



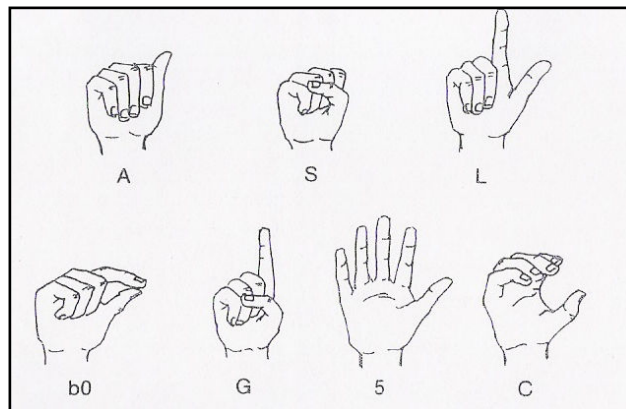
APPENDIX 1  
Handshapes

1. Handshapes in SASL (Penn, 1992)

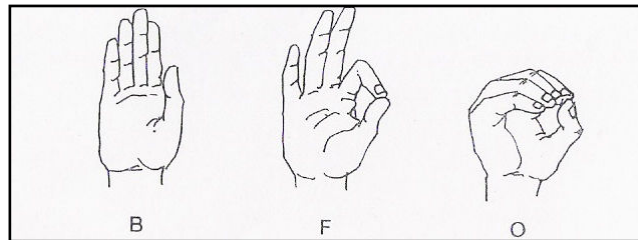
B Flat.....		B̂.....		B.....		Bb.....		B̂.....		B̂.....
G Point.....		G.....		Gd.....						
5 Spread.....		5.....		54.....		5̂.....		5̂.....		
A Fist.....		As.....		A.....		At.....				
6 Good.....		6.....		6̂.....						
H Spoon.....		H.....		Ĥ.....		Ĥ.....				
X Hook.....		X.....		X̂.....		X̂.....				
L Gun.....		L.....		L̂.....		L̂.....				
O Round.....		O.....		Ô.....		Oe/E.....				
C Cup.....		C.....		Ć.....		Cb.....				
V Two.....		V.....		V̂.....						
F Okay.....		F.....		F̂.....		Ff.....				
8 Middle.....		8.....		8̂.....		8̂.....				
I Bad.....		I.....								
W Three.....		W.....		Ŵ.....						
Y Ambivalent.....		Y.....		Yg.....						
11 Write.....		11.....		i1.....		i1.....				
3 Eight.....		3.....								
12 Salt.....		12.....		i2.....						
λ Rude.....		λ.....		λ̂.....						
R Wish.....		R.....								
∩ Animal.....		∩.....		∩h.....						
P Letter-p.....		P Irish-p.....		P American-p.....						
Q Irish-q.....		Q Irish-q.....		Q American-q.....						
M Letter-m.....		M.....								
N Letter-n.....		N.....								
4 Four.....		4.....								
7 Seven.....		7.....								
9 Nine.....		9.....								
10 Ten(ASL).....		10.....								
b Bunch.....		b.....								

**2. Stages of handshape acquisition in ASL (Boyes Braem, 1994)**

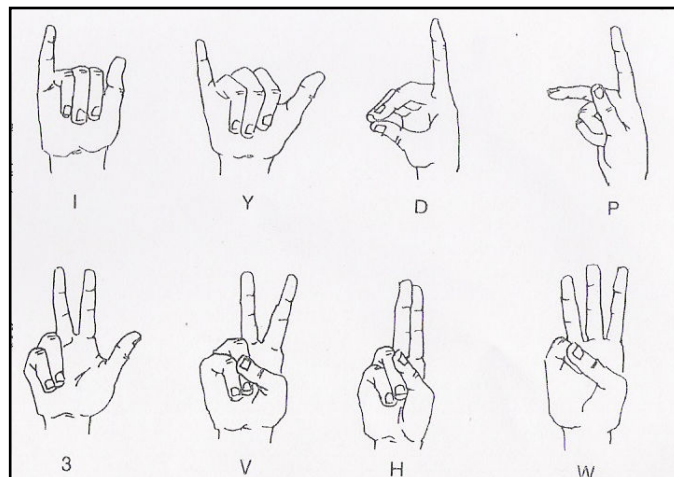
**a) Stage I Handshapes (A, S, L, Bo, G, 5, C):**



**b) Stage II Handshapes (B, F, O):**

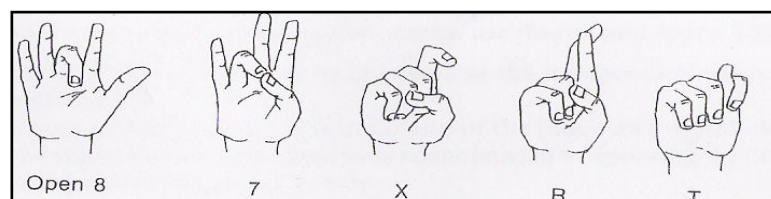


**c) Stage III Handshapes (I, Y, D, P, 3, V, H, W):**



**d) Stage IV & V Handshapes (8, 7, X, R, T, M, N).**

Note: "N" and "M" are variations of "T", with the thumb inserted either after the second or third fingers respectively.





## Appendix 2 Ethical clearance

2001-02-14

Mrs L Joseph  
10 Constance Cawston Road  
**WESTVILLE**  
3630

Dear Mrs Joseph

**APPLICATION : ETHICAL PROCEDURES FOR RESEARCH**

Your application to the Research Ethics Committee of the Faculty regarding appropriate ethical procedures for your PhD in Augmentative and Alternative Communication has been reviewed. I have the pleasure to inform you that your application has been approved.

We wish you everything of the best in the execution of the research.

Yours sincerely

.....  
Prof D Beyers  
**CHAIRPERSON : RESEARCH ETHICS COMMITTEE**

cc. Prof E Alant  
Department of Communication Pathology  
University of Pretoria



### Appendix 3 Letter to school requesting permission to conduct study

Centre for Augmentative and Alternative Communication	Sentrum vir Aanvullende en Alternatiewe Kommunikasie
& INTERFACE	



- 2002 Shirley McNaughton Award for Exemplary  
Communication received from the International Society  
for Augmentative and Alternative Communication  
1998 Rolex Award for Enterprise: Associate Laureate  
1995 Education Africa Presidential Award for Special Needs

Website: <http://www.up.ac.za/academic/caac>  
Fax/Faks: (012) 420 – 4389  
Tel: (012) 420 – 2001  
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Faculty of Education / Fakulteit Opvoedkunde  
Centre for Augmentative and Alternative Communication  
Sentrum vir Aanvullende en Alternatiewe Kommunikasie  
University of Pretoria, Lynnwood Road  
PRETORIA, 0002  
SOUTH AFRICA

The Principal

**RE: PERMISSION TO CONDUCT RESEARCH AT \_\_\_\_\_**

Our brief telephonic conversation earlier this year bears reference. Thank you for kindly agreeing to consider \_\_\_\_\_ as a possible site for inclusion in the research I am undertaking.

As you are aware, I am a Speech Therapist and Audiologist, currently registered for a PhD in Augmentative and Alternative Communication (AAC) at the University of Pretoria, with Professor E Alant as supervisor.

My area of interest is the communication between deaf signing children and their hearing parents. Many researchers have commented on the generally poor use of signing within the home context. Studies undertaken in South Africa have observed that many parents have little if any signing skills (Cohen, 1996, Storbeck, 1994, Joseph, 1998). The reasons for this are complex, and often related to access and attitude.

The present study acknowledges that the deaf child has the right to communicate in his/or her own natural language, i.e. sign language. It appears, however, that many of them are unable to use this form of communication with those closest to them, viz., their families. This is especially the case with the late diagnosed deaf child whose parents typically do not attend parent guidance programmes and have difficulty catching up and keeping up with the child who soon begins to sign fluently. This is a common scenario in South African.

This study aims to investigate one strategy to facilitate signing in the home for this specific population. Methods of intervention from the field of AAC, viz. communication displays as an introduction to signing is to be investigated, using participants based at schools for the deaf in Kwa-Zulu Natal. The primary outcome of the study is seen as the development of a training method that could be used to facilitate the learning of signs. The immediate benefit to parents will be participation in a programme to assist in learning to sign.



With regard to \_\_\_\_\_, this would require:

- 1) My obtaining access to children (possibly 3-4 children in the Bridging or Junior Primary phase) and their non-signing mothers who meet specific criteria
- 2) A half- hour interview with teachers in the Junior Primary phase.
- 3) A consultation with the resident Speech therapist/Audiologist/Head of Department with reference to (1) and (2) above.

Ethical clearance has been obtained for the project from the University of Pretoria Ethics Committee. Please refer to the attached letter. All participants, will be guaranteed anonymity and confidentiality. The results of the study will be made available to the school on completion. I look forward to your favourable response.

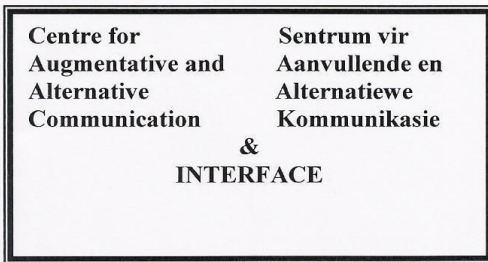
Yours sincerely

**Mrs Neethie (L.) Joseph**

**Prof Erna Alant  
Supervisor**



**Appendix 4**  
**Letter to school**



2002 Shirley McNaughton Award for Exemplary  
Communication received from the International Society  
for Augmentative and Alternative Communication  
1998 Rolex Award for Enterprise: Associate Laureate  
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Centre for Augmentative and Alternative Communication  
Sentrum vir Aanvullende en Alternatiewe Kommunikasie  
University of Pretoria, Lynnwood Road  
PRETORIA, 0002  
SOUTH AFRICA

Dear parent

**PARTICIPATION IN STUDY: “The impact of using theme- based graphic communication displays on the learning of signs by mothers of deaf children”**

Thank you for agreeing to participate in this study. Many parents experience difficulties in learning and using sign language with their children. This study involves looking at strategies to assist parents of deaf children to learn some basic signs as an introduction to sign language. By participating you will be helping us to have a better understanding of methods that can be used in sign language learning by hearing mothers who have children who are dependent on sign language.

You are required to take part in 6 half hour sessions. During this time, you would be required to participate in:

- 1) An interview
- 2) Four half – hour lessons over four days, during which you will learn a set of basic sign vocabulary,
- 3) Two follow up sessions: the first, a day after the training; then a follow- up interview a week later.

The sessions will be video-taped, to assist me in monitoring the training. The videos will be used strictly for the purpose of the research. Note your participation is totally voluntary and you can withdraw at any stage. If you do take part in the study, you will remain anonymous, and your information will be kept confidential. Your participation is much appreciated. Please feel free to call me if you have any queries.

Sincerely

**Mrs Neethie (L) Joseph**  
Tel: 2664510 (home)  
260 7625 (work)  
0826891412 (cell)

**Prof Erna Alant**  
Supervisor



CONSENT FORM

I have been informed about the nature of the study “**The impact of using theme based graphic communication displays on the learning of signs by mothers of deaf children**”

I understand:

- My participation is voluntary, and I can withdraw from the study if I so wish without any penalty
- My identity will not be disclosed, I will remain anonymous, and my contribution will be kept confidential.

Signature: \_\_\_\_\_

## Appendix 5

### Preliminary procedures for vocabulary selection: pilot studies

Objective	Procedure	Justification	Results	Recommendations
<p>1) To assess methods of vocabulary selection using mothers and teachers</p>	<p>One mother of a deaf child, as well as two grade two teachers – one hearing and one Deaf, from the selected school participated. The child was a profoundly deaf 10-year old female with no intelligible speech, but “some” speech-reading ability. Both sets of informants were asked to:</p> <p>a) Generate as many words as they possibly could that would improve communication in the home-up to 110 words</p> <p>b) Name 3-4 themes that would be important to facilitate communication in the home.</p> <p>c) Words generated were compared to each other as well as to available vocabulary lists used to teach signs to communicative partners (Loeding, et al. 1990, Grove &amp; Walker, 1990).</p>	<p>It was felt that teachers would know the language abilities of the child and therefore be able to supply useful vocabulary that would be known and needed by the children. This was to ensure that the language input in the home was in keeping with the child’s language level as reported by teachers.</p>	<p>a) There were noticeable discrepancies between the words that were generated by the teachers and the mothers. Only approximately 10% of the words were common. The teachers appeared to focus more on language learning, while the mother was more focused on information sharing. In addition the mother tended to produce words, phrases and sentences in her submission, whereas the teachers produced mainly words in syntactical categories.</p> <p>b) Themes submitted by both sets of informants were more congruent (family/home, meals, school, and safety/behaviour).</p> <p>c) The vocabulary did not closely approximate the word lists chosen. This could be due to the context in which the existing lists were used, i.e. with teachers and hearing children, and focussing on initial lexicon for younger</p>	<p>a) Mothers should provide the primary input in selecting vocabulary to ensure that the selected vocabulary was functional in their context</p> <p>b) Vocabulary lists should be developed around items and themes submitted by parents.</p> <p>c) Existing lists in the field should be used to supplement vocabulary supplied by mothers.</p>



Objective	Procedure	Justification	Results	Recommendations
			children.	
<p>2) To assess strategies to elicit vocabulary from mothers/ care-givers</p>	<p>A group of 5 mothers, who were attending an orientation programme at the school for late diagnosed children just enrolled, were interviewed to assess the proposed strategy of selecting vocabulary. This was primarily to look at the current level of communication and assess the viability of using common themes. Participants were 4 mothers and an aunt who was a primary caregiver, who were all Zulu speaking. One of the participants served as interpreter. The class teacher was present during the group interview.</p> <p>In addition, 4 mothers from a second intake class were interviewed individually.</p>	<p>Open ended questions were used requesting mothers to describe how they communicate at home, and what is usually communicated. They were not asked to submit lists of vocabulary as it was felt this was not ethical as there would be no follow- up teaching with this group.</p>	<p>The mothers described themselves as communicating by using natural gestures and pointing, while using Zulu words and phrases. With regard to vocabulary used, individual words were not forthcoming – rather scenarios and related utterances were provided. These were however, very limited. Themes mentioned related to morning routine, meals, getting dressed, behaviour, and explanations about going out. Natural gestures were used predominantly.</p>	<p>Mothers selected for the study and pilot study would provide the vocabulary for the programme. The tasks would need to be very structured in order to elicit a wide enough vocabulary for the programme. Communication with non- signing parents was very impoverished and rating of signs may be difficult.</p> <p>It was recommended that these parents participate in a language stimulation programme, targeting functional sign vocabulary. Feedback was given to both the class teacher and student clinicians working with the children and their parents.</p> <p>Using common themes across all participants was feasible. One would however, need to look broadly for themes and common functional vocabulary. Input from the researcher would be required.</p>

## Appendix 6

### Vocabulary selection procedure used in the main study

Steps in vocabulary selection	Procedure	Justification	Results	Recommendations
<p>1. Participant contribution of vocabulary and themes</p>	<p>Interviews were conducted individually with participants selected for both the pilot study and the main study. The following methods were used to elicit vocabulary for the programme:</p> <p>a) <u>Open-ended task</u>: Mothers were asked to submit as many words or phrases and sentences as possible. In doing so they were asked to:</p> <p>1) Reflect on daily routines, “ Think about what you do daily at home and need to talk/communicate about”</p> <p>2) Provide vocabulary that would be useful in the home context, i.e. allowing them to communicate about what they wanted to or would like to in the context of everyday life, “ List all the words/phrases or sentences/expressions in signs that would be helpful to talk/communicate about these daily activities and interactions”</p> <p>3) Provide items that would improve communication between themselves and their child, “List vocabulary that would improve communication with your child at home, include things that your child usually wants to communicate as well.”</p> <p>They were told that they could submit up to 128 words. This was to encourage them to think broadly, and contribute as many functional items as possible.</p> <p><u>b) Directed task</u>. This second step was used to somewhat prioritise targets in terms of settings</p>	<p>This was to ensure that the selected vocabulary was highly functional and would therefore be motivating in the learning of signs, encouraging commitment from the participants (Arvidson &amp; Lloyd, 1997; Loeding et al, 1990). Semantically related signs taught together, as within themes, are considered to facilitate sign learning (Spragle &amp; Micucci, 1990). The procedure outlined by Loeding, et al. (1990) and Spragle &amp; Micucci (1990) were used with adaptations. Loeding et.al. (1990) had a teaching vocabulary of 122 signs in their programme, while the Makaton programme (Grove &amp; Walker, 1990) has a core vocabulary of about 350 words with approximately 70 being</p>	<p>Four mothers contributed vocabulary, three from the main study and one from the pilot study as one participant was not available over a protracted period. However, prior to commencement of the study, this participant was taken through the same process, but did not contribute any new items. Her responses were minimal.</p> <p>a) Signs: A total of 289 words were generated by the four participants, of these 210 were new items and 79 were repeated items (45 twice, 15 thrice and 2 four times). Refer to Appendix G. Mothers found the open ended task difficult, there were periods of silence initially, and it appeared overwhelming, e.g. Participant SG stated “nothing comes at the moment”. Responses were more forthcoming with themes. Also, submitted vocabulary was primarily what mothers felt they wanted to communicate, rather than from the child’s perspective despite being asked to consider what the child may wish to communicate.</p> <p>b) Identified themes: Routines were considered important. Refer to Appendix H for parent submissions with regard to vocabulary within themes. Eight broad themes were mentioned, mainly in the context of routines within lesser themes.</p>	<p>Four themes should be selected, based on which were most common and the vocabulary should be arranged around the themes. This would require that themes be further condensed to ensure sufficient and equal numbers of words in the sign sets.</p> <p>Novel signs requested should be addressed in the debriefing interview.</p> <p>Researcher input would be required to ensure that the selected themes had the necessary spread of vocabulary to meet the requirements of a theme-based communication display.</p> <p>The 4 themes that</p>

Steps in vocabulary selection	Procedure	Justification	Results	Recommendations
	<p>and themes to be included in the training programme. Mothers were asked to specifically submit four topic areas in order of priority, together with the words, phrases and short sentences around the themes or topics identified. This could include vocabulary previously mentioned or include new topics or vocabulary. The four most frequently mentioned topics were to be included in the training programme.</p>	<p>taught in their introductory workshops.</p> <p>Topics were restricted in an effort to control vocabulary size. Loeding et.al., (1990) had initially generated a vocabulary of 1063 which was first reduced to 612, and finally 122 signs.</p>	<p>The following themes were identified and categorized from parent input:</p> <ol style="list-style-type: none"> <li>1. Getting ready/ morning routine (waking up, bathing, getting dressed, packing bag, going to school)</li> <li>2. Mealtimes (food/ in the kitchen, time issues, lunch, supper)</li> <li>3. Family and people (family and others, visiting, behaviour)</li> <li>4. Places (outings, out of the house, shopping, safety)</li> <li>5. Evening routine (discussion of day, help with home work, watching TV, doing home –work, bed time, discipline)</li> <li>6. Time issues (time, day of the week/weekend, early/late, wait, hurry, etc.)</li> <li>7. School issues (getting ready for school, after school routine, homework)</li> <li>8. Dressing up ( buying clothes, wearing clothes, hygiene)</li> </ol>	<p>will be used are: Going out, Meal related, Behaviour related, and Evening routine.</p>
<p>2. Researcher input to vocabulary and development of themes.</p>	<p>1. The themes submitted by parents were condensed, smaller themes to fit into bigger. This was motivated by the concept that words do not exist in isolation (Ling&amp;Ling, 1977). Thus, where vocabulary could be shared as influenced by context, they were put into a common theme. It was felt that greater carry-over may be possible if vocabulary was not restricted to a daily routine, but rather themes emerging from parent submissions, e.g. bathing in the morning or evening, time issues day /or night, getting ready any time of day etc.). Thus the vocabulary was reorganized to facilitate greater commonality of vocabulary</p>	<p>Sufficient words in some themes were lacking from parent input.</p> <p>A mixture of grammatical categories within themes for teaching language to school-aged hearing impaired children, as used by Ling and Ling (1977) lends itself to the concept of</p>	<p>A further 92 words were added, and four sets of words organised in themes were developed.</p> <p>The vocabulary within the themes was arranged such that there was a spread across the grammatical categories: miscellaneous, verbs, descriptors, and nouns.</p> <p>Analysis of parent vocabulary (as presented in Appendix G) revealed 47% nouns, 31% verbs, 18% descriptors and 4% of miscellaneous words. This reflected a high percentage of verbs and</p>	<p>Four themes were developed from a total of 283 words:</p> <ol style="list-style-type: none"> <li>1. Going out (61)</li> <li>2. Meal related (66)</li> <li>3. Behaviour related (82), and</li> <li>4. Evening routine (64)</li> </ol> <p>All vocabulary items were classified as belonging to one of the four syntactic categories, viz.</p>

<b>Steps in vocabulary selection</b>	<b>Procedure</b>	<b>Justification</b>	<b>Results</b>	<b>Recommendations</b>
	<p>within a theme- where this was applicable (e.g. with the After - school routine: “Did you eat your lunch?” was moved to Mealtime). The overall aim was to provide a set of highly functional vocabulary, rich in interactive content, loaded with verbs and functional vocabulary.</p> <p>2. Lists of signs for initial lexicons by Fristoe and Lloyd (1980), and the Makaton programme stages 1 to 3 (Grove &amp; Walker, 1990) were consulted, and signs appearing on both lists were included. In addition, the Ling and Ling (1977) programme for teaching language to school-age hearing impaired children within routines served to provide real utterances applicable to this population. Words were selected from the lists of vocabulary recommended for the first 500 words, the next 500 words, and words appropriate for children in grade 1, and the early reading programme in school. In addition, samples of utterances in context of phrases and sentences from Ling and Ling (1977) were scrutinized. This programme guided the choice of words, and assisted with supplementing vocabulary within the themes, across semantic categories (nouns, verbs, descriptors and miscellaneous). The word lists (first 500) used by Penn (1992) in the development of the <i>Dictionary of Southern African signs</i> using input from teachers and families in choosing signs in teaching young children, was also consulted. Lexical items were also selected in terms of knowledge of sign language rules (Penn,</p>	<p>communication displays.</p> <p>In keeping with the concept of the theme board, the numbers of words in the different categories was determined. Descriptions of ratios across syntactic categories by Owens (2001) influenced the ratio of words within the different syntactic categories. The following ratio, based on the developing child with a vocabulary of up to 400 words was used: nouns – 50%, verbs – 30%, descriptors -10%, and miscellaneous words-10%. Cognizance was taken of the ratio shift between nouns and verbs in the older child, with a decrease in nouns and increase in verbs (Owens, 2001).</p>	<p>descriptors, more so than Owens (2001). This would then translate into 15 nouns, 10 verbs, 6 descriptors and 1 miscellaneous word, for a total of 32 signs. The goal at this stage was to teach four sets of 32 signs</p>	<p>nouns, verbs, descriptors, or miscellaneous words. Scripts utilizing these words and other semantically related words were produced for all four themes.</p>

Steps in vocabulary selection	Procedure	Justification	Results	Recommendations
	<p>1992) such that English based words such as articles and auxillary verbs were excluded. The use of conceptually correct signs was considered (Vold, Kinsella- Meier &amp; Hughes Hilley, 1990).</p> <p>Thus vocabulary was arranged within themes both from input from participants and from input from the researcher to allow for a range of vocabulary to ensure that the themes were cohesive and allowed for a wide choice from which to extract balanced sign sets.</p> <p>Sample scripts were used to group signs within themes from which the vocabulary was to be extracted for the theme-based sign sets.</p>			
<p>3. Teacher rating of vocabulary and comment on sample theme scripts</p>	<p>Four sets of theme- based vocabulary and sample theme scripts were presented for rating to three teachers (two Heads of Department of the junior primary phase – current and past, and a Deaf teacher responsible for sign language teaching in the school). The teachers needed to rate the vocabulary in terms of whether the sign would be known by a child in grade 3 (3-4 years at school). The categories were: Yes, No and Maybe. In addition, teachers commented on whether the sign should be included in the training programme, according to the following categories: 1= not at all, 2 = not really, 3 = maybe, 4 = recommended, 5 = highly recommended. Refer to Appendix 7 for the information presented to the teachers.</p>	<p>The rating of sign vocabulary for selecting signs has been used in sign programmes (Spragale &amp; Micucci, 1990). The vocabulary was commented on by teachers to ensure that the vocabulary was within the children’s experience and to also comment on the suitability of the selected vocabulary.</p>	<p>Scores ranged from between 3 and 5 for all items.</p> <p>Words were eliminated, and ratings influenced choice of vocabulary. Following the ratings, any words that were felt not to be in the child’s vocabulary was omitted, with 2 exceptions as these words were requested by 2 parents.</p> <p>All participants felt that the scripts were very appropriate, providing functional vocabulary. A total vocabulary of 202 words was obtained.</p>	<p>The vocabulary would be equitably distributed among the four theme sets. This would require attention to sign characteristics known to influence sign learning:</p> <ul style="list-style-type: none"> <li>- Iconicity (translucency)</li> <li>- Semantic similarity</li> <li>- Chericmic similarity</li> <li>- Sign production characteristics</li> </ul>

## Appendix 7

### Participant contribution of vocabulary

Words presented alphabetically, with number of times in parenthesis

age (1)  
alone (1)  
aunt (3)  
bag (1)  
bake (1)  
bath (1)  
belt (1)  
beach (2)  
beans (1)  
bed (2)  
behave (1)  
big (2)  
biscuit (2)  
blanket (2)  
book (1)  
boy (1)  
bridge (1)  
bring (3)  
brother (1)  
brush (1)  
burn (1)  
bus-driver (1)  
bus (1)  
busy (2)  
butter (2)  
can't (2)  
careful (1)  
cereal (1)  
cheese (1)  
chair (1)  
church (1)  
clean (1)  
clever (1)  
close (1)  
clothes (3)  
come (2)  
cover (1)  
cook (3)  
costume (1)  
cousin (3)  
crease (1)  
day (2)  
dholl (1)  
different (1)  
dinner (1)  
do (3)  
don't (3)



door (1)  
drawer (1)  
dress-up (2)  
dreaming (1)  
dry (2)  
early (1)  
ears (1)  
egg (1)  
face (1)  
false (1) =not true  
family (1)  
far (1)  
fast (1)  
fasting (1)  
find (1)  
food (1)  
forgot (1)  
Friday (1)  
friend (2)  
gargle (1)  
girl (1)  
go (3)  
good (1)  
good night (1)  
grow up (1)  
grandfather (1)  
hair (1)  
hands (1)  
have (4)  
hearing aids(1)  
home (1)  
home-work (1)  
hot (1)  
house (1)  
how (1)  
hug (1)  
I (1)  
In (1)  
jam (1)  
kiss (1)  
kitchen (1)  
later (1)  
late (2)  
lip-ice (1)  
library (1)  
like (1)  
lock (1)  
long (2)  
lost (1)  
lotion (2)  
love (1)  
lunch (2)  
make (3)



me (1)  
meeting (1)  
microwave (1)  
milk (2)  
milo (1)  
mine (1)  
Monday (1)  
movies (1)  
must (3)  
mutton/meat (2)  
naughty (2)  
neighbours (2)  
nephew (1)  
next (1)  
nice (2)  
niece (1)  
night (1)  
not (2)  
now (2)  
obey (1)  
o'clock (1)  
off (1)  
ok (1)  
on (1)  
only (1)  
open (3)  
finish (1)  
pajamas (1)  
pack (2)  
pasta (1)  
play (2)  
2 people (2)  
pillow (1)  
polony (1)  
porridge (2)  
potatoes (1)  
pour (1)  
powder (1)  
prayer (1)  
put (4)  
reading (1)  
ready (2)  
relax (1)  
relatives=family(1)  
rice (1)  
road (1)  
robot (1)  
room (1)  
Sandra (name) (1)  
sentence (1)  
tidy up (1)  
service(prayer) (1)  
shampoo (2)





share (1)  
shirt (2)  
shoes (1)  
shopping (2)  
sick (1)  
sign board (1)  
soap (2)  
straight (1)  
strangers (1)  
stay (1)  
stop (1)  
supper (2)  
Sunday 1)  
sunny (1)  
talk (1)  
taxi (1)  
that (1)  
tired (1)  
time (2)  
to (1)  
today (2)  
together =with (1)  
toilet paper (1)  
toothpaste (3)  
touch (2)  
TV (1)  
trouble (2)  
truck (1)  
uncle (2)  
uniform (1)  
us (1)  
use (1)  
wake-up (2)  
vegetable (1)  
visit (3)  
viennas (1)  
want (3)  
wait (2)  
wash (2)  
wear (1)  
we (1)  
“weet-bix”  
wedding (1)  
weekend (1)  
where (1)  
what (3)  
which (1)  
who (1)  
why (2)  
with (2)  
work (2)  
you (1)  
your (2)



yourself (1)

**Total words= 289**

**Number of words repeated = 79 (45 words twice, 15 words thrice, two words four times)**

## Appendix 8

### Participant contribution of themes

#### Words, phrases and sentences contributed

Categories	Participant D	Participant R	Participant P	Participant SG
Getting up	Wake up. It's late. Time is going.		Wake up and bath.	Let's go to bath. Need to bath. Need to brush your teeth.
Getting ready for school	Bring __. Tell sister. Brush your hair. Tuck shirt in. Shirt will crease. Dress up (change, clothes) Too much powder. Forgot to comb. Brush hair. Open belt. Pack your bag. Get ready. Walk fast. Bus is gonna come.		Put lotion. Bring your shoe. Open the drawer. shirt	Are you ready? Dress up. Is your bag, packed? Take your costume. Did you feed the fish? Did you rub lotion? Is your bag in the car? Is your hearing aid okay? Volume okay? Your lips are dry, put lip-ice.
After school			Do you want to eat? Must go bath. Keep your bath water (heat). Go put your clothes away- in the wash tub.	
Eating/ mealtimes	What do you want to have? Stop dreaming. Eat-porridge, jam, butter, milo, polony, viennas, cheese Don't put in microwave. Wait for me. Don't touch. You will be big. Certain foods not good for you. Today we are fasting. Cannot eat certain things. I am cooking now. Wait, the food is not ready. Eat first then, watch TV. Make porridge/cereal. Pour	I am cooking-meat, vegetables, potatoes, eggs.	What you want to eat? - jam, butter, cake, chicken	Did you have your lunch/sandwiches? Did you share your lunch with your friends?

Categories	Participant D	Participant R	Participant P	Participant SG
	the milk. Must eat. Can't have.			
At home			Don't come late. Where go.	Set your room. Put your cars away. Where's your reading book? Bake biscuits together. Kitchen, decorate, milk, today, butter, cook, pasta
Home – evening		Did you have a good day? Did you do your home work? Did you clean the house? Did you go visiting? What did you eat for lunch? What did you eat for supper? Are you tired? You are a clever girl I am tired, busy Leave me alone for awhile. I want to relax for a little while		
Bath time	toothpaste, gargle, wash your face, ears, soap, hot water, burnt, stop playing, wasting water, don't use shampoo, stop wasting toilet roll, wash your hand	Toothpaste, shampoo, soap don't touch, hot water		
Bed time	Now its bed time, it is 8 o' clock, cover yourself ( he kicks blanket off) wear your long pajamas, its a hot day, put head on pillow, good night, give us a hug, sleep straight in the center of the bed.	TV is finished (over), put the TV off, time for bed, time for homework, play time is over, its bed time.		

Categories	Participant D	Participant R	Participant P	Participant SG
Outside the home	Where's sister? What's that? Sister is on bridge/ library			
Safety issues		Don't talk to strangers. It is not nice, don't run across the road, be careful, close the door, lock the door, stay inside the house, you are alone, don't touch the switch.		
School issues			Do home-work. Make sentence. I sit on a chair sick, home- work	Bring your bag, lets do home-work, today was a sunny day
Going out	going to the beach, shopping, relatives house, today we are going to visit uncle Lenny, aunty Sandra, not going in car, with bus , taxi, bus, truck, boy, girl, sign boards, robots	weekend we go to the movies, beach, wedding, prayer meeting, shopping, clothing, can't buy same for you, age is different	I am going to my sisters where, far, home	Do you want to get into night clothes, put on something nice, we're going to dinner, which shoes do you want to wear?
Family (people in environment)	Communicating when going anywhere (people): aunt, grandfather, cousin, friend, niece, nephew, neighbours	Family, neighbours, bus driver, aunt, uncle, cousins	How are you? uncle, aunt, sister, grandma, mother	
Discipline/ behaviour/ safety issues	Don't put, wait for me, Don't touch	Not for you, we are talking ( sister and I/ Dad and I), not you, go now, sister is naughty, be quiet, dad and I are talking, you are a good girl, no, not now, some other time, later,	You must behave, naughty	Were you a good boy?

<b>Categories</b>	<b>Participant D</b>	<b>Participant R</b>	<b>Participant P</b>	<b>Participant SG</b>
		wait, be a good girl, listen to grandma, be obedient, behave, sister is older, you can't go		
Time issues		It is _ o'clock, it's the weekend, school is over, no school today, youth meeting on Friday, only sister can go, you go to Sunday school, its night, I work night shift, programme will be on (day of the week)		Weekend: why did you get up so early?

## Appendix 9

### Teacher verification of vocabulary and sample scripts

#### Instructions

1. Please indicate whether the following words are in the vocabulary of a child who has been at school for approximately 3- 4 years (grade 3). Indicate with a Y (Yes) or N (No) or maybe (M).

2. Please indicate if the words would be suitable to teach to parents of a child who has been at school for 3 - 4 years. 1 = not at all, 2 = not highly recommended, 3 = maybe, 4 = recommended, and 5 = highly recommended.

#### Theme: Going Out

Miscellaneous	Verbs	Descriptors	Nouns
1. Where 2. Who 3. Not	1. Come 2. Go 3. Visit 4. Want 5. Ready 6. Change 7. Dress-up 8. Don't 9. Gonna 10. Hurry 11. Leave 12. Start	1. Many 2. Nice. 3. Old 4. New 5. Clean 6. Wear 7. Late 8. Dirty 9. Ready 10. Take 11. Cold 12. Warm 13. Maybe 13. Slow	1. Weekend. 2. Somewhere 3. Someone 4. Holiday 5. Next 6. Today 7. Tomorrow 8. I 9. My 10. Daddy 11. Family 12. Your 13. Cousins 14. Friends 15. Neighbours 16. Name of person 17. Uncle 18. Aunt 19. Movies 20. Shopping, 21. Town 22. Beach 23. Party 24. Wedding 25. Meeting 26. Funeral 27. Picnic 28. People 29. Clothes 30. Shoes 31. Jacket 32. o'clock 33. Minutes
Sample script	It's the weekend. Come, let's go out somewhere. Where shall we go? Let's go visit someone. It holidays next week. Who shall we visit today/ tomorrow? I want to visit: daddy's /my family, your cousins, friends, neighbours, name of person (uncle, aunt), someone. Let's go to the movies, shopping, town, beach, party, wedding,		



**Theme 2: Food Related**

Miscellaneous	Verbs	Descriptors	Nouns
1. What 2. Please 3. Thank you 4. Which	1. Want 2. Like 3. Eat 4. Cooking 5. Making 6. Baking 7. Bring 8. Boil 9. Put 10. Help 11. Fry 12. Throw 13. Set 14. Call 15. Look 16. Tastes	1. Hungry 2. Thirsty 3. Some 4. Dry 5. Clean 6. More 7. Enough 8. Nice 9. Wonderful 10. Enjoy	1. I'm 2. Lunch 3. Supper 4. Breakfast 5. Sandwiches 6. Cake 7. Biscuits 8. Salad 9. Dessert 10. Braai 11. Meat 12. Chicken 13. Sausages 14. Water 15. Rice 16. Eggs 17. Salt 18. Sugar 19. Milk 20. Tea 21. Coffee 22. Me 23. Pot 24. Bowl 25. Plate 26. Oven 27. Fridge 28. Stove 29. Dishes 30. Rubbish 31. Table 32. Chairs 33. Glasses 34. Everyone 35. Food 36. Cheese
Sample script	<p>Are you hungry /thirsty? What do you want? Like to eat?            I'm cooking lunch, supper, breakfast. Baking.            I'm making sandwiches, cake, biscuit, salad, dessert.            We'll have a braai. Bring meat, chicken, sausages.            Boil water, rice, fry eggs. Put some salt, sugar, milk, tea, coffee.            Please. Help me. Bring the pot, bowl, plate. Put this in the oven,            fridge, stove. Wash the dishes, dry the dishes. Are they clean?            Throw the rubbish out. Set the table. Bring more chairs/glasses. Let's            call everyone to eat. Yes please. <b>No</b> thank you. Which do you want?            Thank you. That looks very nice. The salad tastes wonderful. Did you            enjoy the food? Did you have you enough?</p>		





	<p>meeting, funeral, picnic. There'll be lots of people. Get ready. I'm gonna change my clothes. Dress-up nice. Don't wear your old shoes. Where's your new shoes. Wear a clean jacket. That one is not clean. It's dirty. Hurry. Don't be late. Let's leave at three o'clock. Be ready in 10 minutes. Take your jacket. It is cold, wear warm clothes. Maybe we'll go. Don't be slow. Start getting ready.</p>
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### Theme 3: Behaviour related

Miscellaneous	Verbs	Descriptors	Nouns
1. Not 2. When	1. Must 2. Go 3. Come 4. Stay 5. Don't 6. Listen 7. Fight 8. Tease 9. Share 10. Can't 11. Wait 12. Have 13. Behave 14. Talk 15. Respect 16. Interrupt 17. Buy 18. Punish 19. Watch 20. Keep 21. Lose 22. Stop 23. Irritate 24. Bother 25. Worry	1. Inside 2. Outside 3. Dangerous 4. Alone 5. With 6. Naughty 7. Rude 8. Kind 9. Selfish 10. Greedy 11. Obedient 12. Careful 13. Now 14. Next 15. Patient 16. tidy-up ( clean up) 17. first 18. then 19. after 20. Later 21. Nothing 22. Good 23. Quiet.	1. You 2. Home 3. Road 4. Traffic 5. Sister 6. Grandma 7. Sweets 8. Chips 9. Name of person 10. Yourself 11. Strangers 12. Your 13. Turn 14. Time 15. We 16. Room 17. TV 18. Me 19. Afternoon 20. Minute
Sample script	<p>I must go. I'll come in the afternoon. You must stay at home. Stay inside. Don't go outside / road alone/ traffic. It is dangerous. Stay with your sister. Listen to grandma.</p> <p>Don't fight. Be naughty, rude, tease, mean. Be kind. Share your sweets, can't have chips. Give some to NAME. Don't be selfish, greedy.</p> <p>Behave yourself. Be obedient. Say sorry, excuse me, pardon. Why are you angry? Be careful. Don't talk to strangers. Have respect. Don't interrupt. Be quiet. Wait for your turn. It's not your turn now. I will buy that next time. Be patient. I will punish you when we get home.</p> <p>Tidy up, clean your room first, then, after that watch TV. Not now, later</p> <p>Keep it safe. Don't loose it. Stop irritating, bothering me. Wait a minute. I'm busy. Doesn't matter. Don't worry. Nothing. That's good. What happened? Don't touch/ be stubborn, jealous, lazy. That's funny, bad. Ask first.</p>		

### Theme 4: Evening routine

Miscellaneous	Verbs	Descriptors	Nouns
<ol style="list-style-type: none"> <li>1. Where</li> <li>2. Goodnight</li> <li>3. In</li> <li>4. Off</li> <li>5. On</li> </ol>	<ol style="list-style-type: none"> <li>1. Stop</li> <li>2. Playing</li> <li>3. Do</li> <li>4. Help</li> <li>5. Make</li> <li>6. Read</li> <li>7. Try</li> <li>8. Attend</li> <li>9. Forget</li> <li>10. Clever</li> <li>11. Watch</li> <li>12. Sleep</li> <li>13. Must</li> <li>14. Wake-up</li> <li>15. Don't</li> <li>16. Rest</li> <li>17. Put</li> <li>18. Use</li> <li>19. Feel</li> <li>20. Remember</li> <li>21. Sleep</li> <li>22. Come</li> <li>23. Give</li> </ol>	<ol style="list-style-type: none"> <li>1. Dark</li> <li>2. Correct</li> <li>3. Wrong / not true/false</li> <li>4. Again</li> <li>5. Finished</li> <li>6. Now</li> <li>7. Early</li> <li>8. Late</li> <li>9. Tired</li> <li>10. Cold</li> <li>11. Hot</li> <li>12. Close</li> <li>13. Before</li> <li>14. Difficult</li> <li>15. Easy</li> </ol>	<ol style="list-style-type: none"> <li>1. Yourself</li> <li>2. Home-work</li> <li>3. Me</li> <li>4. Sentences</li> <li>5. TV</li> <li>6. Programme</li> <li>7. Time/bedtime</li> <li>8. Room</li> <li>9. You</li> <li>10. School</li> <li>11. Pajamas</li> <li>12. Blanket</li> <li>13. Pillow</li> <li>14. Clothes</li> <li>15. Cupboard</li> <li>16. Curtains</li> <li>17. Lights</li> <li>18. Toilet</li> <li>19. Hug</li> <li>20. Kiss</li> </ol>
Sample scripts	<p>It's getting dark. Put the light on. Stop playing. Do your homework. Let me help you. Let's make sentences. Let's read. Is it correct? Is it wrong /false? Try again. Pay attention, that's difficult, easy. Did you forget? You are clever. Stop watching TV. Is the programme finished? How's the programme. It's funny, boring, frightening, scary, nice. It's time to sleep/ bedtime. Go to your room now. Tomorrow is school. You must wake- up early. Don't be late for school. You must rest. You are tired. Put on your pajamas. It's cold. Use a blanket. Where's your pillow? Are you feeling hot? Put your clothes in the cupboard. Close the curtains. Put the lights off. Remember to go to the toilet before you sleep. Come give me a hug. Give me a kiss. Goodnight.</p>		

## Appendix 10 Translucency rating form

Number: \_\_\_\_\_

Age: \_\_\_\_\_

Gender: \_\_\_\_\_

Status of vision: normal \_\_\_\_\_ , corrected (wears glasses) \_\_\_\_\_ , uncorrected( needs glasses)  
\_\_\_\_\_

Hearing status: normal: \_\_\_\_\_, hearing problem( explain) : \_\_\_\_\_

Home language: \_\_\_\_\_

State other languages spoken, in order of proficiency: 1) \_\_\_\_\_ 2) \_\_\_\_\_

Previous exposure to sign language: none \_\_\_\_\_, minimal: \_\_\_\_\_, moderate: \_\_\_\_\_,  
frequent: \_\_\_\_\_

### Instructions:

You are about to see four sets of signs, approximately 55 per set, presented on video. The sign and its meaning will be presented. You are required to give the score a rating of between 1 and 7. The rating shows your opinion about the relationship between the sign and its meaning. A rating of 1 is the lowest score – showing very little relationship between the sign and its meaning. A rating of 7 is the highest rating – showing a very strong relationship between the sign and its meaning. We will first go through a practice round to familiarize you with the process.

### Practice Signs

#### Relationship between the sign and its meaning

Rating	Very little relationship	Little	Appears to be a little	Uncertain	Appears to be strong	strong	Very strong
	1	2	3	4	5	6	7
BABY							
CRY							
WINDOW							
CUP							
PROBLEM							
STEAL							



**Signs rated for translucency**

<b>Theme 1</b>	<b>Theme 2</b>	<b>Theme 3</b>	<b>Theme 4</b>
WHERE	WHAT	NOT	GOODNIGHT
WHO	PLEASE	WHEN	IN
COME	THANK YOU	WHY	OFF
VISIT	NO	SORRY	ON
WANT	WHICH	HAPPEN	PLAY
GO	LIKE	MUST	DO
CHANGE	EAT	STAY	READ
DRESS –UP	COOK	LISTEN	TRY
DON'T	MAKE	FIGHT	FORGET
HURRY	BAKE	SHARE	SLEEP
START	BRING	CAN'T	MUST
MANY	HELP	HAVE	WAKE-UP
NICE	FRY	BEHAVE	USE
OLD	THROW	TALK	FEEL
CLEAN	CALL	RESPECT	REMEMBER
NEW	LOOK	BUY	DARK
LATE	GIVE	WATCH	CLEVER
DIRTY	WASH	KEEP	AGAIN
COLD	HUNGRY	LOSE	FINISH
WARM	SOME	STOP	NOW
MAYBE	MORE	WORRY	EARLY
SLOW	THIRSTY	ANGRY	TIRED
LONG	ENJOY	TOUCH	HOT
WEEK-END	OPEN	ASK	CLOSE
HOLIDAY	LUNCH	INSIDE	BEFORE
NEXT WEEK	SUPPER	ALONE	EASY
WE	BREAKFAST	OUTSIDE	UP
TODAY	SANDWICHES	WITH	YOU
I	CAKE	NAUGHTY	HOME – WORK
MY	BISCUITS	GREEDY	SENTENCES
FATHER	MEAT	CAREFUL	BEDTIME
YOUR	CHICKEN	NOW	SCHOOL
COUSIN	SAUSAGES	NEXT	BLANKET
FRIEND	WATER	FUTURE	CUPBOARD
NEIGHBOUR	EGG	FIRST	LIGHT
UNCLE	SALT	AFTER	TOILET
AUNT	SUGAR	GOOD	KISS
MOVIES	MILK	QUIET	NIGHT
SHOPPING	TEA	JEALOUS	O'CLOCK
TOWN	COFFEE	BAD	FORGET
BEACH	ME	BUSY	NOW
PARTY	POT	HAPPY	SCHOOL
WEDDING	PLATE	YOU	KISS
FUNERAL	FRIDGE	HOME	HOT
PEOPLE	STOVE	ROAD	



<b>Theme 1</b>	<b>Theme 2</b>	<b>Theme 3</b>	<b>Theme 4</b>
CLOTHES	TABLE	TRAFFIC	
SHOES	CHAIR	SISTER	
JACKET	EVERYONE	GRANDMOTHER	
SHIRT	FOOD	SWEETS	
SATURDAY	CHEESE	YOURSELF	
SUNDAY	POTATOES	TIME	
CHANGE	SAUCE	ROOM	
MAYBE	WHICH	TV	
TODAY	BAKE	ROOM	
FAMILY	ENJOY	HAPPEN	
TOWN	CAKE	SHARE	
FUNERAL	SAUSAGES	WITH	
	RICE	SISTER	
	STOVE	TIME	
		AFTERNOON	
		LATER	
		PROGRAMME	
		HUG	
		CURTAIN	
		TOMORROW	
		REST	
		PUT	
		READY	
		HOUR	
		MINUTE	
		CUPBOARD	