “Why Dassie has no Tail”
<u>Sign Language</u>	Distinction made between reading and telling a story in SL. Facial expression and spatial aspects	Facial and spatial aspects. Vocabulary: counting and food.	Facial expression	Facial expression and spatial aspects occurring within storybook and folk tale	Facial expression Vocabulary: Food	Facial expression Spatial aspects Signs learned from children	Spatial aspects occurring within storybook and folk tale. Facial expression occurring within storybook and folk tale	Vocabulary: emotions-focus on facial expression Vocabulary: family members
<u>Deaf Culture, Support and Information giving</u>	<u>What is Deaf Culture?</u> Information-giving session	<u>What is the Deaf Community?</u> Introduction to members of Deaf community	<u>Education and future prospects of children.</u> Emphasis on the success of Deaf adults from same community and culture Discipline and behaviour management of child	<u>Deaf Etiquette</u> Correct attention- getting strategies Importance of eye contact Differentiate & explain differences between cultures Importance of turn- taking and maintaining and making use of eye contact Keep face clear of obstructions	<u>Deaf Etiquette</u> Correct lighting for communication Not to pass between two Deaf people signing Maintaining acceptable distance Establishing and maintaining eye contact Not to sign with hands full Not to eat or chew while signing	<u>Socialisation in Deaf Community</u> Deaf Church	<u>Socialisation in Deaf Community</u> Deaf clubs and Deaf Sport	<u>Technology for the Deaf</u> Flashing light to indicate doorbell Sound detectors in babies’ cots Vibrating alarm clocks Vibrating pagers Cellular telephones & SMS (Short Message Service)

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