

CHAPTER 2

THE TEACHING OF SIGNS

2.1 Introduction

Concern for the use of signing by hearing parents to communicate with their Deaf children has been repeatedly expressed in the literature (Bornstein, 1990; Gregory et al., 1995; Mitchell & Karchmer, 2005). The inadequacy of an oral language alone for communication with the Deaf child whose primary mode of communication is signing, clearly suggests the need for a visual-gestural form of communication to be learned by the family. This is particularly important for children committed to an educational methodology that uses a signing approach. A contributing factor is that although Sign Languages have been in existence for many centuries, they have been studied and accepted only relatively recently (Stokoe, 1971; Lane et. al., 1996; Moores, 1996). There is therefore a paucity of information in the literature with regard to teaching hearing parents of Deaf children to sign.

The unique characteristics of Sign Language require non-mainstream methods in teaching hearing individuals. These include taking cognisance of visual techniques and methods suited to learning a language in a visual modality (Thoutenhoofd, 2003), as well as the learning of Sign Language as a second language across modalities. The concept of learning language across modalities has been referred to as bilinguality (Von Tetzchner, Grove, Loncke, Barnett, Woll & Clibbens, 1996). Hearing individuals who are learning to sign need to observe signing in its natural medium of three-dimensional space and have the opportunity to practice in the context of observation rather than of listening. Whilst spoken languages are learned as second languages not only through interaction with speakers of the language, but also through support aids providing auditory input of the target language, Sign Languages rely on visual aids. The use of both sign videos and sign illustrations are commonly used as aids in the learning of signs. However, the impact of these measures in sign learning has not received attention in the literature.

This chapter therefore attempts to place the study in context by examining the issues involved in sign teaching with the use of a visual aid, viz. theme-based graphic displays of sign illustrations (graphic representations) to teach signs from SASL to mothers of sign-dependent deaf children. This investigation is seen as part of an overall strategy to assist parents of Deaf

children to access signing, while assessing the contribution of sign illustrations in teaching signs, which is the primary focus of the study.

2.2 Teaching of Sign Language to hearing individuals

The teaching of Sign Language has become a popular activity since its recognition in the 1960s as a real language used by people who are Deaf, and the subsequent increased exposure of the public to Deaf signers. Flodin (1994, p.9) states that “each day the popularity of Sign Language becomes more evident”. Signing has found its way into drama, singing presentations, movies, TV, and even water sports, such as scuba diving, and a more recent trend of teaching signs to typically developing hearing babies to facilitate their expressive language through manual communication and thereby decrease frustration (Goodman, Acredolo & Brown, 2000). There is therefore a proliferation of signing courses. Courses may be offered at various levels in keeping with the needs of the signer and the motivation for such a course.

Colleges and universities that offer course credits in Sign Language approach sign teaching from the perspective of linguistic study, as part of an academic qualification. An example would be the curriculum developed by the Deaf Federation of South Africa (DEAFSA, 1997) for teaching SASL at Levels I, II, and III. This course is designed for teachers of the deaf and for the training of SASL interpreters. While the course meets the needs of teachers of the deaf, it is considered a starting level for interpreter training. The course is said to be designed for beginning signers who wish to progress to a proficient level, and does not preclude parents of deaf children or other interested hearing people who may want to progress through the levels and become interpreters.

In addition to the above courses, more basic courses are available to the community at large, for example a basic 10 week course offered by the KZN Sign Language Academy to those who may also want to learn SASL as a “hobby”. This agency is also involved in the teaching of SASL to teachers at schools for the deaf in KZN. The content of courses varies depending on the level of the course and the needs of learners such that content is taught within categories, with vocabulary generally suited for the context. For example, the *Preliminary Course (Medical Field and Basic)*, a ten week course offered by the KZN Sign Language Academy to undergraduate students in the disciplines of Speech-Language Pathology and

Audiology at the University of KwaZulu-Natal, includes the following topics: 1) introductions/family and one-hand fingerspelling; 2) home, place, colours; 3) work, animals, 4) numbers, time, calendar; 5) food, drink; 6) showing emotions; 7) medical terminology; 8) medical scenarios; 9) Deaf community/Deaf culture; and 10) a final test (written), assessing: a) the ability to fingerspell words, b) answer simple questions based on vocabulary learned, and c) understanding of a signed presentation. The model developed by Kyle and Woll (1985) and used in the United Kingdom applies in terms of methods, viz. Deaf people as tutors, using a direct approach to language learning. It is believed that teachers of Sign Language should be fluent in the language and have something very close to native competence as knowledge of the language is not enough, and a person must know how to teach, having credentials over and above fluency in the language (Hoemann, 1978; DEAFSA, 2006). Sign Language is said to be a modern language, requiring the teacher to be as qualified as other teachers of modern languages (Hoemann, 1978).

Costello (1995) with regard to learning Sign Language states “Sign language is not so very difficult to learn; in fact a student can probably express simple thoughts after only a few lessons. However, total proficiency in American Sign Language as used by native signers will probably take years and years of study and practice” (p. xiv). She also states that Deaf people are usually pleased with a hearing person’s attempts at sign communication, and are patient and willing to assist.

2.2.1 The needs of adult learners of Sign Language

Hearing persons learning Sign Language usually do so within the context of second language learning as adults. Von Tetzchner et al. (1996) in their discussion of bilinguality refer to cognitive aspects that include cognitive organisation and stages of learning that affect the competence of an individual learning language across different modalities. Babbini (1974) specifically spells out the needs of adult learners that teachers of Sign Language need to be aware. These include the need to: 1) be interested, stimulated, and motivated; 2) feel respected and responsible and regarded as equals by instructor; 3) feel confident in the instructor to achieve mastery; 4) participate actively in classroom learning, learning by themselves and with assistance; 5) feel the instructor is interested in them personally; 6) feel they are progressing steadily; 7) excel, be noticed and praised for outstanding work, receiving constructive criticism; 8) be encouraged and develop faith in their own ability to master the

subject matter; 9) feel a sense of accomplishment in mastering a new skill, and 10) know their skill can be put to practical use. Babbini further states that adults have a need to know “why” and instructors must be prepared to answer questions regarding deafness, the Deaf community, and signing. Further, the tutor is advised to answer each question as honestly and completely as possible, with referral to books, articles and journals for more information. Kaufman (2003) also mentions assumptions in the field of andragogy which include consideration that adults value learning that integrates into the demands of everyday life, learning that is immediate and problem centred, and are driven by internal motivation.

2.2.2 *Second language teaching approaches*

A number of second language teaching approaches that are used for spoken languages and which could have relevance to Sign Language were reviewed by Hoemann (1978). These included: 1) the grammar-translation method, which was taught by recitation, dictionary usage, parts of speech, and memorization of declensions and grammar rules. This method is summarily described as a failure; 2) the direct method, which bans the first language from the classroom and puts students in meaningful situations in which the second language could be used and practiced; 3) the audio-lingual method, in which the emphasis was removed from learning about the language, to “establish as habits the patterns” of the language rather than individual sentences, by means of drill; 4) the cognitive code method, based on the generative-transformational assumption that language learning and use required knowledge of the underlying phonological, morphological, and syntactic rules of language; and 5) the semiotic method which considers language to be another form of cultural behaviour, and which emphasises the social activity and context that surround and affect language use. The direct method is currently favoured in the teaching of Sign Language (Kyle & Woll, 1985). Stokoe (1971) suggests a semiotic approach be adopted with Sign Language.

Glass (1997), in describing second language acquisition, proposes five stages that account for the conversion of input to output: 1) apperceived input, 2) comprehended input, 3) intake, 4) integration, and 5) output. Strategies include attention, storage, pattern-matching and general problem-solving. According to Glass (1997), inherent in the term *acquisition* is a degree of ambiguity. On the one hand, acquisition can be viewed as an end point. Varying criteria have been used in second language acquisition research for this purpose, e.g. percentage accurate and first occurrence. On the other hand, acquisition can be viewed as a process beginning

with input apperception and culminating with integration of new linguistic information into an existing system. Output then becomes the manifestation of newly integrated or acquired knowledge, reflecting a dynamic view of the process of acquisition.

In addition to the above considerations, Hoemann (1978) highlights the principles of teaching Sign Language, in this case American Sign Language (ASL), which should include: 1) a period of readiness and preparation for learning the language, 2) development in receptive skills before expressive skills, 3) fingerspelling be taught relatively late in the course, 4) a Deaf informant be included in every course, 5) students be exposed to as wide a variety of signers as possible, and 6) care be exercised in the selection of materials for a course in Sign Language.

The above practices and principles appear in many programmes offering Sign Language courses. While these principles and approach to teaching a Sign Language has undoubted application to parents learning to sign, the available literature presents a very different scenario to the teaching of Sign Language to parents of deaf signing children generally. Broder-Johnson (2001) refers to the need to accommodate parents of deaf children as adult learners, but with regard to intervention within a family-centred approach. For implementation of this approach, the clinician has to keep in mind the life circumstances of the parents, their social roles, responsibilities, experience, and learning related to transitions in the adult life cycle within the framework of transformational learning. The approach embraces the practice in which parents move from being receivers of information towards a partnership with professionals who collaborate with and support them (Mahoney & Beela, 1998, Turnbull & Turnbull, 2002, cited in Broder-Johnson, 2001). Families are therefore included in programme planning and provision with respect for their level of participation. In addition they receive help to prioritise needs and to recognize and use their strengths and resources. The literature in adult learning favours a holistic perspective on parents' life situations (Broder-Johnson, 2001).

2.2.3 Teaching parents to sign

Meiers (1961, cited in Moores, 1996) proposed that mothers be trained to use the manual alphabet with children as young as 18 months. Dactylology, that is fingerspelling accompanying speech, was used as a method of manual communication early in education of

the deaf, traceable to the 16th and 17th centuries (Padden & Gunsauls, 2003). In the 1970s, with the era of Total Communication (TC) came the introduction of MCE and the teaching of signs accompanying speech to teachers, parents of deaf children, and the general public. In 1979, two thirds of all classes for the deaf in the USA were using some form of manual communication; in 1978, the pedagogical system, Signing Exact English (SEE II) was reported to be the most frequently used text; and by 1985, the majority of programmes using signs, sought teachers skilled in a generic TC approach (Moores, 1996).

However, little is known about the curricula used to teach parents to sign. It appears that group signing methods, individual tutoring in parent guidance programmes and the various materials, “dictionaries” and resources such as posters and story books were used. Moores (1996), comments on the system whereby many programmes, established in the 1960s, adopted the concept of mother as teacher. The programme required the mother to come to school or clinic several times a week for training with her child with a Speech-Language Therapist or a teacher of the deaf, with training involving interacting with the child in a home-like setting. He argues that this approach favoured the situation where the mother stayed at home and transportation to and from the facility was available. “It was never viable for poor families that lacked access to transportation. With the increase in single-parent families, and families in which both parents work, the model becomes less feasible” (Moores, 1996, p. 134). Christensen (1986) also raised the issue of cultural and language barriers that prevented parents from accessing the sign system used by their children within the school system. Swisher and Thompson (1985) also refer to the challenges faced by parents in learning sign systems, highlighting the inadequacies of the methods used to teach signing during this time, stating that most often, when the child is young, the mother’s source of sign vocabulary is a single sign teacher and a sign book, with occasional group interaction. The amount of teaching time was usually limited to one or two hours a week and, “Against this meagre input, stands the rest of the mother’s life and challenges” (Swisher & Thompson, 1985, p.214).

The current bilingual approach, issued into education of the deaf in the 1990s (Moores, 1996), advocates that parents of deaf children learn Sign Language, by attending Sign Language courses offered by Deaf Sign Language instructors, by interacting socially with Deaf adults and Deaf children, and when the child is young, having Deaf adults and professionals visit the home for the purpose of teaching parents Sign Language through

interaction with the young child (Lane et al., 1996; DEAFSA, 2005). This practice is adopted in Sweden within a bilingual framework, and is reported to be successful for parents acquiring Sign Language (Mashie, 1995). In the United States, intensive ASL-oriented, total immersion programmes based on the concept of “family learning vacations” in which hearing parents gain exposure with respect to linguistic, cultural, and social aspects of the Deaf community have been proposed (Moore, 1991).

Thus, the type of signing taught to parents has become a contentious issue as a result of the challenges posed by learning speech-based systems such as MCE, or non-speech based natural Sign Language. Moore (1996) summarizes these arguments by describing the opponents of sign systems being concerned that parents cannot master MCE and therefore do not provide a complete model of English which is necessary. This is countered by the defence that parents learn sign systems easier than they do Sign Language which is a totally different language. The opponents of ASL, on the other hand, argue that hearing parents cannot learn a new language quickly enough to facilitate language development in their child, while the proponents of ASL counter that ASL, being a natural language, is more easily learned than an artificial system. Moore (1996) states that most professionals, including himself take an intermediate position, pointing out that there is strong evidence that ASL and MCE can be complementary aspects in the lives of deaf individuals, although he personally believes that ASL is “more powerful and efficient”(p.193). The apparent question is how to bridge the gap between Sign Language and spoken language or the purpose of communication.

Other authors have also commented on this dilemma. Gustason (1990), as a developer of the SEE II system, explains that the developers are Deaf signers themselves and are not ignorant of ASL or opposed it, but rather have followed the principles of ASL in inventing signs as more knowledge had become available through research. These authors hold the view that the native language of the child is any language to which the child is exposed in the home and school during the early language learning years. For many children in the USA this is English. SEE II therefore, gives the parents the means to expose the child to their own native language in a modality that can be taken in. By the same token, Sign Language may also be learned in the home from Deaf parents who use Sign Language. Development of skill in any language is said to be dependent on the degree of exposure and opportunity to practice it in everyday meaningful situations. Stewart (1990, cited in Moore, 1996, p.207), a psychologist

and board member of the National Association for the Deaf in the USA, with regard to the practice of Simcom, states “ let us open our arms to any and all forms of communication”. Stokoe (1971), in addressing the issue from a sociolinguistic perspective, points to variation among all languages, especially within the bilingual context. He defines bilingualism as the use of two or more languages with possibly different degrees of proficiency in different situations. Stokoe appears to take a common sense approach in stating that the Deaf are not opposed to the use of spoken language. He adds that many of the debates regarding educational methodology appear to serve the interest of some professions and do not acknowledge the socio-linguistic realities facing the Deaf individual.

It therefore appears that hearing parents of deaf signing children are in a unique situation when consideration is given to how they should be taught to sign. This dilemma does not arise with Deaf signing parents who have acquired Sign Language naturally in their homes from Deaf parents (intergenerational) or through association with the Deaf community at school or socially. For hearing parents who have to learn a visual-gestural language in a modality totally different to what they use naturally and daily, special procedures need to be considered. Storbeck (2000) concedes that the issue of modality in sign bilingualism requires special consideration. This would include the use of visual media which has been widely used in teaching hearing individuals, including parents of deaf children, to sign.

2.3 The role of graphic representation in teaching signs

During the era of TC the field serving children with severe communication disorders, viz. AAC, drew from the pedagogical systems in the education of the deaf to teach manual communication in the form of KWS to hearing children with little or no functional speech. The signs from Sign Language were used in the word order of spoken language grammar, with only the main words in the sentence being signed (Karlán, 1990). Within the field of AAC, a multi-modal approach using graphic symbol systems together with manual signs was introduced in intervention with children with cognitive and physical impairment, to teach language and communication. The graphic representation of signs was not used to teach signs per se. In addition, systems were developed specifically to combine graphic symbols with signs to produce sign-linked symbols. These symbols have elements of sign illustrations e.g. Sigsymbols (Cregan & Lloyd, 1990; Cregan, 1993). Bornstein (1990) noted that many of

the issues on the use of manual communication have been researched within the field of AAC, more so than in the field of education of the deaf.

Graphic symbols allow for a representation of a referent in concrete form, linked during training in a multimodal format. The symbol thus triggers recall of the linguistic item for the purpose of communication for both the user of the system and the communication partner. Thus graphic symbols are believed to promote learning (Cregan, 1993; Sevcik, Ronski & Wilkinson, 1991; Cregan & Lloyd, 1990). Cregan & Lloyd (1990), with reference to Sigsymbols, state that the availability of the graphic symbol, and the speech accompanying the sign, present multimodal input that facilitates comprehension, learning and memory. Further, language learning is facilitated as signs are more representative than pictures for certain lexical items, for example verbs (Burkhart, 1993). The symbols provide a kind of concreteness since they relate to the real world and thus cue to meaning (Cregan & Lloyd, 1990). The authors of Sigsymbols, however, point out that in order to ensure simplicity and clarity, and decrease visual overload, the symbols are memory aids and not complete sign representations. The Makaton Vocabulary (Walker, 1987), which is considered a combined symbol system (Beukelman & Mirenda, 1998), is a system of teaching language and communication through combining speech, signs and graphic representations, using a key word approach. For the 7000 concepts in the programme, all signs taught have line-drawings (sign illustrations) which are used for learning and maintaining of learned signs, while the graphic representations (symbols) are used for those needing a graphic system of communication. The system is widely used in the United Kingdom with persons with disabilities.

Within the field of deafness, sign illustrations are used to teach signs. There is, however, a lack of theory and research with regard to the development and use of sign illustrations for the purpose of both communication and of teaching signs. This is part of a general lack of studies in the area of sign teaching, with most reports being anecdotal. This has influenced understanding and methodologies in teaching hearing individuals to sign. Table 2.1 presents a summary of the studies related to sign teaching with hearing persons, which are very few, and not all directly related to teaching methodologies or parents of children with hearing loss. There are however links to support aids in sign teaching, including graphics in some studies.

Table 2.1 Studies on teaching of signs to hearing individuals

| Authors & year | Goals of research | Outcomes and recommendations |
|---------------------------|--|--|
| Swisher & Thompson (1985) | To assess for completeness of signing ability in six mothers who were signing for an average of three years, having taken three signing courses. | The training was believed to be inadequate. Recommendations were made for intensive programmes to be developed that were geared to specifically help mothers learn to sign with young deaf children. |
| Christensen (1986) | To teach signing to monolingual Spanish parents of deaf children through a 2 year televised trilingual class (Spanish, English and Sign Language). Fifty eight families took part in a 30 minute programme, repeated twice per week. | Positive outcomes were achieved through parents' reports of achievement of conceptual sign communication. There was also positive attitudinal change observed. |
| Loeding, et al. (1990). | In-service training to teach signing to staff in a school for children with disabilities. Four half day workshops using a KWS approach was used to teach 25- 30 participants in three small groups of seven to nine. | This working party approach for group training was positive. The programme in terms of selection of vocabulary and signs, the development of materials, the format, and activities in group training provide a framework for sign teaching to hearing individuals. |
| Spragale & Micucci (1990) | Training of direct care staff in an adult home-setting to facilitate signing in a natural context. Staff provided the vocabulary, learning two signs per week. The Speech-Language Therapist taught the signs, with the use of sign pictures as a reminder. A reward system of tokens was used. | Sign achievement reached a plateau after the first 30- 40 signs; most functional signs were learned. |
| Cregan (1993) | To determine if signing might come to serve as a bridge between a graphic cue and independent speech in an adolescent with severe mental retardation. System taught by symbol to referent, and match to sample activities, practiced sign-labelling the Sigsymbol, and signing with sign-linked symbols. | Graphic symbols from the Sigsymbols system helped to elicit multiword utterances. Dual instruction in manual signing and a graphic system, such as Sigsymbols offered options for expression. |
| Iacono & Duncan (1995) | To compare the use of sign alone and sign in combination with an electronic device in early language intervention. An Alternating Treatments Design, using one subject control of scripted play approach used. | The combined use of signs and the electronic device was more effective than sign alone in eliciting single word productions. |

Table 2.1 Studies on teaching of signs to hearing individuals (Cont.)

| Authors & year | Goals of research | Outcomes and recommendations |
|---------------------------|---|--|
| Cohen (1996) | South African study to develop a printed aid to assist 15 parents of young deaf children to learn some basic Sign Language. Vocabulary to be included in a booklet was sought and used to determine the most successful mode presentation (photos/ line drawings, descriptions or combination) | Previous exposure to sign learning was not an advantage. Parents had difficulty attending sessions, influenced by diversity factors (race, language, educational) – There was a problem of attrition. Visuals with description were more effective than visuals alone when signing from a booklet and the visual mode was significantly better than a description only. These were significant difference between photos only and drawings only. It was recommended that a combination of different modalities such as auditory, sign, and videos should be considered. There was a need to develop booklets to support sign learning. |
| Fourie (1997) | A South African study to determine the efficiency of a hearing person learning SASL vocabulary from media versus a teacher. A single subject time-series, control versus multiple treatments design was used to compare learning signs (80) from a Deaf teacher using written words versus 3 types of media: SL booklet, SL video and CD-ROM. | Vocabulary improved with all four methods. More signs were learned everyday, irrespective of the method. However, signs were learned most efficiently from the teacher, then the video, the CD-ROM, and then the written descriptions of signs. The clarity of photographs was a problem. |

2.3.1 Graphic representation of signs in sign teaching with the deaf

Stokoe, in 1960, was the first to use symbol notations to denote signs in graphic modality (Wilbur, 1979). This method was adopted with some adaptation in one of the first pedagogical sign systems, Seeing Essential English (SEE I) by David Anthony in 1971 (Gustason, 1990). The method was however found to be inaccessible to potential learners attending signing classes. The disagreement over the most accessible way to represent signs for the purpose of sign learning was so severe that there was a split in the team, resulting in a breakaway group who went on to develop the SEE II system which used pictures of sign production in the form of line drawings accompanied by written descriptions (Gustason, 1990). The objective was to have a permanent record of the visual-gestural elements of the signs, primarily for the purpose of teaching signs. Thus, the practical aspect of learning to sign dictated the format of recording signs on paper.

Sign illustrations attempt to capture elements involved in the production of a sign in print. As signing occurs in three-dimensional space, characterized by both manual and non-manual features, attempts to capture signs for the graphic media have posed a challenge. The difficulty depicting signs in two-dimensional print medium for sign learning is referred to in the literature. Early views on the sign illustrations can be seen in the comments by Babbini (1974) on available resources. Examples of this include comment on the illustrations in the *Signs for instructional purposes* by Bornstein, Hamilton, and Kannapell in 1969, where it is stated that illustrations are clear so those familiar with signing should be able to reproduce the signs without further help. Further, the “reading” of illustrated signs and reproducing them accurately becomes more difficult when there is no body orientation to rely on. While eliminating the body outline makes illustrations “crisp and uncluttered (there is no noise)”, it also eliminates the background locus that is the basis of the location elements in signing (Babbini, 1974, p. 341). The use of red arrows to capture the movement aspect is described as facilitative.

More recently, Costello (1995) refers to the fact that sign selection for her sign learning guide was influenced by its graphic representation when there was more than one regional sign to choose from. Sign illustrations generally do not stand alone. Costello (1995) presents each sign illustration in terms of four aspects: 1) the sign illustration, 2) English gloss, 3) instructions for forming the sign, and 4) a hint or memory aid which frequently provides information on iconicity. Each part is intended to make the sign as clear as possible and help the learner produce and recall the sign. It must be borne in mind that illustrations represent a snapshot of sign formation at some point in the execution. Many illustrations show the position where the hand begins making the sign and the position where it ends, others only the beginning. In either case, arrows are used to present the action more fully and the direction in which the hands move. Movement is depicted by the use of multiple images along with possible arrows to describe the sign formation and movements as accurately as possible. To keep the drawing uncluttered, numbers or letters, e.g. “1” and “2” indicate sequencing in a compound sign. These devices are used to show order in a changing handshape or movement in the sign. Illustrations show the front view of the signer and need to be reversed from the way a person reading them would perform them. For clarity some signs, are drawn from an angle. Illustrations usually show a right-handed signer, and descriptions written for right hand dominant persons. Left handed signers need to reverse the signs.

With regard to the print media in South Africa, there have been two major resource developments sponsored by government structures. The first is the book *Talking to the Deaf. Praat met die Doves. A visual manual of standardized signs for the Deaf in South Africa* by Nieder-Heitman (1980). The book is a compilation of 1500 signs, said to be drawn from the South African Deaf community. The format and style appear to be largely influenced by contemporary literature at the time, and incorporation of Sign Language research available. Sign entries are photographs of the models, both male and female, from different ethnic backgrounds; with arrows to reflect the movement aspect in either white or black for contrast, the English and Afrikaans gloss, and for some signs, a written description is given, e.g. *GIRL* - “Draw F-H down own side several times”, *BRIDE* – “indicate veil down back”. The descriptions appear to be a kind of explanation, either as a memory aid or for describing how the sign is formed, or with an example sentence e.g. “*WHAT* you say is true”. But this is not in a consistent format. The signs are arranged in categories.

The above book has been supplemented by an illustrated version called *Talking to the Deaf*, available, it is believed, since the late 1980s. No documentation regarding the origins of the book is available. According to the principal of Sezwile School for the Deaf, where the book was printed, the illustrations were done by Brother Augustus Sanders, from Sezwile School for the Deaf, who has since retired to Belgium (Mr Walker, personal communication, September 19, 2005). This illustrated version is used and referred to in local Sign Language courses, viz. Worcester Institute for the Deaf who also offer a course to undergraduate students in Speech-Language Pathology at Stellenbosch University. Monique Sutcliff, a Sign Language instructor at KZN Sign Language Academy, states that the illustrations are suitable for learning signs at the basic level (Ms M Sutcliff, September 22, 2005, personal communication). The book is also recommended as a resource by the KwaZulu-Natal Deaf Association according to the resident social worker, as people enquiring about resources to learn SASL are referred to this illustrated version of *Talking to the Deaf* (Ms I Rambally, personal communication, September 12, 2005). It appears the book is also being used as a resource by Deaf signers involved in teaching SASL. The illustrations are simple line drawings, including the torso and aspects of facial expression as in the original version. Signs are however, accompanied only by the English gloss, while the arrows use the same conventions as in the original text. Thus the drawings are close approximations of the originals. There are no descriptions accompanying the drawings. They are difficult to follow unless one has been taught the system of interpreting arrows and has had the signs

demonstrated. The illustrations seem to serve the purpose of aiding recall, similar to Sigsymbols (Cregan & Lloyd, 1993) and Makaton (Grove & Walker, 1990), as well as manuals used to teach signing with sign illustrations presented in phrases and sentences (Fant, 1983; Vold, Kinsella-Meier & Hughes Hilley, 1990). It appears the illustrations cannot be used independently in learning to sign. This book is also widely used in the field of AAC in the region of KZN.

The other publication, *The Dictionary of Southern Africans Signs* (Penn, 1992), a compilation of 3000 signs, was commissioned by the Human Sciences Research Council and the South African National Council for the Deaf (now DEAFSA) in the late 1980s to document a standardized SASL (Aarons & Akach, 2002). The dictionary notes the many variations of SASL. The sign representations are in the form of photographs. The quality of the photographs has been an issue because of a lack of clarity on items, noted by both the author and others (Cohen, 1996; Fourie, 1997).

Thus consideration has to be given to the graphic representation of the sign used as a support to sign learning. Loeding et al. (1990), in teaching signs to hearing staff at a special school, selected sign illustrations on the basis of clarity of handshape, clarity of movement, and contact. These sign illustrations were used as a cue during sign teaching, and were given to the staff as a resource to keep on completing the training. Fuller et al., (1997) note that graphic symbols, which could be extended to sign illustrations, should consider the characteristics of iconicity, complexity, perceptual distinctiveness, size, level of abstraction, and degree of ambiguity.

2.3.2 Arrangement of sign illustrations for contextual teaching

The arrangement of sign illustrations for learning has received some attention (Flodin, 1994; Costello, 1995). While Sign Language dictionaries present signs in alphabetical order, manuals organize signs in semantic or syntactic categories. According to Costello (1995), signs are grouped by topics for two reasons: 1) topics comprise a manageable number of signs that might easily be learned by a student in one sitting, and 2) signs in a category often share certain aspects of forming them that will assist in remembering them. However, it is noted that if the book is to be used as a dictionary or resource manual, the index is indispensable in that it provides an alphabetic listing of English glosses for quick and easy

access to any sign in the book. Flodin (1994) points out that the chapters in his book are arranged in the order they would be taught in a classroom setting, although there is no particular order that must be followed in learning Sign Language. He further recommends that the manual alphabet be learned first as it expands the ability to communicate with others. However, skipping from chapter to chapter, picking out signs which one wishes to learn first is also acceptable.

Some earlier compilations of signs have been arranged in the categories of handshapes, for example the book, *Say it with Hands* by Fant in 1964; while some manuals and guides teaching signing have been presented in phrases and sentences rather than as individual lexical items. An example is the phrase book to learn ASL by Fant (1983). Here, a series of signs are presented in ASL grammar. An English translation accompanies the string of illustrations depicting the sign construction. Costello (1995), in her signing manual, begins by introducing 60 phrases, most being depicted by only one sign. Vold et al. (1990) produced a manual using a sentence format with signs from ASL using KWS, with the full English translation below the signed sentence. The format is said to be in keeping with the fluid and co-articulated nature of signing with signs in context. The material relates to actual diagnostic and rehabilitative sessions most frequently used, and useful to clinicians in the professions of Speech Language Pathology and Audiology. The resource is said to have been developed out of a frustration with the lack of resources in the field with regard to undergraduate training (Vold et al, 1990). It includes a glossary of signs that can be used to create original sentences. Users of the text are strongly urged to attend Sign Language classes and are advised that as signing improves, to move away from the format to using the glossary to form original sentences. Practical considerations include an “easy-to-use flip card format” that leaves the hands free to sign the sentences. During the era of TC there was extensive use of sign illustrations in teaching material for children with the development of story books and posters. Signs from MCE accompanied the script (Bornstein et al., 1990). Niemann et al. (2004), use sign illustrations arranged vertically in a block with KWS, when advising parents on how to combine signs for meaningful communication. It is therefore evident that various formats have been used to depict and present sign illustrations for the purposes of sign teaching.

With regard to teaching language and communication across modalities to hearing individuals, the Makaton Vocabulary is arranged in nine stages with more functional

vocabulary for communication taught earlier, and in what is considered manageable amounts (Grove & Walker, 1990). Fuller et al. (1997) refer to display options with regard to using graphic symbols in the field of AAC. They state that choosing how to display graphic symbols is one of the challenges faced in the field. Organisational strategies (Fuller et al., 1997) include: 1) frequency of use of a symbol which determines its placement in a most strategic position - influenced by logic in terms of visual, perceptual and motor needs. Frequently used symbols are typically placed in the upper left corner of displays arranged in rows and columns for quick access; 2) taxonomic/categorical arrangement: symbols belonging to the same categories are grouped in a similar area on the display. Many communication books and boards are arranged categorically. However this does not facilitate expression of relational concepts or support syntactical use; 3) Syntactic arrangements: displays often have a noun + verb + object organisation (e.g. Fitzgerald key). This method is also referred to as syntactic-semantic. It is said to expose users to the logic of generative language and afford communication partners rich modelling opportunities; 4) Schematic/topic arrangement: displays symbols for all items needed for a particular activity e.g. snack-time at school. This arrangement is often referred to as a topic board arrangement (Burkhart, 1993; Goossens', Crain and Elder, 1994). Topic boards are not highly supportive of syntactical structures, but offer representation which may facilitate recall; 5) influence of partners: displays are sometimes organised to accommodate the needs of partners. Communication displays using the technique of ALS are said to have application in acquisition of a second language, where the picture cues serve as a bridge to understanding the new language as the technique lends itself to interaction through scripts and is more than a command board (Goossens' et al. 1994). Cregan and Lloyd (1990) linked Sigsymbols to construct phrases and sentences by joining the sigsymbol boxes in a line using key words only. A written script accompanies the graphics to provide an English translation as needed. More recently, Nigam, Schlosser and Lloyd (2006) described the matrix procedure in combining graphic symbols of linguistic elements in systematic combination matrices to induce generalized rule-like behaviour in children with cognitive disabilities.

While the above does not have a direct reference to the teaching of signs, the use of sign illustrations for training purposes may, it seems, be arranged in various ways to facilitate use and learning. Related to this is the issue of syntax when signs are combined, i.e. signing in spoken language or Sign Language word order. Recent texts seem to take a flexible approach. For example; Flodin (1994) who states with regard to the signs in his book, that

one can use either, the decision rests with the signer as to which method to use. He goes on to suggest that the Deaf people with whom the individual associates, or the instructor, will exert an influence. Moores' (1996) definition of Total Communication reflects an expansion of this view in that he states there is now a trend towards code switching, that is, alternating between MCE and ASL. This concept is in keeping with a bilingual framework.

Pidgin Sign English, resulting from the contact of spoken language and Sign Language is widely observed in the communication between hearing and Deaf signers. This communication involves elements of both languages – and is highly variable. Deaf signers are said to adjust their signing in the direction of signing in English word order to accommodate hearing individuals attempting to communicate with them. Akamatsu, Stewart and Mayer (2002) refer to this contact-signing as a legitimate sociolinguistic phenomenon, having a biologic and motivational function, and possibly a synergy in the way signing and speaking aid in the comprehension of simultaneous communication messages. KWS is an example of such a scenario. However, should speech accompany signs, an even flow of speed between vocal and manual languages must be maintained (Costello, 1995).

Even though sign illustrations are used for the recording of signs in a dictionary as well as to learn signs, their use as a training strategy has not been scrutinized in the literature. Focus has rather been on sign production, with the assumption that access to a sign illustration would be beneficial once the sign has been demonstrated or explained.

2.4 Sign characteristics influencing learning

Both linguistic aspects and the manual characteristics of signs have been considered in sign learning. The characteristics of signs related to manual production are considered to influence sign learning, especially in the initial stages of learning (Beukelman & Mirenda, 1998). It has been suggested that signs, especially in an initial lexicon, be sequentially arranged to increase ease of, and success in learning (Doherty, 1985). Loeding et al. (1990) in teaching hearing adults to sign (Table 2.1), loaded the first and second training sessions with a large percentage of signs that could be easily learned. Signs that were highly translucent, one-handed or symmetrical, visible and involved contacting another part of the signer's body featured prominently in the first and second sessions of the four scheduled sessions of the training programme to teach 122 signs selected for linguistic relevance.

2.4.1 *Sign parameters*

Signs serve the function of words in spoken languages. There are four parameters that make up signs in Sign Language. They are the handshape, the location, the movement and the orientation of the hands (Wilbur, 1979; Loncke & Bos, 1997). An alteration or omission of any one of the four aspects may cause the sign to become a completely different sign (Costello, 1995). At least two parameters are involved in the production of a sign (Hoffmeister, 1990). There are limits to the number of locations, movements and handshapes that can be incorporated into a single sign, and there are rules that govern which of the hands may assume which configurations (Hoffmeister, 1990; Stokoe, 1971). These four aspects are said to comprise the manual characteristics of the sign.

2.4.1.1 Handshape

Signs may have more than one hand configuration or may change from one to another hand configuration during the execution of a sign. There are only a few handshapes that are relevant to a particular Sign Language, and only a small subset of locations are actually used, and some with movement (Stokoe, 1971; Kyle & Woll, 1988). With regard to signing in South Africa, Penn (1992) states that many different handshapes have been observed and classified according to the fingerspelling convention. It is stated that many of the handshapes are equivalent to the signs used in the one-handed fingerspelling alphabet as used in America, with others having their origin in Irish or British fingerspelling systems historically used in South African schools for the deaf.

For two-handed signs, the signs may not be symmetrical. When one hand assumes the dominant role, the non-dominant hand assumes only a limited number of hand configurations. These include the A, C, 5, O, G, and B handshapes. According to Battison et al. (Bornstein, 1990), these non-dominant handshapes are found in all Sign Languages studied so far, and are the earliest handshapes acquired by Deaf children (Doherty, 1985). The influence of handshape on learning of signs has been considered in teaching signs to hearing individuals, both with and without disability. Loeding et al. (1990) were influenced by handshape in their sequencing of signs for their sign teaching workshops in terms of level of difficulty of signs as “easy, medium and hard”. The classification was based on the work of Doherty (1985) and the 1973 work of Boyes Braem (1994) on stages of handshape acquisition. Stage I signs

include handshapes: A, S, L, baby O, 5, C & G; Stage II: B, F & O; Stage III: I, D, Y, P, 3, V, H, W; and Stages IV - V: 8, 7, X, T, R, M, N, E (Boyes Braem, 1994). The depiction of these handshapes, and the handshapes observed in SASL (Penn, 1992) are presented in Appendix 1.

Related to handshape, are the aspects of number of hands and the symmetry of handshapes in two-handed signs, which have also been considered in terms of ease of signing (Granlund et al., 1989, Loeding at al., 1990). Symmetrical two-handed signs are considered to be of a similar level of difficulty as one-handed signs (Doherty, 1985). Granlund et al. (1989) found symmetry to be a significant predictor of productive recall of signs.

2.4.1.2 Movement

There are a large range of movements that can occur in the formation of a sign. Movements could involve a change in handshape, movement from one location to another, or movements could be embedded inside one another – for example, the whole hand may be moving while the fingers wriggle simultaneously. The movements may be large, or small, and the orientation of the hand may be altered. In addition, the direction of movement, the speed of movement and the type of movement are relevant (Fischer, 1982; Hoffmeister, 1990). Constraints have been noted with regard to the interaction of parameters of handshape and movement to produce a lexical item that is recognised as a natural sign. Symmetric signs are executed by alternating movements that have the same hand configurations on both hands, except for rare exceptions (Hoffmeister, 1990). The same rule applies to symmetric signs executed away from or toward the midline.

The influence of movement on ease of signing was considered by Granlund et al. (1989) in that signs with two or more different movements and signs combining two different signs in a lexical item were considered to make signs more complex with regard to production. Others have also looked at this aspect in terms of repetition of movement and multiple movements (Doherty, 1985; Karlan & Lloyd, 1983).

2.4.1.3 Position

Signs may be situated at a location on or near the body or in a location on or near the hands. On the hands, contact is made on surfaces and edges of the hand. Sign locations also contain links to meaning, for example, those near the eyes link to seeing. The position of the hand is always described in relation to the signing space. The hands and arms usually perform in what is called the signing space or “sign bubble”, the space within 12 inches of either side of the body, 18 inches in front, and extending from the waist to 6 inches above the head (Penn, 1992; Hoffmeister, 1990). The sign-space relates to and influences the production of signs. For example, signs performed at the outer edges of the signing space tend to be two-handed and use large or whole forearm movements, and have identical handshapes. This has a bearing on perceptual predictability, reducing visual scanning during input and so time-effectiveness. As signs move towards the centre of the signing space more detailed movements are possible, for example, wriggling of the fingers. Handshapes may differ, and single-handed signs may involve multiple movements. To reduce visual perceptual load when both hands have different handshapes, the constant or base hand (usually the one that does not move) uses one of the basic handshapes: A, B, O, G, S, and C (Hoffmeister, 1990). Signs formed on or near the head may have more complicated handshapes and movements, as the eyes of the listener are focussed on the chin and helps prevent overloading of the perceptual system. Signs on or near the face have shorter movements along a path. It thus becomes evident that what has typically been considered as motoric complexity in sign production very much relates to constraints placed on the visual perceptual system in terms of sign comprehension. With regard to ease of learning, signs that have contact with another part of the body, and those that are visible to the signer, are considered to facilitate sign learning (Granlund et al., 1989, Loeding et al., 1990; Doherty, 1985; Karlan & Lloyd, 1983).

2.4.1.4 Orientation

Orientation refers to the direction in which the palm and the hand point. The palm orientation may be towards or away from the signer, left, right, diagonal, downwards or upwards. The hand orientation may be different from the palm orientation, and is described in terms of the position of the back of the hand. The orientation is closely related to handshape and movement aspects relating to the production of the sign. Thus, its influence in sign learning is not considered separately.

In addition to the above parameters, non-manual aspects have also been considered in the production of signs (Hoemann, 1978; Penn, 1992, Costello, 1995; Loncke & Bos, 1997). These include facial expression, eyes, head and body movements or posture. Non-manual features occur simultaneously and can change or emphasise the meaning of the sign, for example, raising of the eye brow to indicate a question. Signs that display emotions have facial expressions that accompany them. There are also a number of aspects of sign syntax that are expressed non-manually. The syntax of signing - sign morphology - allows for the linking of signs for production of meaningful sentences in a visual-gestural language. Hoemann (1978) stresses the fact that knowing a language means much more than knowing its vocabulary. However, while cognizance is taken of this critical aspect, it is beyond the scope of this study to describe the syntax of signing other than to acknowledge the complexity of a visual-gestural language and one that is totally different to a spoken language.

2.4.2. Iconicity

Sign Languages, like spoken languages, are relatively arbitrary systems of symbols. However, according to Costello (1995) many signs are natural gestures and iconic, making them culturally relevant. Other signs are based on some characteristic of the sign's concept, for example, CUP in ASL, where one hand represents the saucer and the other circles the shape of the cup. According to Costello (1995), with regard to ASL, no data exists to show how persons who use ASL use this feature, and data that does exist, suggests that people unfamiliar with ASL cannot guess the meanings of most of the signs from its lexicon. According to Russo (2004) transparent and translucent signs are frozen iconic forms whose iconicity is determined by different constraints such as language, culture, modality and universal constraints. There also seems to be a historical trend towards more abstractness and less iconicity in ASL as signs lose their idiosyncrasies and pantomimic origins. Hoemann (1978), states that the value of using the iconicity of signs is as a mnemonic device for learning their meanings. Sign teachers often call attention to the extent to which signs resemble what they mean, since resemblances may help students remember the signs and their meanings. According to Costello (1995) iconicity makes Sign Language easier to learn and knowing historical origins contributes to the fun of learning Sign Language. Flodin (1994) suggests beginning sign learning with topics such as food, sport and animal signs

because their movements have an apparent relationship to their meaning, making them easier to recall. Granlund et al. (1989) reported that translucency had a significant influence on productive recall of signs. Loeding et al. (1990), in teaching signs to school staff, maximized the introductory sessions with highly translucent signs to facilitate sign acquisition and success early in the sign programme. The Makaton program has been criticized for not taking iconicity into consideration in sequencing signs for teaching (Grove & Walker, 1990). Sevcik et al. (1991) note that, although comparative data is required, it appears that while iconicity may aid learning initially, long term generalization may be better with arbitrary symbols.

2.4.3 Relevance of vocabulary to the individual

It is an accepted notion that signs have to be selected from the general set, and be presented in manageable chunks to the learner in the form of an initial lexicon. Of critical importance also is the issue of functionality. The learning of functional vocabulary serves communication needs, and as such is motivating both for the user and partners (Loeding et al., 1990; Spragale & Micucci, 1990). Arranging signs into units to teach is generally within themes, selected from an identified vocabulary set. Semantic similarity is said to facilitate sign learning and semantically related signs are therefore grouped in signing exercises (Loeding et al., 1990; Costello, 1995). However it has been recommended that signs that are similar with regard to formation, that is cheremic similarity, should not be placed in the same teaching set early in sign learning as they can be confused (Loeding et al., 1990).

Selecting vocabulary for an initial lexicon requires familiarity with language development, communicative competence, symbol systems, their constraints, and the communication needs of the individual user. It is also critical to select vocabulary that is functional and motivating (Grove & Walker, 1990). Various methods have been suggested to assist with the selection of an initial lexicon. Arvidson and Lloyd (1997) specify using the following: 1) informants such as partners; 2) vocabulary lists that are available to develop a core list, and supplementing by means of fringe vocabulary, obtained through interviews; 3) environmental inventory, reflecting activities and interests in meaningful observable contexts, for example, enquiring of parents how children like to spend their time; 4) ecological inventories, identifying environments through a task analysis to obtain information on communication demands in different environments; 5) daily routines diary, for scripting by breaking an

activity down into smaller steps and recording what words and expressions are needed, thus including words from a variety of parts of speech, serving a variety of functions; and 6) the dialogue method. A vocabulary selection protocol for school children, as suggested by the Purdue University Technical Team (Arvidson & Lloyd, 1997), further notes that vocabulary refers not only to words, but to phrases, sentences, and longer utterances, and that vocabulary could be prioritized using a scale from 1-4, considering frequency of use and power (level of interest and motivation).

The Makaton programme appears to be more prescriptive with the use of a selected vocabulary for training purposes. The system itself is said to be open-ended and based on a common core of functional concepts. The approach advocates the use of a core vocabulary of 300 words arranged for introduction in nine stages. It is argued that the core vocabulary is a realistic goal as vocabulary is presented in a consistent and balanced manner, for example, vocabulary in Stage One allows for construction of sentences based on the variety of syntactic structures available (Grove & Walker, 1990). Further, the authors argue that the use of a core vocabulary is also recommended for teachers of second languages, and assists with a common reference in teaching vocabulary. Interactive partners are said to need a system that is simple to learn, immediately useful, and which allows them to build up their confidence quickly, and such that their task is manageable, as unrealistic demands are bound to result in failure (Grove & Walker, 1990). Loeding et al. (1990), in selecting signs to be taught to staff at a special school, used the staff as informants, using a three-step open procedure. Firstly, by listing 50 signs considered needful in their context; secondly, expanding the list by providing vocabulary needed within 11 given school environments, and thirdly generating vocabulary for a list of given categories. A total of 1063 vocabulary items were elicited, which were finally reduced to 122 signs based on frequency of requests for the particular sign. Spragale and Micucci (1990) also consulted staff in a home facility in formulating a list of signs to be taught within a group. Joint listing of vocabulary was used, including vocabulary suggested by the Speech-Language Therapist, supervisor and direct care staff. A list of 300 signs was compiled and then prioritised for implementation, two at a time. The finding was that the different groups had different vocabulary needs, although there was a small core of 20 common signs.

Thus it appears that while signs need to be selected for linguistic relevance, the sign characteristics also have an influence on acquisition, especially early on in learning to sign.

The dynamic nature of signs as evident in the description of sign parameters (Section 2.4.1) requires that signs be presented in three-dimensional space during sign teaching. However, the use of graphic representations of signs in a static format has the potential to aid sign learning by capturing signs for recall. This has been the assumption with using sign illustrations in signing classes. It must be acknowledged that depicting a dynamic sign in static form cannot capture all parameters of the signs, and this would appear to influence its impact. Never-the-less, this form of presenting signs to parents to assist with sign teaching appears to be relevant in exploring methods to facilitate access to signing.

2.5 Conclusion

Parents of signing children need to learn to sign, with all the implications and challenges this may bring. Special efforts must be made to assist them in this process. The issue of parents of deaf children as adult learners with regard to intervention is raised by Broder-Johnson (2001) within the approach of family-centered intervention. Transformation learning theory within family-centered intervention requires the provision of information and support to assist parents in making the transition to a new role – that of being parents of a deaf child. It promotes the process of parents becoming aware of their assumptions and beliefs about deafness, disability, and related concepts, and revising these assumptions, and consequently their behaviour, based on critical self-reflection. This has implications for commitment to learning a new mode of communication.

The issue of parents of deaf children learning Sign Language from the perspective of second language learning is a unique situation, presenting a serious challenge. The motivation for learning the language is related to their child's hearing loss, and the issues of acceptance that accompanies this. Parents need to be assisted in understanding the implications of the hearing loss, the need for learning Sign Language, the nature of Sign Language, the issue of Deaf culture, and their role in the process of acquiring a language that facilitates communication between themselves and their deaf child. This must be done with sensitivity and support. Further, special consideration has to be given to their learning Sign Language within a context that is functional and meaningful in their everyday lives. Vocabulary must have relevance and be seen as having direct application. Efforts must be made with regard to supporting learning through available resources. The use of sign illustrations specifically has been widely used in sign learning. Signs represented in graphic form provide a static view of

a dynamic sign, capturing the sign in time. The exact role of this aid in sign learning has not been explored from a research perspective. This study aims to explore the use of sign illustrations in graphic displays in the context of acquiring an initial sign lexicon by parents of deaf children who are reliant on Sign Language. There is a lack of information in the literature with regard to the contribution of sign illustrations in teaching signs.

2.6 Summary

The chapter attempted to place in context the learning of signs by hearing parents of deaf signing children. The use of a visual aid, that is theme-based graphic displays of sign illustrations, in supporting sign teaching, was explored from the perspective that graphic representations provide multi-modal input, and thus support learning. Signs were described in terms of their manual characteristics and depiction through graphic representation with regard to sign learning. The importance of selecting a relevant initial sign lexicon that would be motivating to mothers was considered.