

**AN EDUCATIONAL AUDIOLOGY
SERVICE DELIVERY MODEL:
NEEDS OF TEACHERS OF CHILDREN
WITH HEARING LOSS**

BY

CATHERINE-ANNE VAN DIJK

**SUBMITTED IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE D.PHIL. COMMUNICATION PATHOLOGY
IN THE
DEPARTMENT OF
COMMUNICATION PATHOLOGY,
FACULTY OF HUMANITIES,
UNIVERSITY OF PRETORIA,
PRETORIA**

JULY 2003

ACKNOWLEDGEMENTS

I would like to extend my sincere thanks to the following persons:

- * Professor René Hugo, for her wealth of expertise in the field of audiology and for embracing my ideas thereby giving me a true feeling of ownership of this study.*
- * Professor Brenda Louw, for her skillful guidance and encouragement to pursue high standards throughout the research endeavour.*
- * Felicia Warner and Elana Mauer from the Department of Statistics, University of Pretoria, for their assistance with data analysis.*
- * The school principals and teachers who participated in the study.*
- * Marco, my husband, for his continuous encouragement and assistance.*
- * My parents and P-V, for their support.*



ABSTRACT

TITLE: An educational audiology service delivery model: Needs of teachers of children with hearing loss

NAME: Catherine-Anne van Dijk

PROMOTER: Prof R Hugo

CO-PROMOTER: Prof B Louw

DEPARTMENT: Communication Pathology, University of Pretoria

DEGREE: D.Phil.

In South Africa, the current movement towards the inclusion of children with disabilities, including children with hearing loss, is likely to have far-reaching consequences for both teachers and learners. Undoubtedly, needs will arise from teachers during the transition, especially in the areas pertaining to the audiological and educational management of children with hearing loss. A hearing loss often negatively impacts on the development of the child's auditory, language, speech, communication, literacy, academic, and psychosocial skills. The educational audiologist is uniquely skilled in managing the effects of hearing loss on the child's educational development, and is a crucial member on the educational team. The educational audiologist as specialist in the management of children with hearing loss, is able to offer a wide range of support and assistance to teachers as well as children with hearing loss in the inclusive educational system. When teachers receive appropriate educational audiology services, they are enabled to provide quality education that strives to reach the full potential of every child with hearing loss. Therefore, an urgent need existed to determine the needs of teachers of children with hearing loss regarding an educational audiology service delivery model for use within the inclusive educational system.

In order to comply with this need, a descriptive research design was developed comprising of a questionnaire survey followed by focus group interviews. The questionnaire survey explored the needs of 664 teachers of children with hearing loss. Focus group interviews were conducted with 19 teachers of children with

hearing loss and these results were used to substantiate findings from the questionnaire survey.

The results of the study indicated that the needs of teachers differ according to the sub-groups found among teachers, namely those teachers who mainly promote the use of spoken language and those who mainly promote Sign Language. Findings revealed that, although participants realised the importance of various aspects of development of the child with hearing loss, they generally did not realise the importance of receiving support from an educational audiologist. With respect to specifics in term of support, participants strongly recommended that teachers receive support in the acquisition of knowledge re the trouble-shooting of hearing aids, advocacy for the implementation of FM systems in inclusive classrooms and the development of speech production skills of the child with hearing loss in the inclusive environment. In addition, various suggestions were made regarding the structure of services rendered within the educational context.

These findings were utilised in order to propose an educational audiology service delivery model for South Africa in the current timeframe.

Key words: children with hearing loss, educational audiologist, educational audiology, inclusion, inclusive educational system, needs of teachers, service delivery model, South Africa, teachers of children with hearing loss, teacher support.

OPSOMMING

TITEL:	'n Opvoedkundige oudiologiese dienslewering-model: Behoeftes van onderwysers van kinders met gehoorverlies
NAAM:	Catherine-Anne van Dijk
PROMOTOR:	Prof. R Hugo
MEDE-PROMOTOR:	Prof. B Louw
DEPARTEMENT:	Kommunikasiepatologie, Universiteit van Pretoria
GRAAD:	D.Phil.

Die huidige oorgang in Suid-Afrika ten opsigte van die opvoedkundige inklusie van kinders met gestremdhede (insluitend kinders met gehoorverlies), sal moontlik verrykende gevolge vir beide onderwysers en leerders hê. Ongetwyfeld sal behoeftes by onderwysers gedurende die oorgang, veral op die gebied van oudiologiese en opvoedkundige hantering van kinders met gehoorverlies, ontstaan. 'n Gehoorverlies werk dikwels negatief in op die ontwikkeling van die kind se ouditiewe, taal, spraak, kommunikasie, geletterdheid, akademiese en psigologies-sosiale vaardighede. Die opvoedkundige oudioloog is uniek bekwaam om die invloed van gehoorverlies op die kind se opvoedkundige ontwikkeling te hanteer en is 'n onmisbare lid van die opvoedkundige span. As 'n spesialis in die hantering van kinders met gehoorverlies, is die opvoedkundige oudioloog in staat om 'n wye verskeidenheid ondersteuning en bystand aan onderwysers asook kinders met gehoorverlies in die inklusiewe onderwysstelsel aan te bied. Wanneer onderwysers toepaslike opvoedkundige oudiologiese dienste ontvang, sal hulle in staat wees om kwaliteit opvoeding, wat poog om die volle potensiaal van elke kind met gehoorverlies te bereik, te verskaf. Dit is derhalwe noodsaaklik om ondersoek in te stel na die behoeftes van onderwysers van kinders met gehoorverlies ten opsigte van 'n opvoedkundige oudiologiese diensleweringmodel vir gebruik binne die inklusiewe onderwysstelsel.

Om aan hierdie behoefte te voldoen is 'n beskrywende navorsingsontwerp ontwikkel wat uit 'n vraelysopname, gevolg deur fokusgroeponderhoude, bestaan het. Die vraelysopname het die behoeftes van 664 onderwysers van kinders met gehoorverlies ondersoek. Fokusgroeponderhoude is met 19 onderwysers van kinders met gehoorverlies gevoer, en hierdie resultate is gebruik om die bevindinge van die vraelysopname, te bevestig.

Die resultate van die studie het getoon dat die behoeftes van onderwysers, volgens die verskillende subgroepe tussen die onderwysers, naamlik onderwysers wat hoofsaaklik gesproke taal bevorder en onderwysers wat hoofsaaklik gebaretaal bevorder, verskil het. Alhoewel deelnemers die belangrikheid van verskeie ontwikkelingsaspekte by die kind met gehoorverlies besef, het die bevindinge getoon dat hulle gewoonlik nie die belang van ondersteuning deur 'n opvoedkundige oudioloog, besef nie. Met betrekking tot die besondere in terme van ondersteuning, het deelnemers sterk aanbeveel dat onderwysers ondersteuning vir die verkryging van kennis insake probleemidentifisering van gehoorapparate, die implementering van FM-sisteme in inklusiewe klaskamers en die ontwikkeling van spraakproduksie vaardighede van die kind met gehoorverlies in die inklusiewe omgewing, ontvang. Bykomend is verskeie aanbevelings ten opsigte van die strukturering van dienste wat binne die opvoedkondege konteks gelewer is, gemaak.

Hierdie bevindinge is gebruik om 'n opvoedkundige oudiologiese diensleweringmodel binne die huidige tydraam in Suid-Afrika, voor te stel.

Sleutelwoorde: kinders met gehoorverlies, opvoedkundige oudioloog, opvoedkundige oudiologiese, inklusie, inklusiewe onderwysstelsel, behoeftes van onderwysers, diensleweringmodel, Suid-Afrika, onderwysers van kinders met gehoorverlies, onderwyserondersteuning.

CONTENTS

CHAPTER ONE: INTRODUCTION AND ORIENTATION

1.1_	INTRODUCTION	1
1.2	RATIONALE	12
1.2.1	Children with hearing loss in South Africa and their educational placement.....	15
1.2.1.1	Special schools versus mainstream schools in South Africa	15
1.2.1.2	Special schools for children with hearing loss in South Africa	17
1.2.1.3	The inclusive educational system in South Africa.....	18
1.2.2	Unique challenges facing teachers of children with hearing loss in South Africa	21
1.3	STATEMENT OF PROBLEM AND FINDING A SOLUTION.....	27
1.4	OUTLINE OF CHAPTERS.....	29
1.5	DEFINITION OF TERMS.....	30
1.6	ACRONYMS	34
1.7	CONCLUSION	34
1.8	SUMMARY	35

CHAPTER TWO: ROLE OF THE TEACHER OF THE CHILD WITH HEARING LOSS

2.1	INTRODUCTION	36
2.2	UNIQUE EDUCATIONAL CONSIDERATIONS FOR EACH CHILD.....	37
2.3	THE ROLE OF THE TEACHER REGARDING THE EDUCATION OF THE CHILD WITH HEARING LOSS	39
2.3.1	Hearing loss and its effect on hearing ability	42
2.3.1.1	Consequences of reduced hearing ability.....	42
2.3.1.2	Role of the teacher in addressing reduced hearing ability	43
2.3.1.2.1	Knowledge of hearing loss and related areas.....	43
2.3.1.2.2	Optimal development of residual hearing	44
2.3.1.3	Support required by the teacher in order to address reduced hearing ability	50
2.3.1.3.1	Support regarding the attainment of knowledge on hearing loss and related areas	50

2.3.1.3.2	Support regarding the optimal development of the child's residual hearing	51
2.3.2	Hearing loss and its effect on spoken language skills	54
2.3.2.1	Consequences of delayed language skills.....	55
2.3.2.2	Role of the teacher in addressing delayed language skills	56
2.3.2.3	Support required by the teacher in order to address delayed language skills.....	57
2.3.3	Hearing loss and its effect on speech production	58
2.3.3.1	Consequences of deficits in speech production.....	58
2.3.3.2	Role of the teacher in addressing deficits in speech production	59
2.3.3.3	Support required by the teacher in order to address deficits in speech production.....	59
2.3.4	Hearing loss and its effect on communication skills.....	60
2.3.4.1	Consequences of difficulties in communication	61
2.3.4.2	Role of the teacher in addressing difficulties in communication.....	62
2.3.4.3	Support required by the teacher in order to address communication difficulties.....	63
2.3.5	Hearing loss and its effect on literacy skills	63
2.3.5.1	Consequences of poor literacy skills	64
2.3.5.2	Role of the teacher in addressing poor literacy skills.....	65
2.3.5.3	Support required by the teacher in order to address poor literacy skills	65
2.3.6	Hearing loss and its effect on academic achievement.....	66
2.3.6.1	Consequences of poor academic achievement.....	66
2.3.6.2	Role of the teacher in addressing poor academic achievement	67
2.3.6.3	Support required by the teacher in order to address poor academic achievement	68
2.3.7	Hearing loss and its effect on psycho-social development	69
2.3.7.1	Consequences of troublesome psycho-social development.....	70
2.3.7.2	Role of the teacher in addressing troublesome psycho-social development	71
2.3.7.3	Support required by the teacher in order to address troublesome psycho-social development.....	72
2.4	CONCLUSION	77
2.5	SUMMARY	78

CHAPTER THREE: SERVICE DELIVERY BY THE EDUCATIONAL AUDIOLOGIST

3.1	INTRODUCTION	79
3.2	THE EVOLVEMENT OF THE SPECIALIST FIELD OF EDUCATIONAL AUDIOLOGY	81
3.3	INTERNATIONAL MODELS OF EDUCATIONAL AUDIOLOGY SERVICE DELIVERY	84
3.4	SERVICE DELIVERY BY THE EDUCATIONAL AUDIOLOGIST IN THE SOUTH AFRICAN INCLUSIVE EDUCATIONAL SYSTEM	86
3.4.1	<u>Where</u> will the educational audiologist be posted?	88
3.4.2	In which <u>capacity</u> will the educational audiologist function?	91
3.4.2.1	The educational audiologist as a service co-ordinator	93
3.4.2.2	The educational audiologist as instructional team member	95
3.4.2.3	The educational audiologist as consultant	96
3.4.2.4	The educational audiologist as supervisor	97
3.4.2.5	The educational audiologist as family and community liaison	99
3.4.3	What <u>duties</u> will the educational audiologist perform?	101
3.4.3.1	Responsibility #1: Prevention and conservation	102
3.4.3.2	Responsibility #2: Assessment	109
3.4.3.3	Responsibility #3: Habilitation and amplification	110
3.4.3.4	Responsibility #4: Education and training	112
3.4.3.5	Responsibility #5: Support and assistance	115
3.4.3.6	Responsibility #6: Monitoring and follow-up	116
3.4.3.7	Responsibility #7: Evaluation and research	117
3.5	A PRELIMINARY MODEL FOR SERVICE DELIVERY BY THE EDUCATIONAL AUDIOLOGIST IN THE INCLUSIVE EDUCATIONAL SYSTEM	119
3.6	CONCLUSION	121
3.7	SUMMARY	121

CHAPTER FOUR: METHODOLOGY

4.1	INTRODUCTION	123
4.2	RESEARCH AIMS	124
4.3	RESEARCH DESIGN	125
4.4	PARTICIPANTS	128
4.4.1	Selection criteria for schools	128
4.4.2	Selection criteria for participants	130

4.4.3	Variables considered in participant selection.....	132
4.4.4	Selection procedures of schools.....	132
4.4.5	Selection procedures of participants.....	133
4.4.6	Description of participating schools	135
4.4.7	Description of participants	138
4.5	DATA COLLECTION INSTRUMENTS AND EQUIPMENT	143
4.5.1	Data collection instruments.....	143
	4.5.1.1 The questionnaire.....	143
	4.5.1.2 Focus group interviews.....	155
4.5.2	Data collection equipment	159
4.6	PILOT STUDY	159
4.6.1	Aim	159
4.6.2	Selection criteria for the school.....	160
4.6.3	Selection criteria for the participants.....	160
4.6.4	Selection procedures of the school.....	160
4.6.5	Selection procedures of participants.....	161
4.6.6	Data collection instruments and equipment.....	161
4.6.7	Procedures	161
4.6.8	Results	162
4.7	PROCEDURES	168
4.7.1	Data collection procedures	168
	4.7.1.1 Data collection by questionnaire survey	169
	4.7.1.2 Data collection by focus group interviews.....	170
4.7.2	Data recording procedures	171
	4.7.2.1 Data recording of the questionnaire survey	171
	4.7.2.2 Data recording of focus group interviews	172
4.7.3	Data analysis.....	172
	4.7.3.1 Data analysis of the questionnaire survey	172
	4.7.3.2 Data analysis of focus group interviews	175
4.8	RELIABILITY, VALIDITY, AND TRUSTWORTHINESS ISSUES	176
4.9	ETHICAL CONCERNS	182
4.10	CONCLUSION	184
4.11	SUMMARY	184

CHAPTER FIVE: RESULTS AND DISCUSSION

5.1	INTRODUCTION	185
5.2	RESULTS AND DISCUSSION OF OBJECTIVE #1: PARTICIPANTS' NEED FOR SUPPORT IN THE ACQUISITION OF KNOWLEDGE OF EDUCATIONAL AUDIOLOGY	189
5.2.1	The need for support in learning about hearing loss.....	190
5.2.2	The need for support in learning about the negative impact of a hearing loss.....	190
5.2.3	The need for support in learning about the maximising of residual hearing.....	203
5.2.4	Interpretation and discussion of findings of objective #1.....	210
5.2.4.1	Interpretation and discussion of findings of objective #1: Support in learning about hearing loss	211
5.2.4.2	Interpretation and discussion of findings of objective #1: Support in learning about the negative impact of a hearing loss	216
5.2.4.3	Interpretation and discussion of findings of objective #1: Support in learning about the maximising of residual hearing	221
5.3	RESULTS AND DISCUSSION OF OBJECTIVE #2: PARTICIPANTS' NEED FOR SUPPORT IN THE AUDIOLOGICAL AND EDUCATIONAL MANAGEMENT OF THE CHILD WITH HEARING LOSS	225
5.3.1	The need for support in the development of language skills.....	226
5.3.2	The need for support in the development of speech production skills	232
5.3.3	The need for support in the development of communication skills	238
5.3.4	The need for support in the development of literacy skills and academic achievement	244
5.3.5	The need for support in the development of psychosocial well-being.....	250
5.3.6	Interpretation and discussion of findings of objective #2.....	256
5.3.6.1	Interpretation and discussion of findings of objective #2: Support in the audiological and educational management of the child with hearing loss.....	258
5.4	RESULTS AND DISCUSSION OF OBJECTIVE #3: PARTICIPANTS' NEED FOR SUPPORT REGARDING THE STRUCTURE OF SERVICE DELIVERY TO CHILDREN WITH HEARING LOSS	271
5.4.1	The need for support regarding the structure of service delivery to children with hearing loss	271
5.4.1.1	Members of the service delivery team	271
5.4.1.2	Co-ordinator of the service delivery team	276
5.4.1.3	In-service training as a method of teacher support.....	278

5.4.1.4	Methods of in-service training.....	280
5.4.1.5	Service delivery system.....	281
5.4.1.6	Roles and responsibilities of the educational audiologist.....	283
5.4.1.7	Necessity of educational audiology services	285
5.4.1.8	Greatest challenges of inclusion.....	290
5.4.1.9	Possible solutions to anticipated challenges of inclusion.....	292
5.4.1.10	Advantages and disadvantages of inclusion practices	295
5.4.2	Interpretation and discussion of findings of objective #3: Support regarding the structure of service delivery to children with hearing loss.....	304
5.4.2.1	Interpretation and discussion of findings of objective #3: Members of the service delivery team	305
5.4.2.2	Interpretation and discussion of findings of objective #3: Co-ordinator of the service delivery team	308
5.4.2.3	Interpretation and discussion of findings of objective #3: In-service training as a method of teacher support.....	309
5.4.2.4	Interpretation and discussion of findings of objective #3: Service delivery system.....	310
5.4.2.5	Interpretation and discussion of findings of objective #3: Roles and responsibilities of the educational audiologist.....	312
5.4.2.6	Interpretation and discussion of findings of objective #3: Necessity of educational audiology services	313
5.4.2.7	Interpretation and discussion of findings of objective #3: Greatest challenges of inclusion.....	314
5.4.2.8	Interpretation and discussion of findings of objective #3: Possible solutions to anticipated challenges of inclusion.....	316
5.4.2.9	Interpretation and discussion of findings of objective #3: Advantages and disadvantages of inclusion practices	316
5.5	CONCLUSION	317
5.6	SUMMARY	318

CHAPTER SIX: CONCLUSIONS AND IMPLICATIONS

6.1	INTRODUCTION	319
6.2	CONCLUSIONS AND CLINICAL IMPLICATIONS	320
6.2.1	Service delivery structure	322
6.2.2	Roles of the educational audiologist	323
6.2.3	Responsibilities of the educational audiologist	324
6.2.4	General implications for an educational audiology service delivery model	329
6.3	CRITICAL EVALUATION OF THE STUDY	330
6.4	RECOMMENDATIONS FOR FURTHER RESEARCH.....	331
6.5	CONCLUSION	333
 <u>APPENDICES</u>		334
 <u>REFERENCES</u>		443

LIST OF TABLES

Table 1.1	Outline of the historical development of education of children with hearing loss in South Africa.....	4
Table 2.1	Education and the child with hearing loss: effects, consequences, role of the teacher, and support required by the teacher.....	73
Table 4.1	Participant selection procedures for focus group interviews.....	135
Table 4.2	Description of participating schools in the questionnaire survey.....	136
Table 4.3	Development of the questionnaire content	148
Table 4.4	Objectives, methods, and results of pre-testing the questionnaire survey and focus group interviews.....	163
Table 4.5	Adaptation of questionnaire-items based on results from the pilot study.....	166
Table 4.6	Adaptation of focus group interviews based on results from the pilot study.....	168
Table 4.7	Summary of statistical procedures of data analysis of the questionnaire survey	174
Table 4.8	Definition of trustworthiness criteria for evaluating qualitative research.....	179
Table 5.1	Need for support in learning about hearing loss (Participants who mainly promote spoken language)	194
Table 5.2	Need for support in learning about hearing loss (Participants who mainly promote Sign Language)	195
Table 5.3	Need for support in learning about the negative impact of a hearing loss (Participants who mainly promote spoken language)	201
Table 5.4	Need for support in learning about the negative impact of a hearing loss (Participants who mainly promote Sign Language)	202
Table 5.5	Need for support in learning about the maximising of residual hearing (Participants who mainly promote spoken language)	208
Table 5.6	Need for support in learning about the maximising of residual hearing (Participants who mainly promote Sign Language)	209
Table 5.7	Need for support in the development of language skills (Participants who mainly promote spoken language)	231

Table 5.8	Need for support in the development of language skills (Participants who mainly promote Sign Language)	232
Table 5.9Need for support in the development of speech production skills (Participants who mainly promote spoken language)	237
Table 5.10	Need for support in the development of speech production skills (Participants who mainly promote Sign Language)	238
Table 5.11	Need for support in the development of communication skills (Participants who mainly promote spoken language)	243
Table 5.12	Need for support in the development of communication skills (Participants who mainly promote Sign Language)	243
Table 5.13	Need for support in the development of literacy skills and academic achievement (Participants who mainly promote spoken language)	249
Table 5.14	Need for support in the development of literacy skills and academic achievement (Participants mainly Sign Language)	249
Table 5.15	Need for support in the development of psychosocial well-being (Participants who mainly promote spoken language)	255
Table 5.16	Need for support in the development of psychosocial well-being (Participants who mainly promote Sign Language)	256
Table 5.17	Need for support regarding service delivery by the educational audiologist (Participants who mainly promote spoken language)	289
Table 5.18	Need for support regarding service delivery by the educational audiologist (Participants who mainly promote Sign Language)	290
Table 5.19	Need for support regarding the inclusion of children with hearing loss (Participants who mainly promote spoken language)	302
Table 5.20	Need for support regarding the inclusion of children with hearing loss (Participants who mainly promote Sign Language)	303

LIST OF FIGURES

Figure 2.1	The role of the teacher of the child with hearing loss.....	41
Figure 3.1	The service delivery structure of the educational audiologist.....	90
Figure 3.2	Roles of the educational audiologist.....	100
Figure 3.3	Responsibilities of the educational audiologist	118
Figure 3.4	A preliminary model for service delivery by the educational audiologist within the inclusive educational system	120
Figure 4.1	Phases of the empirical research	127
Figure 4.2	Description of participants in the questionnaire survey.....	140
Figure 4.3	Description of participants in focus group interviews	142
Figure 5.1	Flow diagram of the presentation of results.....	187
Figure 5.2	Need for support in learning about hearing loss (Participants who mainly promote spoken language)	190
Figure 5.3	Need for support in learning about hearing loss (Participants who mainly promote Sign Language)	192
Figure 5.4	Need for support in learning about the negative impact of a hearing loss (Participants who mainly promote spoken language)	197
Figure 5.5	Need for support in learning about the negative impact of a hearing loss (Participants who mainly promote Sign Language)	199
Figure 5.6	Need for support in learning about the maximising of residual hearing (Participants who mainly promote spoken language)	204
Figure 5.7	Need for support in learning about the maximising of residual hearing (Participants who mainly promote Sign Language)	206
Figure 5.8	Calculated averages of results of objective #1	210
Figure 5.9	Need for support in the development of language skills (Participants who mainly promote spoken language)	227
Figure 5.10	Need for support in the development of language skills (Participants who mainly promote Sign Language)	229
Figure 5.11	Need for support in the development of speech production skills (Participants who mainly promote spoken language)	233
Figure 5.12	Need for support in the development of speech production skills	

	(Participants who mainly promote Sign Language)	235
Figure 5.13	Need for support in the development of communication skills (Participants who mainly promote spoken language)	239
Figure 5.14	Need for support in the development of communication skills (Participants who mainly promote Sign Language)	241
Figure 5.15	Need for support in the development of literacy skills and academic achievement (Participants who mainly promote spoken language)	245
Figure 5.16	Need for support in the development of literacy skills and academic achievement (Participants mainly Sign Language)	247
Figure 5.17	Need for support in the development of psychosocial well-being (Participants who mainly promote spoken language)	251
Figure 5.18	Need for support in the development of psychosocial well-being (Participants who mainly promote Sign Language)	253
Figure 5.19	Calculated averages of results of objective #2	257
Figure 5.20	Members of the service delivery team (Participants who mainly promote spoken language)	273
Figure 5.21	Members of the service delivery team (Participants who mainly promote Sign Language)	275
Figure 5.22	Co-ordinator of the service delivery team	277
Figure 5.23	In-service training as a method of teacher support & benefits	279
Figure 5.24	Methods of in-service training.....	280
Figure 5.25	Service delivery system	282
Figure 5.26	Roles and responsibilities of the educational audiologist.....	283
Figure 5.27	Necessity of educational audiology services (Participants who mainly promote spoken language)	285
Figure 5.28	Necessity of educational audiology services (Participants who mainly promote Sign Language)	287
Figure 5.29	Greatest challenges of inclusion.....	291
Figure 5.30	Possible solutions to anticipated challenges of inclusion.....	293
Figure 5.31	Advantages and disadvantages of inclusion practices (Participants who mainly promote spoken language)	296
Figure 5.32	Advantages and disadvantages of inclusion practices (Participants who mainly promote Sign Language)	299
Figure 6.1	An educational audiology service delivery model for use within the inclusive educational system	321

LIST OF APPENDICES

Appendix A	List of schools that provide for children with hearing loss in South Africa.....	334
Appendix B	Covering letter and letter of informed consent to principals	
	English version	337
	Afrikaans version	339
Appendix C	Covering letter and letter of informed consent to participants	
	English version	342
	Afrikaans version	344
Appendix D	Questionnaire	
	English version	347
	Afrikaans version	358
Appendix E	Focus group interview schedule and letter of informed consent	
	English version	372
	Afrikaans version	374
Appendix F	Permission from the departments of Education	376
Appendix G	Permission from the research ethics committee	386
Appendix H	Transcriptions of focus group interviews (Groups 1 to 4).....	388
Appendix I	Dependency tests	431