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READING INSTRUCTION FOR HEARING-IMPAIRED STUDENTS IN AN AUDITORY-ORAL SETTING

by

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An independent study submitted in partial fulfillment of the requirements for the degree of

Master of Science in Speech and Hearing

Emphasis in Education of the Hearing Impaired

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Department of Speech and Hearing

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Low levels of reading in hearing impaired individuals are well documented throughout literature and quite apparent to those working with hearing impaired students. "At the end of pre-college schooling, the average reading deficit of deaf children is approximately seven years. The average 16 year-old hearing child has achieved a 10th grade reading level whereas his/her deaf peer is only reading at a 3rd grade level," (Trybus & Karchmer, 1977).

These low reading levels in hearing impaired students are predominantly attributed to language acquisition and comprehension. The hearing impaired child does not acquire language in the same manner as the hearing child. The language development of a hearing impaired child is significantly delayed. "Reading is a language process," (Taylor, Harris, & Pearson, 1988). It is because of this simple reason that reading is difficult for hearing impaired children. The development of language in hearing impaired children will be discussed in greater detail later in this presentation.

I will discuss the instruction of reading as a whole in relation to both hearing and hearing impaired children. The focus of instruction is dependent upon the definition of reading. The two components that could be focused upon are word recognition (decoding) or comprehension. A phonological based approach is taken when the focus is on word recognition whereas a meaning based approach is applied when the focus is comprehension. There is controversy over which approach is more effective in reading instruction. A phonological approach will supply the individual with

word attack skills and sound-letter correspondence skills whereas the meaning based approach focuses on the selection or word as a whole.

When looking to understand the process of reading and attempting to depict appropriate instruction, one must understand how an individual interacts with the material that is being read. Oral and written language has been divided into three basic models of comprehension: top-down processing, bottom-up processing, and interactive. Top-down processing includes experiences and world knowledge that one holds and uses in order to aid in comprehension. Bottom-up processing includes word attack skills and knowledge of sound-letter correspondence. "Bottom-up processes are presumed to be necessary when reading isolated, decontextualized words, whereas top-down processes facilitate not only word recognition but also discourse-level comprehension," (Kamhi & Catts, 1989). The top-down and bottom-up models are used in order to achieve parallel and simultaneous processing in the interactive model.

Reading begins at a very young age. Jeanne Chall reports in her stages of reading development that reading development should begin at birth. It is important for young children to attain a reading readiness level. This is a level at which they are interested in books and presented with a literary rich environment. Children should have knowledge of letters, vocabulary, print awareness, and phonemic awareness at a young age. "Phonemic awareness is the knowledge that words can be segmented into smaller units of sound (called phonemes). It is reflected in children's abilities to produce rhymes, to engage in games involving phoneme additions, deletions, and

substitutions (such as "eeny, meeny, miney, mo"), and to represent sounds with letters when engaged in invented spelling." (Walser 1999) Knowledge of print and language is important for both hearing and hearing-impaired children.

In order to increase the levels of reading in all children there should be an emphasis on "language development, development of phonological awareness, and development of literacy and print skills during preschool and kindergarten," (Walser, 1998). A beginning reader must be motivated to read. This motivation may be intrinsic or extrinsic. Extrinsic motivation will come to the reader from the material being read and the instructor.

Materials for teaching reading vary. Young children may create their own storybooks from personal experiences. This is extremely motivating because it is meaningful to the child. Another good motivator for reading is children's literature. Children's literature is written at all levels and can even be used for non-readers; a non-reader will be interested in the pictures that are illustrated in the literature book. This will give them a sense of reading and accomplishment along with the correct turning of the pages and positioning of the book. Structured reading classes in school typically consist of basal reader series instruction. This type of instruction may prove beneficial due to the fact that it presents questions, activities, assessment tools, vocabulary, and skill building exercises. One downside to the basal reader is that of interest to the children. Children are not typically motivated by every story in the series.

The instructor of a child learning to read is of utmost importance. Learning to read is very challenging for children especially hearing impaired children. "Research results and teaching practice indicate that the best instruction is explicit, systematic, sequential, active, and engaging. Effective teaching emphasizes discovery and understanding, and is aided by frequent opportunities to practice spelling, writing, and reading skills in meaningful contexts," (The International Dyslexia Association, 1997). A teacher needs to be knowledgeable about the reading process and be capable of applying intervention strategies appropriately. Since reading is so difficult a teacher needs to be active and draw on the interest of the children in order to maintain their interest and motivation.

Hearing impaired children develop language later than normal hearing children. With today's technological advances it is simpler to get a child fitted with amplification after an early diagnosis. This is especially important when considering the oral approach to communication. There are several communication approaches that parents are faced with when confronted with a hearing impaired child. The selection of mode of communication may be dependent on the type of loss. I will focus on all hearing impaired children that use oral communication. Oral communication is one in which the child learns to listen and speak just as a normal hearing child. Although technology is advanced, hearing impaired children need to be trained in order to make full use of their ability to hear. This means that they do not overhear conversations that are being held in their close proximity as would a hearing child. "While children educated within auditory\oral environments can achieve micro level correspondence

through amplified residual hearing, confusion may still arise when sounds are outside the child's hearing range, or are confusable in lip shape," (Palmer, 2000). They do not pick up on idioms in the english language and all syntactic rules of the english language.

An oral child must be extremely motivated with full encouragement from parents and family members. "Children with profound hearing impairment who have a combination of favorable factors - including at least average nonverbal intellectual ability, early oral education management and auditory stimulation, and middle - class family environment with strong family support - have a potential for developing much higher reading, writing, and spoken language skills than is reported for hearing impaired people in general (e.g., 7th-to 8th-grade reading levels rather than 3rd-grade reading levels)," (Geers and Moog, 1989).

The main reason that the language development of a hearing impaired child is significantly delayed as compared to a hearing child is because they are not receiving auditory input until much later in life. In other words, they do not receive the auditory feedback that a hearing child does from the time of birth.

I have already discussed language acquisition of hearing impaired children in reference to hearing children and it is recognized that hearing impaired children have low reading levels as compared to their hearing peers. "Oral language comprehension is the base upon which written language comprehension is built. Their greater facility in listening and the similarities between this process and reading, especially in the primary grades, make listening a process that can be a powerful part of reading

comprehension instruction in several ways. (Maria 1990) If one considers the type of instruction that is used in teaching reading, meaning based and phonological based approaches, it is recognized that a hearing impaired child will also be lacking in their knowledge of these as compared to a hearing child. "Hearing children usually enter school with a broad knowledge of words and their meanings. We cannot make such assumptions for hearing impaired children. Reading is dependent upon, and reflects, children's linguistic, cognitive, and experiential development," (Palmer, 2000). A hearing impaired child will need to be taught the letters of the alphabet and their sound correspondence in the same fashion as a hearing child in the bottom-up processing approach. A hearing impaired child will be at a great disadvantage as compared to a hearing child when considering the top-down approach due to his/her lack of language and world knowledge. As proposed by Linda M. Watson (1999) in the Deafness and Education International journal:

If one accepts that there are similarities in the experience of learning to read and write between deaf and hearing children, then it follows that the same criteria need to be met in order to give deaf pupils a chance of achieving adequate levels of literacy. Deaf children then require the following: A solid language base; The ability to use that language base for the purposes of literacy; A wide general knowledge both of the world and of books and stories; Effective word-attack skills which will serve for reading and writing, (p. 99).

When considering the steps that need to be taken in reading instruction for hearing impaired children the same criteria should apply as for hearing children. The hearing impaired child should be placed in a literate rich environment both at school and home, read books aloud, have books read to them, be encouraged to write, and develop phonemic awareness.

One must also consider the materials and instructor when instructing a hearing impaired child. The instructor should be educated on language development of a hearing impaired child and knowledgable of teaching strategies. The instructor also needs to be able to make the instruction meaningful to the child. Material should be used that the child is familiar with due to his/her lack of world knowledge. When considering materials it is important to evaluate the language level at which it is written. It has been an ongoing debate in the field of reading instruction of hearing impaired children whether they should be exposed to simplified materials or the same material as that of their hearing peers. "The perennial issue of whether to 'fit the child to the book or the book to the child'; that is, whether specially simplified reading materials should be provided to meet the 'lower language skills' of deaf readers, or whether deaf readers' language skills can be improved by exposing them to 'normal' reading materials," (Power & Leigh, 2000).

It is necessary to determine a means of instructing hearing impaired children in order for them to be at a reading level equal to their hearing peers. A deaf child has many obstacles to overcome due to the delay in their development of language. A hearing impaired child needs to develop the same literacy skills as that of a hearing

child in order to be successful in today's society. The ability to read is important to everyday life as well as career choices.

I have conducted a survey in order to determine what type of reading instruction hearing impaired children in an oral setting are receiving. I compiled a questionnaire that addressed aspects of a reading curriculum that have been previously mentioned. The questionnaire was sent out to auditory oral deaf education schools that belong to an organization known as OPTION. 18 of the 36 schools responded and returned a completed survey. A list of the OPTION schools is presented in Appendix A. As part of the study I analyzed the feedback from the schools and have provided descriptions of the methods that are currently being used with hearing impaired children.

The questionnaire classified the children into groups based on reading levels. The levels that were used were pre-readers, reading grade level 1-2, reading grade level 3-4, and reading grade level >4. The schools reported the number of students currently enrolled and their ages. The pre-reading classification compiled data on 186 children ages 0-7. The reading level 1-2 consisted of 111 children ages 5-11. 62 Children ages 8-13 were reported as currently being placed at the 3-4 reading level. The reading level >4 consisted of 34 children ages 10-14.

Approaches currently being used in the reading curriculum

Schools seemed to use a combination of approaches throughout their curriculum. It was reported that pre-readers were being taught through a phonological approach, sight word approach, and whole language approach. The phonological and

sight word approaches were used with all levels of readers. The following are percentage of programs using the particular approach with the specific reading level.

Pre-readers: Phonological 73% Sight Word 80% Whole Language 66%
Reading Level 1-2: Phonological 100% Sight Word 90% Whole Language 60%
Reading Level 3-4: Phonological 75% Sight Word 100% Whole Language 75%
Reading Level >4: Phonological 66% Sight Word 100% Whole Language 0%

Other approaches mentioned were teacher-made strategies, emergent literacy, reading recovery, and guided reading. These approaches were used throughout the reading levels in one program with the exception of emergent literacy which was used up to reading level 2.

Materials - currently being used

The programs used a variety of materials in order to teach reading to their hearing impaired students. The following are the percentage of programs using that particular source with the prescribed reading level.

Pre-readers:

Basal Readers 13%

Commercially made curricula 46%

Teacher made materials 100%

Experience Chart Stories 93%

Children's Literature Books 100%

Reading Level 1-2:

Basal Readers 80%

Commercially made curricula 80%

Teacher made materials 80%

Experience Chart Stories 90%

Children's Literature Books 100%

Reading Level 3-4

Basal Readers 100%

Commercially made curricula 100%

Teacher made materials 100%

Experience Chart Stories 50%

Children's Literature Books 100%

Reading Level >4

Basal Readers 100%

Commercially made curricula 100%

Teacher made materials 66%

Experience Chart Stories 33%

Children's Literature Books 100%

Rinehart & Winston of Canada, and Prentice-Hall/Ginn.

These results demonstrate that teacher-made materials and experience chart stories are used more frequently at lower reading levels with younger children whereas basal readers are used more frequently with higher level readers. Other materials that were mentioned as being used were Specialized Program Individualizing Reading Excellence (SPIRE), poems, songs, rhymes, Open Court Reading Program, Lakeshore supplies for literature units, Scholastic newspapers, local newspapers, expository text selections, a phonics game, and the computer game Reader Rabbit.

The Basal Reader Series that were currently being used were from a variety of publishers including: Scott Foresman, Silver Burdett Ginn, Houghton Mifflin, Holt

Assessment techniques

The schools reported assessing the reading skills of children at all levels.

There were a variety of ways listed that are currently being used to assessing their reading abilities. These approaches to assessment are teacher observation, Dolch, Gates, PIAT, SAT, Woodcock Johnson, TERA, McMillan Series Standard Tests, IOWA Basic Standardized Tests, PPVT, EOWPVT, charts, role-playing, oral questioning, anecdotal narratives, and observational records.

Textbooks used for content subjects

All schools reported using textbooks for content subjects. The textbooks vary in publishers and series. The publishers that are currently being used for math instruction are Scott Foresman, Addison Wesley, Silver Burdett Ginn, and AIMS. The publishers currently being used for science instruction are Houghton Mifflin, Silver Burdett Ginn, AIMS, and Scott Foresman. It was also reported that teacher-made lessons, web pages, magazines, science literature, and trade books are also used for science and social studies instruction. The publishers currently being used for social studies are Follet, Scott Foresman, Macmillan-McGraw-Hill, Heath, Steck Vaughn, and Harcourt Brace.

Hours of homework per night that require reading

The average of homework per night that require reading ranged from 10 minutes to one hour. The older children at higher reading levels had more homework that required reading than the children at lower reading levels.

Number of visits per month to the library

The average visits to the library in a month was four. The schools reported that the children went to the school library once a week. One school noted that there were public library books at the school for the children to borrow. Another school reported that they encourage families to take the children to the public library.

Incorporation of literature into reading curriculum

All schools reported that literature is incorporated into their reading curriculum. They did not suggest to what extent, but do list activities that accompany the literature. All the schools complete activities accompanying the reading of a literature book. The activities consist of dramatization of story, plays, hands-on activities, writing activities, art projects, and music.

Critical components for a reading curriculum for a hearing impaired child in an auditory oral setting

The schools rated the importance of textbook material, teacher made materials, controlled language level of materials, phonological decoding activities, vocabulary building activities, and reinforcing and enriching activities on a scale of 1(most important - 6(least important). I averaged the score given to each category by the schools and found the following results:

Textbook materials 3.2

Teacher made materials 3.6

Controlled language level of materials 3.6

Phonological decoding activities 4.1

Vocabulary building activities 2.85

Reinforcing and Enriching activities 2.85

These figures tell me that vocabulary building, reinforcing, and enriching exercises seem to be of utmost importance when evaluating the critical components of a reading curriculum.

What the schools felt could be modified or changed to improve the low reading levels of hearing-impaired children

Positive feedback

Activities that are interesting, appropriate, and meaningful

Intensive auditory-oral stimulation at a young age which will develop spoken language competence

Early development of vocabulary

Exposure and meaningful interactions with reading and writing

Exposure to higher level and variety of vocabulary and language

Auditory stimulation will provide phonological awareness abilities

Addressing differing learning styles and supporting different rates of growth and abilities at each age level

Variety of reading materials

Many opportunities to read and be read to

Vocabulary building

Fostering a love for reading

Strong phonological base

Higher level questioning

Dialogue and natural conversations

Increase writing activities to accompany reading

More phonetic-based materials

Teachers of deaf children need to be aware of the developmental stages of typically developing children related to literacy

Opportunities to share conversation/oral narratives

Attention to cognitive skills: inferential skills, problem-solving, comparisons, classifications

High expectations

Reading as an integral part of the curriculum not an additional subject

Parent involvement with teaching staff and child

Visualization activities

Better teacher training programs for teachers of deaf children

In conclusion, it is obvious that hearing impaired children are significantly delayed in reading development due to their lack of language. It is necessary for one to look at the reading curricula that are currently being used and evaluate the techniques and strategies. It is also necessary to establish competent teachers of

deaf children in order to increase the reading level of hearing impaired children. One should take into consideration the recommendations set forth by the teachers of the hearing impaired in this study. Reading acquisition is a difficult task for both hearing and hearing impaired children but is significantly more difficult for the hearing impaired child. Not only does the curricula for hearing impaired children need to be refined and reviewed by assessing the needs and successes of the children, but it also needs to be compared to that of their hearing peers' achievements.

Appendix A

Option Schools

Archbishop Ryan School for Children with Hearing Impairment Norwood, PA

The Atlanta Speech School Atlanta, GA

CCHAT Center - Sacramento Sacramento, CA

CCHAT Center - San Diego Encinitas, CA

The Center for Hearing and Speech Houston, TX

Central Institute for the Deaf St. Louis. MO

Child's Voice Chicago, IL

Chinchuba Institute Marriro, LA

Clarke-Jacksonville Auditory/Oral Center Jacksonville, FL

Clarke-NYC Auditory/Oral Center New York, NY

Clarke School East Canton, MA

Clarke School for the Deaf Northhampton, MA

The DePaul Institute Pittsburg, PA

The Elizabeth Foundation for Pre-School Deaf Children Great Britain

Desert Voices Oral Learning Center Phoenix, AZ

ECHO Center Culver City, CA

Hear at Home Denver, CO

Hearing Enrichment Language Program Oklahoma City, OK

Jean Wwingarten Peninsula Oral School for the Deaf Redwood City, CA

John Tracy Clinic Los Angelos, CA

Presbyterian Ear Institute Alburquerque, NM

Listen and Talk Seattle, WA

Magnolia Speech School Jackson, MS

Memphis Oral School for the Deaf Memphis, TN

Montral Oral School for the Deaf, Inc. Montreal, Quebec, CANADA

Moog Oral School St. Louis, MO

The Omaha Hearing School for Children

Omaha, NE

Oralingua School for the Hearing Impaired Whittier, CA

St. Joseph Institute for the Deaf Chesterfield, MO

St. Joseph Institute for the Deaf - Carle Urbana, IL

St. Joseph Institute for the Deaf - Kansas City

Overland Park, KS

Summit Speech School for the Hearing Impaired Child New Providence, NJ

Sunshine Cottage School for Deaf Children

San Antonio, TX

Tucker-Maxon Oral School Portland, OR

The Vancouver Oral Centre Vancouver, British Columbia, CANADA

received a completed survey

Appendix B

Central Institute for the Deaf Reading Curriculum Survey Return by March 16, 2001

Name and title:	<u>-</u>
School affiliation:	<u>.</u>
Number of children currently enrolled:	
Pre-readers Reading level 1-2 Reading level 3-4	_ Reading level >4
Age range of children currently enrolled:	
Pre-Readers Reading level 1-2 Reading level 3-4	Reading level >4

Please mark the appropriate box for each item listed below. Be sure to provide separate information for each of the listed reading levels.	Pre- readers	Reading level 1-2	Reading level 3-4	Reading level >4
Approaches currently being used in the				
reading curriculum:			*	
Phonological Approach				
Sight Word Approach				
Whole Language Approach				· · · · · · · · · · · · · · · · · · ·
Other approaches to reading instruction (Please list here and describe on the back)				
Materials currently being used:				
Basal Reader Series (List title)				-
Commercially made curricula (List title)				
Teacher made materials				
Experience chart stories				
Children's literature books				
Ciniaren s inerature books				
Other (Please list)	r			

	Pre- readers	Reading level 1-2	Reading level 3-4	Reading level >4
·				
Assessment techniques: (List name of standardized test or describe informal techniques on the back)				
Vocabulary (word recognition)				
Comprehension (sentences and paragraphs)				
Textbooks used for content subjects: (Please list the series or publisher)				
Math				
Science				
Social Studies			·	
Percentage of class time children spend reading:				
Reading aloud				
Reading silently				
Listening/Watching someone read to them				
Hours of homework per night that require reading?				
Number of visits per month to the library?	,			-

	Pre- readers	Reading level 1-2	Reading level 3-4	Reading level >4
Is literature incorporated into the reading curriculum? (Yes or No)				
Literature Activities: Do you create activities to reinforce, accompany, or demonstrate reading lessons?				
Dramatization of story				
Hands – on activity				
Writing activity				
Other (Please describe)				
Please rate the critical components of an effective reading curriculum for hearing-impaired children in an auditory oral program: (1 most important – 6 least important) Textbook material	·			
TONISOON MALOTIAI				
Teacher made materials				
Controlled language level of materials				
Phonological decoding activities				
Vocabulary building activities				
Reinforcing and enriching activities				
Other (Please describe)				
	· · · · · · · · · · · · · · · · · · ·			

What do you feel could be modified or changed to improve the low reading levels of hearing-impaired children?

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