

Overview of Hearing Loss and Strategies for Working with Students

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2019-2020

What do you need to know?

- What is a hearing aid/how does it work?
- How does hearing loss impact students in the classroom?
- What techniques and accommodations can you implement to help students be successful?
- What is my job as the Teacher of the Deaf?

An Overview of Hearing Loss



The Ear



Three types of hearing loss:

sensorineural: problem in the inner ear (cochlea, auditory nerve)

conductive: problem in the outer or middle ear (malformed outer ear, frequent ear infections, burst ear drum)

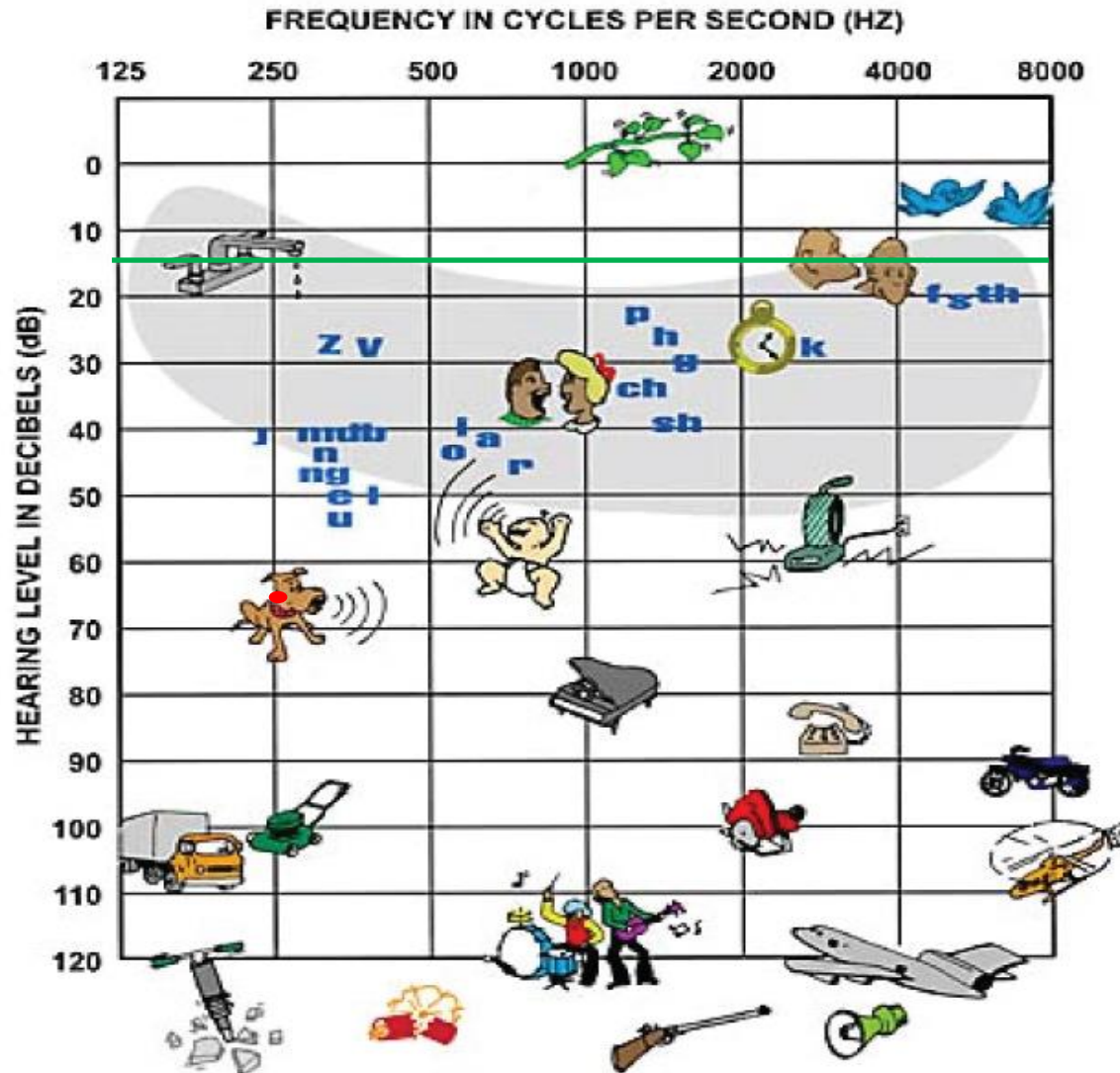
mixed: both conductive & sensorineural

Degrees of Hearing Loss

Hearing Threshold (in decibels, dB)	Degree of Hearing loss
0–25 dB	none, normal limits
26–40 dB	mild
41–55 dB	moderate
56–70 dB	moderate to severe
71–90 dB	severe
91+ dB	profound

Reading an Audiogram

AUDIOGRAM OF FAMILIAR SOUNDS



Putting Things in Perspective



Hearing aids are just like glasses!

Well, not exactly...



Vision Problems?

airplane

Put on Your Glasses!

airplane

Have a Problem Hearing?

RECEPTION

With a hearing loss, you may be able to detect that a sound is being said; however, if you put on a hearing aid...

Here's a Hearing Aid

FIP EIP U CY

...the sound will be amplified, but not clarified. Kids with hearing loss also need to be taught to make sense of the garbled noises and sounds they hear.

Pre-teaching

- gives student's brain a context for what he/she is listening to.
- Helps to scaffold the comprehension of the lesson or conversation.
- Activates schema for the content he is being taught.

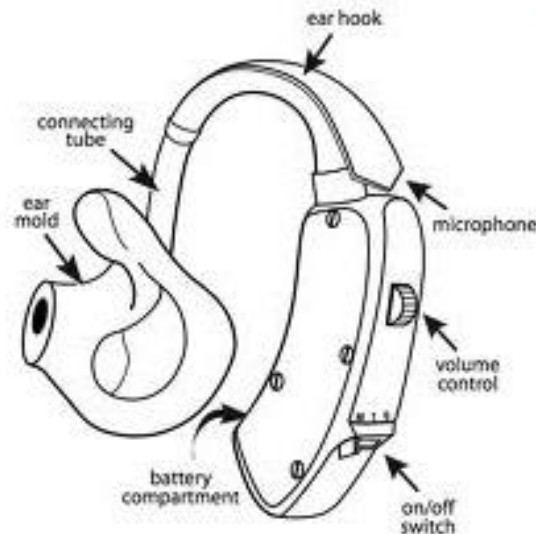
Amplification Options

- **Hearing Aid(s)**
- Cochlear implant(s)
- 1 Hearing aid/1 Cochlear Implant (Bimodal)

Hearing Aids

Keep in Mind...

Hearing aids amplify sound. They do not discriminate between environmental sounds and voices, so every sound is brought up to the same level.



Why is this important?

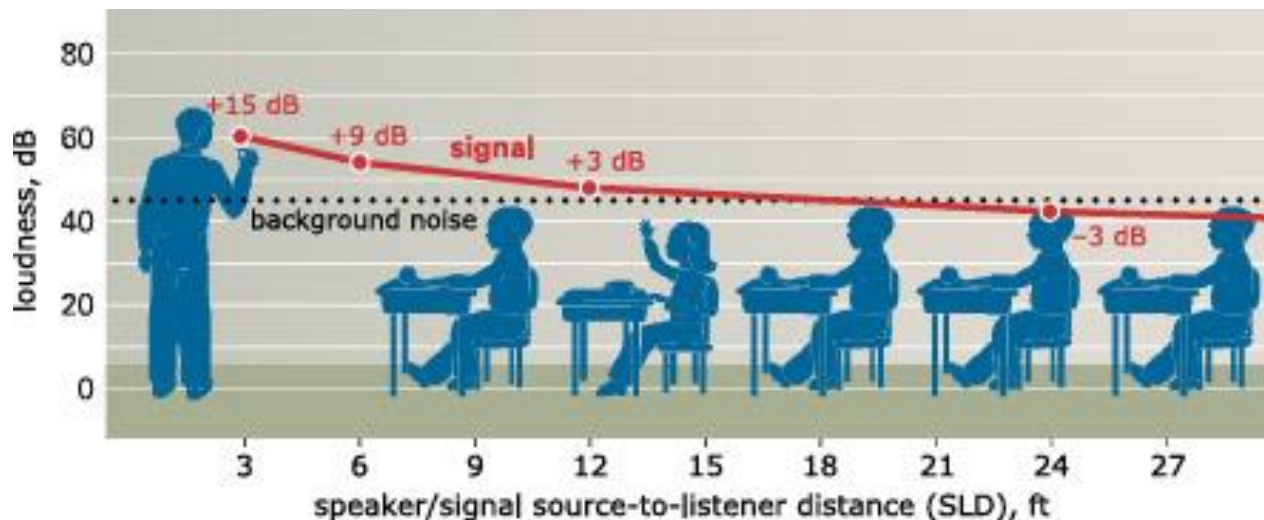
Think about your classroom. What's happening?

Papers rustling, bodies moving, computers humming, doors opening, students chatting, laughing, reading, experimenting...

Now, think about hearing all those sounds, together, at the same time. You're supposed to be listening to the teacher, but you can't hear her voice. This is what classroom life is like for a child with hearing loss.

Additional Information

- The background noise in a classroom can easily reach 50-60 dB or more.
- The average speaking voice is between 60-70 dB at a conversational distance (2-3 feet)



Personal FM System

The FM system improves the signal-to-noise ratio (16 dB); and thus gives the child improved speech recognition and intelligibility in noise.

Essentially, it brings your voice straight to their ears .

Receivers

*

Bryant currently has integrated receivers in his hearing aids.



audio boots

transmitter

Features of the FM System

Dynamic speech extractor = student's receivers are muted when teacher stops talking; automatically adjusts to cut down on ambient noise

Multitalker network = allows 2 or more teachers/therapists working in the same class to transmit their voices to the child

Audio input= FM can connect to TV, radio, computer, etc.



Multi Mic FM System

- Picks up sound from up to 80 feet away
- Connects to student's hearing aids directly
- Teacher can use when presenting to entire class; student can use in group discussion when placed on the table
- Can be muted
- Enhanced by app on cell phone
 - Used to adjust volume, background noise and boost speech clarity in all environments



How to Use the FM

- Clip the microphone to your shirt, on your sternum, about 6 inches from your mouth.
- **Please do not clip the microphone to a necklace, tie, or lanyard.** This will cause the microphone to move around, thus causing distortion of sound for the listener.
- When having private conversations, allowing time for quiet work, or using the restroom, **mute the FM.** If you don't, the student will hear *EVERYTHING* you do and say.

**Why bother? Can't they still
hear without it?**

I'm Here to Help!



The Role of the Itinerant Teacher of the Deaf

Services include, but are not limited to:

- Staff in-service
- Student in-service
- Instructional strategies and resources
- Assessment of acoustics
- Pre- and post-teaching of vocabulary
- Listening and spoken language techniques
- Technical support and training
- Liaison between school staff, outside professionals, and parents
- A specialized self-advocacy curriculum

Strategies for Teaching Students with Hearing Loss

- Provide as many visuals as possible
- Allow for speech reading (don't turn your back while speaking)
- Be sure to have student's attention before giving message
- Rephrase/reword information as often as possible
- Check for understanding by having student repeat back
- Highlight key vocabulary both verbally and visually
- Identify person speaking by calling their name
- Use a normal rate/volume of speech and avoid over enunciating
- Employ preferential seating in all classes
- Minimize ambient noise

Suggestions to Improve Classroom Acoustics

- Close the classroom door to avoid ambient noise from the hallway.
- Use tennis balls on chair feet to reduce noise.
- Avoid the use of fans/blowers.
- Turn off the classroom computer when it's not in use.
- Use material instead of paper to cover bulletin boards.

Contact Me!

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