

# EFFECTS OF HEARING LOSS IN EDUCATIONAL SETTINGS

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WHAT WORDS OR THOUGHTS COME TO  
MIND WHEN YOU HEAR:

“You will have a deaf or  
hard of hearing student in  
your class this year.”



# INCIDENCE

“About 131 of every 1,000 school-age children have some degree of hearing loss that can potentially affect communication, learning, psychosocial development and academic achievement.”

(ASHA, 2002)



# BACKGROUND INFORMATION

“Childhood hearing loss, even when no other developmental challenges are present, typically puts a child at high risk for language, social, and academic difficulties.

Average academic achievement levels of these children remain significantly below those of hearing children.

This is despite evidence that nonverbal cognitive levels as measured by tests of I.Q. are similar for children with and without hearing loss.”



# Experience Hearing Loss

A	B – Mild
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.



# EXPERIENCE HEARING LOSS



1. Fill

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2. Catch

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3. Thumb

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4. Knee

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5. Wise

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6. Bath

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7. Fish

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8. Shows

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9. Bed

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10. Juice

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“By approximately age five, a child’s foundation of general semantic, syntax, phonology, morphology, and pragmatic aspects of language has been established.”



“Schools design curriculum to build on the existing language skills of typically developing children. Children who are D/HH seldom bring to school the same extensive language base.”





## THE READING ABILITIES...

“...of DHH children have been found to associate especially strongly with their vocabulary skills.”



Children who have strong skills in their first language are better readers.



# WHY OUR CHILDREN DON'T HAVE THE SAME EXTENSIVE LANGUAGE BASE

- Born to hearing/speaking families
- Late age of detection
- Limited access to a **complete** language
- Limited access to incidental learning



# AMPLIFICATION

Hearing Aids –  
make the sound louder



Cochlear Implants –  
electronic stimulus

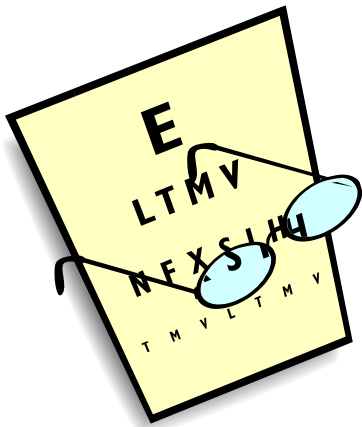


FM Systems –  
address the signal-to-noise ratio



# GLASSES VS. HEARING AIDS & COCHLEAR IMPLANTS

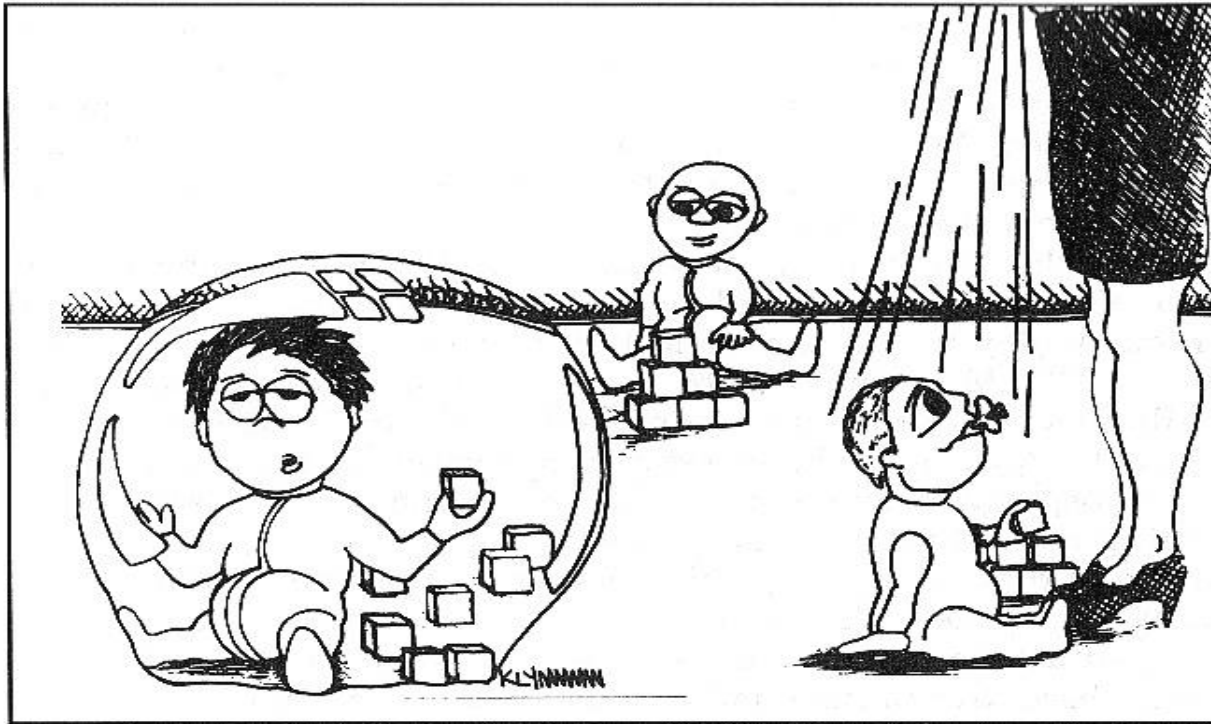
- Hearing aids amplify everything.
- They do not clarify sound.
- Cochlear Implants provide electronically processed sound.
- The brain must “learn” to interpret the sound



- Glasses fix vision to a “normal” state



# LIMITED ACCESS TO INCIDENTAL LEARNING



**Figure 1–7.** Hearing impairment of any type and degree is a barrier to incidental learning. (Illustration by Josh Klynn)



# WHAT IS SPEECH?

Speech is the verbal means of communicating. Speech consists of the following:

- Articulation
- Voice
- Fluency



# WHAT IS LANGUAGE?

“A code whereby ideas about the world are represented through a conventional system of arbitrary signals for communication.” (Bloom, 1988)

- How to make new words
- How to put words together
- What word combinations are best in what situations
- What words mean





# WHAT DOES RESEARCH SHOW?

- Many children with hearing loss start preschool with significant gaps and fewer words in their lexicons when compared to children with typical hearing. (Prezbindowski & Lederberg, 2003)
- Verbal abilities including definitional vocabulary and word flexibility set the groups apart. (Outcomes of Children with Hearing Loss)
- By 18 years of age, a hearing high school graduate has a vocabulary of > 30,000 words. (Blamey, 2003)
- D/HH 18 year olds achieve 12,000 to 18,000 words. (Blamey, 2003)



# CHARACTERISTICS OF SEMANTIC WEAKNESS

- Problems with retrieval of common words
- Use of neutral, generic, or less-specific labels
- Misuse of words with a similar phonetic structure
- Use of descriptions or “talking around the word”
- Response latency; use of fillers to buy time
- Frequent “I don’t know” or “I forgot” responses
- Repetition or rehearsal
- Inconsistency in learning; requires extensive review of previously-learned material
- Recognizes language errors but can’t fix them
- Incomplete sentences or thoughts
- Pragmatic problems; disruptive behavior



# THE SWISS CHEESE EFFECT



## THEY NEED:

- visual access to information



# PROVIDING VISUAL ACCESS TO INFORMATION

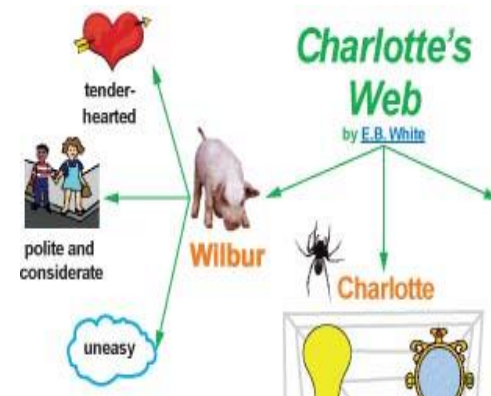
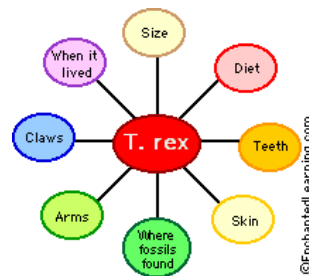
○ Environment



○ Props & manipulatives

○ Graphic organizers

○ Pacing



## THEY NEED:

- visual access to information
- access to background knowledge



## BACKGROUND KNOWLEDGE

Fewer opportunities for  
incidental learning = **limited  
background knowledge;**

Limited background  
knowledge = **increased  
difficulty with academics.**



# BUILDING & ACTIVATING BACKGROUND KNOWLEDGE

- Provide many experiences
- Provide rich & purposeful language for those experiences
- Preview with summary of material
- Preview with related movies, TV clips
- Use enrichment activities
- Discuss current events





## THEY NEED:

- visual access to information
- access to background knowledge
- direct vocabulary instruction



# PROVIDING DIRECT VOCABULARY INSTRUCTION

- Graphic organizers
  - Semantic mapping
  - Semantic feature analysis
  - Frayer model
- Robust Vocabulary Instruction
  - Beck, I. L., McKewon, M.G., Kucan, L. (2008). *Bringing words to life, second edition: Robust vocabulary instruction*. NY: Guilford Press.



“Unless the language levels of deaf children are within 1 or 2 years of the levels of those in the regular class in which they are placed, they are virtually cut off from the entire verbal input process that is basic to educational experiences.”



# CONCLUDING THOUGHTS

DHH and Hearing students are **different**:

- Their *access* to the spoken language of the written word is different.
- Their language and vocabulary base may be different.
- They may be learning to read as a second language.
- They need instruction to be student-centered vs. teacher/curriculum-centered



# CONCLUDING THOUGHTS

DHH and Hearing students are the **same**.

They all need:

- family/home support
- early, consistent access to language & fluent communication
- access to world knowledge
- a quality education
- **They all can become successful students!**



# REFERENCES & RESOURCES

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