

**ESTABLISHING A COMPUTER-BASED  
DATA SYSTEM FOR  
EARLY COMMUNICATION INTERVENTION  
IN SOUTH AFRICA**

by

**ALETTA MARGARETHA KRITZINGER**

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**This thesis is dedicated to the youngest children of South Africa ...**

... our children, the most valuable citizens in any society and the greatest of our treasures

... we are all of us, as individuals, called upon to give direction and impetus to the changes that are vital to the future of our youth and our country

... our children are our nation's future

Nelson Mandela  
former President of South Africa

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*An African proverb says it takes a village to raise a child.  
My experience was the same. It took a support system to write a thesis.*

## ABSTRACT

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<b>TITLE</b>	Establishing a Computer-Based Data System for Early Communication Intervention in South Africa
<b>NAME</b>	Aletta Margaretha Kritzinger
<b>PROMOTOR</b>	Prof B. Louw
<b>CO-PROMOTOR</b>	Prof L. M. Rossetti
<b>DEPARTMENT</b>	Communication Pathology
<b>DEGREE</b>	D. Phil

Key words: Early communication intervention, early intervention, relational database, research tool, infants, young children, families, cleft lip and palate, early identification, risk conditions

The study identifies the increase in populations at risk for communication disorders world-wide and in South Africa as one the reasons for research to develop early communication intervention (ECI) services as a societal responsibility in South Africa. Since ECI is largely an unknown entity in the South African health system, but shares several mutual objectives, the dire need for data of populations at-risk validates the development of a computer-based relational data system as a 21<sup>st</sup> century research tool for ECI. Underpinnings for the development of a research database for ECI were obtained from the use of database management systems for early intervention in the USA, identified as

leaders in the application of database technology in the field of Speech-Language Pathology.

The aim of the study was to develop and establish a computerized database system to describe the characteristics of young children at risk for communication disorders enrolled in an existing ECI programme. Using a descriptive survey as research design, a rich description of 153 subjects and their families was obtained. The findings relating to the multiple risk profiles of the subjects revealed results not extensively described or emphasized in the literature, indicating the in-depth analysis of results that is possible when utilizing a database approach to research. The complex risk profile found in the subgroup of subjects with cleft lip and palate is an example of a need for further investigation. The results also indicated the critical importance of early identification of risk events throughout a child's life to improve the efficacy of ECI services. Further results emphasized the important role of parents to identify the early signs of risks for communication disorders in their children, provided they are equipped with the necessary knowledge. A conceptual framework for the early identification of risks for communication disorders is proposed for best practice in ECI in South Africa.

The study concluded that the CHRIB database system was successfully applied in the empirical research and is now established as a versatile 21<sup>st</sup> century research tool to be utilized in second generation research in ECI in South Africa.

## OPSOMMING

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<b>TITEL</b>	Die Vestiging van 'n Rekenaargebaseerde Datasisteem vir Vroeë Kommunikasie Intervensie in Suid-Afrika.
<b>NAAM</b>	Aletta Margaretha Kritzinger
<b>PROMOTOR</b>	Prof B. Louw
<b>MEDEPROMOTOR</b>	Prof L. M. Rossetti
<b>DEPARTEMENT</b>	Kommunikasiepatologie
<b>GRAAD</b>	D. Phil

Sleutelwoorde: Vroeë kommuniasie intervensie, vroeë intervensie, relasionele databasis, navorsingsinstrument, babas, jong kinders, gesinne, gesplete lip en verhemelte, vroeë identifikasie, risikotoestande

Die studie identifiseer die toename in populasies met 'n risiko vir kommunikasieafwykings wêreldwyd en in Suid-Afrika, as een van die redes vir navorsing om vroeë kommunikasie intervensiedienste (VKI) as 'n gemeenskapsverantwoordelikheid in Suid-Afrika te ontwikkel. Aangesien VKI hoofsaaklik 'n onbekende entiteit in die Suid-Afrikaanse gesondheidsisteem is, maar verskeie gesamentlike doelwitte deel, regverdig die groot leemte aan navorsing oor risiko-populasies, die ontwikkeling van 'n rekenaargebaseerde relasionele datasisteem as 'n 21e eeu navorsingsinstrument vir VKI. Die fundering vir die ontwikkeling van 'n navorsingsdatabasis in VKI is gegrond op

die gebruik van databasis bestuursisteme vir vroeë intervensie in die VSA, wat as leiers in die toepassing van databasistegnologie op die gebied van Spraak-Taalpatologie geïdentifiseer is.

Die doel van die studie was om 'n rekenaargebaseerde datasisteam te ontwikkel en te vestig, en dit aan te wend om die eienskappe van jong kinders met 'n risiko vir kommunikasieafwykings in 'n bestaande VKI program te beskryf. Die gebruik van 'n beskrywende opname as 'n navorsingsontwerp, het 'n ryk beskrywing van 153 proefpersone en hulle gesinne gelewer. Die bevindings wat met die veelvuldige risikoprofiele van die proefpersone verband hou, het resultate wat nie uitgebreid in die literatuur beskryf of beklemtoon is nie, aan die lig gebring, wat dui op die grondige analise van resultate wat met die aanwending van 'n databasisbenadering tot navorsing moontlik is. Die gekompliseerde risikoprofiel van die subgroep van proefpersone met gesplete lip en verhemelte is 'n voorbeeld van 'n behoefte aan verdere navorsing. Die resultate het ook die kritiese belang van die vroeë identifikasie van risikogebeure gedurende 'n kind se lewe om die effektiwiteit van VKI dienste te verbeter, aangedui. Verdere resultate het die belangrike rol van ouers beklemtoon om die vroeë tekens van risiko's vir kommunikasieafwykings in hulle kinders te identifiseer, mits hulle toegerus is met die nodige kennis. 'n Konsepsuele raamwerk vir die vroeë identifikasie van risiko's vir kommunikasieafwykings is voorgestel as beste praktyk in VKI in Suid-Afrika. .

Die studie kom tot die gevolgtrekking dat die KHRIB datasisteam suksesvol toegepas is in die empiriese navorsing en dat dit gevestig is as 'n veelsydige 21e eeu navorsingsinstrument wat in tweedegenerasie navorsing in VKI benut kan word in Suid-Afrika.



## CONTENTS

### CHAPTER 1

#### A RATIONALE FOR DEVELOPING THE FIELD OF EARLY COMMUNICATION INTERVENTION IN SOUTH AFRICA

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1.1	INTRODUCTION	3
1.2	RATIONALE FOR DEVELOPING ECI IN SOUTH AFRICA	6
1.3	SOUTH AFRICAN NATIONAL HEALTH POLICY AND DISABILITY STRATEGY	16
1.4	STATEMENT OF PROBLEM AND RATIONALE	18
1.5	TERMINOLOGY	19
1.5.1	'Established risk', 'at-risk' and 'high risk'	19
1.5.2	'Early communication intervention' and 'early intervention'	21
1.5.3	'Impairment', 'disability' and 'handicap'	21
1.5.4	Infant mortality	22
1.5.5	Levels of health care	23
1.5.6	Poverty	24
1.5.7	Prevention	24
1.5.8	'Rehabilitation' and 'community-based rehabilitation'	25
1.6	ABBREVIATIONS	25
1.7	USE OF ITALIC TYPE IN THE THESIS	27
1.8	ORGANISATION OF THE STUDY	28
Chapter 1	A rationale for developing the field of early communication intervention in South Africa	28
Chapter 2	An overview of best practice in early communication intervention	28
Chapter 3	Strategies to develop early communication intervention in the South African context	28

Chapter 4	Database systems in early communication intervention	29
Chapter 5	Methodology	29
Chapter 6	Results and discussion	30
Chapter 7	Conclusions and implications	30
	References	31
	Appendices	31
1.9	CONCLUSION	32
1.10	SUMMARY	32

## **CHAPTER 2**

### **AN OVERVIEW OF BEST PRACTICE IN EARLY COMMUNICATION INTERVENTION**

---

2.1	INTRODUCTION	35
2.2	THE EFFECTIVENESS OF ECI	37
2.2.1	Introduction	37
2.2.2	Current Questions regarding the Efficacy of EI	40
2.3	FRAMEWORK FOR BEST PRACTICE IN ECI	43
2.3.1	PHASE I: Entry into the ECI Process	43
2.3.1.1	Developmental Screening	44
2.3.1.2	Developmental Surveillance	47
2.3.1.3	Epidemiological Data	49
2.3.1.4	Diagnosis of Infants with Established Risk Conditions	49
2.3.1.5	Caregiver Participation and Prevention of Communication Disorders	52
2.3.2	PHASE II: Assessment in ECI	53
2.3.2.1	Critical Elements of the ECI Assessment Process	54
2.3.2.2	Multidisciplinary Team Approach to Assessment in ECI	57

2.3.2.3	A Family–Centered Approach to Assessment in ECI	59
2.3.2.4	Assessment Procedures in ECI	64
2.3.3	PHASE III: Provision of ECI Programme Services	71
2.4	CONCLUSION	80
2.5	SUMMARY	83

## **CHAPTER 3**

### **STRATEGIES TO DEVELOP EARLY COMMUNICATION INTERVENTION IN THE SOUTH AFRICAN CONTEXT**

---

3.1	INTRODUCTION	85
3.2	CHANGES IN HEALTH CARE IN SOUTH AFRICA	87
3.2.1	Adopting a Primary Health Care Approach	87
3.2.2	Collaborative Services between Primary Health Care and ECI	89
3.2.3	Unique Contributions of ECI in a Primary Health Care Context	92
3.3	CHANGES IN EDUCATION FOR CHILDREN WITH SPECIAL NEEDS	94
3.3.1	Inclusive Education for All	95
3.3.2	The Role of ECI in the Education System	96
3.4	CURRENT VIEWS ON REHABILITATION OF PEOPLE WITH DISABILITIES	99
3.4.1	Abandoning the Medical Model of Disability	99
3.4.2	Increase of Disability in Developing Countries	101
3.4.3	Adopting a Social Model of Disability	103
3.4.4	Community-Based Rehabilitation	104
3.4.5	Expansion of the Role of the Early Communication Interventionist	105
3.4.6	Challenges of Effective Community-Based Rehabilitation	107
3.5	PROFILE OF CLIENTS REQUIRING ECI IN SOUTH AFRICA	110

3.5.1	Home languages and cultures of ECI clients	111
3.5.2	The literacy rate of families requiring ECI services	114
3.5.3	Age of parents of young children requiring ECI	115
3.5.4	Risks for communication disorders in ECI clients in South Africa	116
3.6	CONCLUSION	121
3.6	SUMMARY	122

## **CHAPTER 4**

### **DATABASE SYSTEMS**

#### **IN EARLY COMMUNICATION INTERVENTION**

---

4.1	INTRODUCTION	125
4.2	INFORMATION TECHNOLOGY IN SPEECH-LANGUAGE PATHOLOGY RESEARCH	127
4.3	FEATURES OF RELATIONAL DATABASE SYSTEMS	129
4.3.1	Advantages of Relational Database Systems	130
4.4	DATABASE SYSTEMS AS MANAGEMENT TOOLS IN EI	132
4.5	DATABASE SYSTEMS AS RESEARCH TOOLS IN EI	137
4.5.1	The Individual Following Record to Early Intervention (García- Sánchez, 1999)	137
4.5.2	Relational Database System to Integrate Early Childhood Assessment Data across Pre-kindergarten, Kindergarten and Grade 1 (Bezruczko & Zell, 1993)	139
4.5.3	Developmental Assessment and Instruction for Success in Early Years (DAISEY) Data System (Mandeville, <i>et al.</i> , 1988)	140
4.5.4	A Computerized Classroom Language Management and Recording System for Deaf and Hard of Hearing Children (Bornstein & Casella, 1993)	141

4.5.5	Child Language Data Exchange System (CHILDES) (MacWhinney, 1996)	142
4.5.6	Language Sample Analysis (LSA) (Miller, <i>et al.</i> , 1992)	143
4.6	APPLICATIONS OF THE USE OF DATABASE SYSTEMS FOR ECI	145
4.7	ECI RESEARCH RELATING TO RISK POPULATIONS IN SOUTH AFRICA	146
4.8	CONCLUSION	151
4.9	SUMMARY	152

## **CHAPTER 5**

### **METHODOLOGY**

---

5.1	INTRODUCTION	155
5.2	AIMS OF THE STUDY	159
5.2.1	First Main Aim	160
5.2.2	Second Main Aim	160
5.3	RESEARCH DESIGN	161
5.4	SUBJECTS	164
5.4.1	Selection Criteria of Subjects	165
5.4.2	Selection Procedures of Subjects	166
5.4.3	Description of Subjects	166
5.5	MATERIALS AND APPARATUS	170
5.5.1	Assessment Materials	170
5.5.1.1	CHRIB Case History Form (Louw & Kritzinger, 1995a)	170
5.5.1.2	CHRIB Assessment Protocol (Louw & Kritzinger, 1995b)	173
5.5.2	Features of the CHRIB Database System	178
5.5.3	Apparatus Requirements	184
5.5.3.1	Apparatus Requirements for the CHRIB Database System	184

5.5.3.2	Apparatus Requirements of the CHRIB Assessment Recordings	185
5.5.3.3	Apparatus Requirements for Hearing Testing	185
5.6	PROCEDURES	186
5.6.1	Design of CHRIB Database System	186
5.6.2	Data Collection	187
5.6.3	Validity and Reliability	190
5.6.4	Data Analysis and Interpretation	191
5.7	CONCLUSION	192
5.8	SUMMARY	192

## **CHAPTER 6**

### **RESULTS AND DISCUSSION**

---

6.1	INTRODUCTION	195
6.2	DESCRIPTION OF THE SUBJECTS' CHARACTERISTICS	198
6.2.1	Gender of the subjects	198
6.2.2	Age of subjects	200
6.2.3	Subjects older than three years	201
6.2.4	Subjects enrolled in ECI programmes prior to CHRIB assessment	205
6.2.5	Main diagnostic classifications of subjects	206
6.2.6	Time of identification of subjects' risk conditions	209
6.3	ANALYSIS OF THE DIAGNOSTIC CLASSIFICATIONS FOUND IN THE SUBJECTS	224
6.3.1	Number of diagnostic classifications per subject	224
6.3.2	Biological risk profile for communication disorders in the subjects	227
.1	<i>Communication disorders</i>	228
.2	<i>Chronic otitis media</i>	229
.3	<i>Multiple births</i>	230
.4	<i>Birth weight and gestation</i>	236

.5	<i>Congenital heart defects</i>	244
.6	<i>Subjects with cleft lip and palate</i>	248
.7	<i>Subjects with Down syndrome</i>	251
6.4	CHARACTERISTICS OF THE SUBJECTS IN THE PERINATAL AND POSTNATAL PERIODS	255
6.4.1	Characteristics of the subjects in the perinatal period	255
6.4.2	Characteristics of the subjects in the postnatal period	263
6.5	CHARACTERISTICS OF THE SUBJECTS' FAMILIES	267
6.5.1	General characteristics of the subjects' families	270
6.5.2	Biographical detail of the subjects' families	277
6.5.3	Subjects' home languages	279
6.5.4	Characteristics of the subjects' biological mothers	282
6.6	CONCLUSION	287
6.7	SUMMARY	291

## CHAPTER 7

### CONCLUSIONS AND IMPLICATIONS

---

7.1	INTRODUCTION	293
7.2	CONCLUSIONS	296
7.2.1	Conclusions regarding the establishment of the CHRIB database system	296
7.2.2	Conclusions to the results of the empirical study	302
7.3	IMPLICATIONS	309
7.3.1	Implications for clinical practice	309
7.3.2	Theoretical implications of the results	314
7.4	CRITICAL REVIEW OF METHODOLOGY AND RESULTS	315
7.5	RECOMMENDATIONS FOR FURTHER RESEARCH	319
7.6	CONCLUSION	321
7.7	SUMMARY	322

## LIST OF TABLES

---

Table 1.1	Distribution of population groups, unemployment and people with disabilities in South Africa	7
Table 1.2	Age profile of clients receiving rehabilitation services in public hospitals in the Pretoria Region	10
Table 1.3	Low birth weight rate in the Pretoria Districts, 1996-1997	11
Table 1.4	Increased prevalence of risk conditions associated with communication disorders in the infant population in South Africa	13
Table 2.1	A framework for infant-toddler communication-based assessment	70
Table 2.2	Characteristics and components of a selection of EI programmes	73
Table 3.1	Percentage distribution of home languages in South Africa	112
Table 3.2	Recorded causes of infant deaths, 0-12 months during 1994 in South Africa	117
Table 3.3	Perinatal conditions recorded as causes of death during 1994 in South Africa	119
Table 4.1	South African studies describing young children mainly under three years old requiring ECI	147
Table 5.1	Summarized description of subject characteristics (N=153)	167
Table 5.2	Communicative assessment materials used in CHRIB	174
Table 5.3	List of tables, their descriptions and types of data entered in the CHRIB Database	180
Table 5.4	Sequence of data collection procedures during CHRIB assessment, participants and recording measures to ensure reliability and accuracy	188
Table 5.5	Qualifications and experience of data collectors	189
Table 5.6	Sub-aims of the empirical study and statistical procedures	191



Table 6.1	Characteristics of subjects (N=153)	200
Table 6.2	Print out of CHRIB Database query of subjects older than 3 years (N=12)	202
Table 6.3	Print out of the datasheet view of the CHRIB Database Table "Persons involved" (N=16)	204
Table 6.4	Prenatal diagnosis of the subjects' risk conditions (N=8)	210
Table 6.5	Subjects identified with a risk condition or communication delay after the perinatal period (N=47)	212
Table 6.6	Number of subjects per risk condition identified after the perinatal period (N=47)	214
Table 6.7	Characteristics of subjects identified with expressive specific language impairment (N=9)	216
Table 6.8	Ages of subjects identified with communication delay after the perinatal period (N=45)	218
Table 6.9	The roles of parents and professionals in identifying risk conditions in subjects after the perinatal period (N=47)	220
Table 6.10	Analysis of diagnostic classifications per subject	224
Table 6.11	Diagnostic classifications of the subjects (N=153)	225
Table 6.12	Print out of CHRIB Database query of subjects without speech and language delay (N=4)	228
Table 6.13	Subjects relating to multiple births and age at CHRIB assessment (N=23)	232
Table 6.14	Subjects with low birth weight and/or premature birth (N=52)	237
Table 6.15	Number of subjects in each diagnostic classification with low birth weight and premature birth (N=52)	239
Table 6.16	Occurrence of small for gestational age but full-term in the subjects (N=15)	243
Table 6.17	Number of subjects in each diagnostic classification with congenital heart defects (N=16)	244

Table 6.18	Diagnostic profiles of subjects with congenital heart defects (N=16)	246
Table 6.19	Characteristics of subjects with Down syndrome (N=23)	252
Table 6.20	Characteristics of perinatal risk factors experienced by the subjects (N=153)	256
Table 6.21	Subjects who succeeded with breast feeding (N=34)	259
Table 6.22	Subjects with successful bottle feeding only after 8–150 days (N=51)	261
Table 6. 23	Type and number of surgical procedures performed on the subjects (N=93)	265
Table 6. 24	General characteristics of the subjects' families (N=145)	269
Table 6.25	Biographical detail of the subjects' families (N=145)	277
Table 6.26	Characteristics of subjects' parents not belonging to medical aid funds (N=36)	278
Table 6.27	Languages spoken in the subject's homes (N=153)	280
Table 6.28	Environmental risks found in the subjects' families	281
Table 6.29	Characteristics of biological mothers of subjects during pregnancy (N=145)	282
Table 6.30	Risk conditions of subjects whose mothers had spontaneous abortions and stillborn infants (N=24)	284

## LIST OF FIGURES

---

Figure I.I	Analysis of problem areas relating to ECI service delivery in South Africa	8
Figure II.I	The early communication intervention process	42
Figure II.II	Diagram to indicate the difference between Lahey's assessment model (1988) and assessment in ECI	55
Figure II. III	Levels of family interaction patterns	61
Figure II. IV	Continuum of parameters for efficacy in ECI service delivery	82
Figure III.I	ECI professional functions in relation to community-based rehabilitation	105
Figure V.I	Schematic representation of the research methodology of the present study (Based on Guralnick, 1997)	158
Figure V.II	Print out of relationships between the tables of the CHRIB Database	182
Figure V.III	Print out of a CHRIB Database form for the phonetic inventories of vowels and consonants	183
Figure VI.I	Overview of results presented in the chapter	197
Figure VI.II	Outline of results pertaining to the characteristics of the subjects	199
Figure VI.III	Scatter graph distribution of subjects' ages (N=153)	201
Figure VI.IV	Outline of results regarding the characteristics of the subjects' families	268
Figure VI.V	Scatter graph of ages of subjects' biological mothers at the time of the subjects' birth (N=145)	283
Figure VII.I	Outline of chapter contents	295
Figure VII.II	Research capabilities of the CHRIB database	298
Figure VII.III	Risk profile of subjects with cleft lip and palate	304
Figure VII.IV	Conceptual framework for the early identification of risks for communication disorders	307

## **APPENDICES**

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- Appendix A CHRIB Information Letter to Parents
- Appendix B CHRIB Case History Form (Louw & Kritzinger, 1995a)
- Appendix C CHRIB Assessment Protocol (Louw & Kritzinger, 1995b)
- Appendix D Structure of the CHRIB Database
- Appendix E Subjects and their ICD-10 (CSS, 1996) Classifications