



شبكة المعلومات الجامعية

شبكة المعلومات الجامعية
جامعة عين شمس
ASUNET



شبكة المعلومات الجامعية
@ ASUNET



شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
على هذه الأفلام قد اعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %



شبكة المعلومات الجامعية



بعض الوثائق

الأصلية تالفة



شبكة المعلومات الجامعية



بالرسالة صفحات

لم ترد بالأصل

**The Complementary Use Of Tactile Aids In Children
With Severe To Profound Hearing Loss: A Study On
The Transmission Of Temporal Cues**

**Thesis Submitted In Partial Fulfillment
Of The Master Degree In Audiology**

By

Tawfik Abd El-Halim Shabaka

Supervised By

Prof. Dr. Somia Tawfik Mohamed
*Professor and Head of Audiology Unit
E.N.T. Department
Ain Shams University*

Dr. Adel Ibrahim Abdel-Maksoud
*Assistant Professor of Audiology
E.N.T. Department
Ain Shams University*

Faculty of Medicine

Ain Shams University

2001

B
✓ K A K

CONTENTS

Contents	I
Acknowledgement	II
List of the tables	III
List of the figures	IV
List of abbreviations	V
Introduction and rationale	1-2
Aim of the work	3
Review of literature	4-50
<u>CHAPTER 1:</u> Hearing profile in profound hearing impaired children	
• Auditory characteristics of profoundly deaf	
• Categories of profound deafness	
• Aetiology and prevalence of childhood profound hearing loss	
• Impact of profound hearing loss on children	
<u>CHAPTER 2:</u> Speech perception in severe to profound hearing impaired children	
• Natural methods	
• Synthetic methods	
• Evaluation of speech perception skills in children with profound hearing loss	
<u>CHAPTER 3:</u> Tactile aids	
• Historical background	
• Types of tactile aids	
• Tactual displays	
• Complex coding of multichannel vibrotactile aids	
• Temporal processing through the tactile system	
Materials and Methods	51-57
Results	58-75
Discussion	76-84
Conclotions	85
Recommendations	86
Summary	87-89
References	90-118
Appendix	-
Arabic Summary	-

Acknowledgement

First, most thanks to **GOD** to whom I relate any success in my life.

I wish to express my deepest gratitude to Professor Dr. **Somia Tawik**, Prof. and Head of Audiology Unit, Ain Shams University, for her continuous guidance, encouragement, and support throughout this work.

I hope to express my warmest gratitude to Dr. **Adel Abdel-Maksoud**, Assistant Prof. of Audiology, Ain Shams University, for his kind support, endless help and advise.

Special thanks to Dr. **Wafaa El-Kholy**, Lecturer of Audiology Unit, Ain Shams University, for her great help, advise, and encouragement.

Lastly, but not the least, I wish to thank all staff members and residents of Audiology Unit, Ain Shams University, for their kind help and support.

NO	List Of The Tables	Page
1	Comparison between Auditory and Vibrotactile Modes in the sound reception	46
2	Mean, Standard deviation (SD), and Range of age, age of onset of hearing loss and age of start of hearing aids use in the study group.	58
3	Regularity and Irregularity of HA use in the study group.	59
4	Classification of the study group according to etiology of the hearing loss.	61
5	Mean, SD, and Range of pure tone thresholds in dB HL in the study group.	63
6	Mean, SD, and Range of speech audiometry in the study group.	64
7	Mean, SD, and Range of monaural aided thresholds in dBHL by Hearing aids only and by Vibrotactile aids only in the study group.	65
8	Mean, SD and Range of monaural aided thresholds in dBHL by combined hearing aid and Vibrotactile aid in the study group	66
9	ANOVA table showing the differences between aided thresholds, V.T.A. thresholds and combination of both in the study group.	68
10	Mean, SD, Range and (t) test of Auditory Fusion Test Revised Subtest (2) [AFTR, subtest 2] results measured in milliseconds in the study group when using hearing aids (H.A.) only and combined (H.A.) and Vibrotactile aids (V.T.A.).	69
11	Mean, SD, Range and (t) test of Early Speech Perception test (ESP) measured in percent (%) in the study group when using the hearing aids alone and when using both hearing aids and Vibrotactile aids.	71
12	Correlation between the variables and the AFTR subtest 2 thresholds measured in milliseconds in the study group using H.A. only.	73
13	Correlation between the variables and the AFTR subtest 2 thresholds measured in milliseconds in the study group using both H.A. and V.T.A.	74
14	Correlation between the variables and the scores of ESP test in the study group when using H.A. only and when using combination of both H.A. and V.T.A.	75

NO	List Of The Figures	Page
1	Grade-equivalent scores for deaf males and females at four ages.	20
2	Tactaid 7 that consisting of two major parts: An electroacoustic processing module and flexible skin transducers array with 7 transducer vibrators	39
3	A pie chart showing the distribution of regulatory of H.A. use in study group.	60
4	A bar chart showing the etiology of hearing loss in the study group.	62
5	An audiogram showing the Mean of hearing threshold levels, aided threshold levels by using H.A. alone, V.T.A. alone, and when using combined H.A. and V.T.A. in the study group.	67
6	A chart showing the Mean values of the Auditory Fusion Test Revised subtest 2 (AFTR) of the study group when using H.A alone and when using combined H.A and V.T.A.	70
7	A complex bar chart showing the values of ESP test results in the study group.	72

