

Slides & Resources



Beyond the Audiogram

Understanding the Hidden Impact of Hearing Differences in the Classroom

Madison Howe, Au.D., CCC-A, CH-AP
University of Arkansas for Medical Sciences

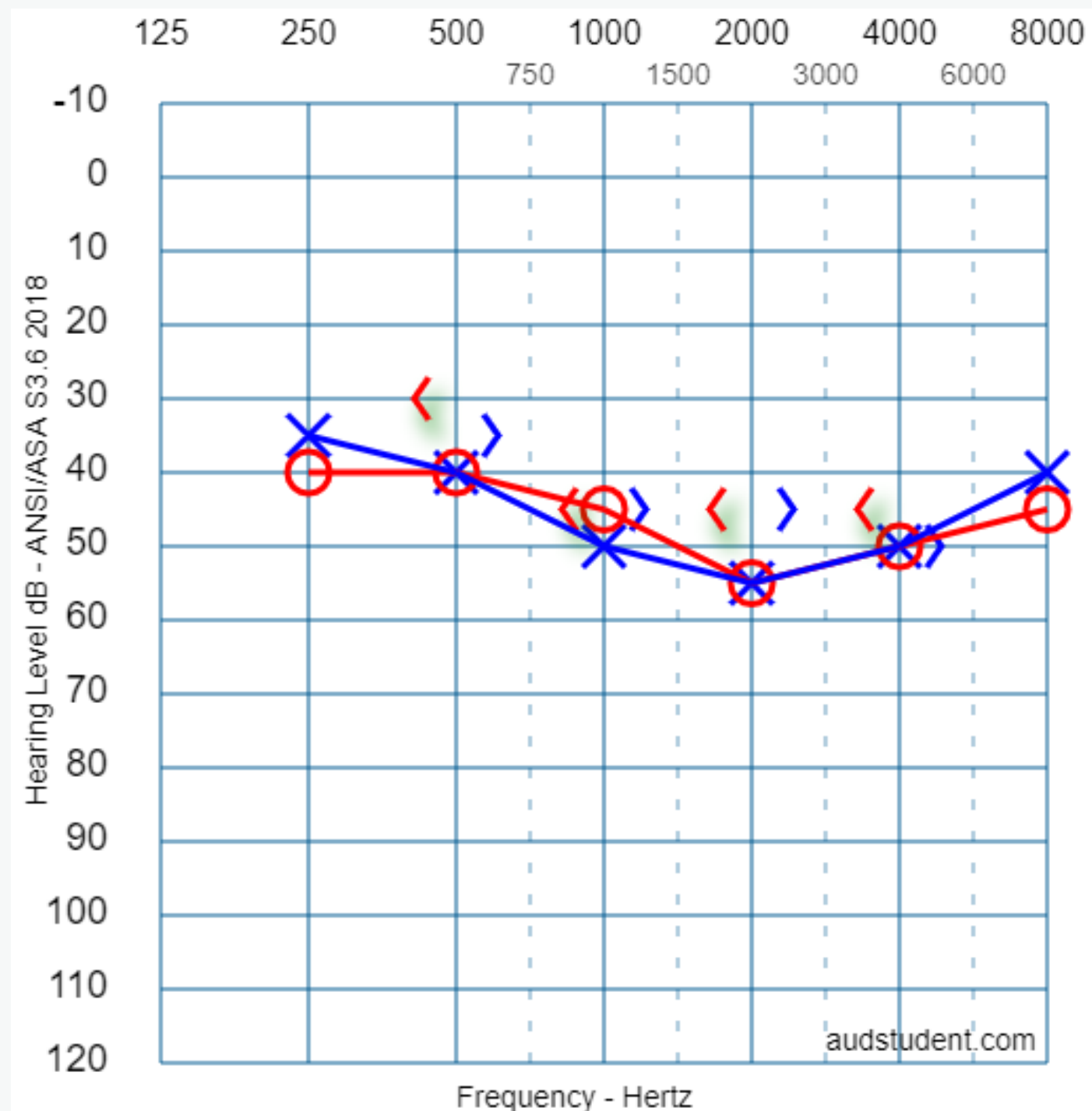


Diverse Approaches

- Children who are Deaf/HoH communicate in many different approaches (i.e. auditory-verbal, sign language, total communication)
- There is no single "right" choice, and each family's decision reflects their unique values and goals
- Today's presentation focuses on children who use hearing technology and auditory-verbal communication.



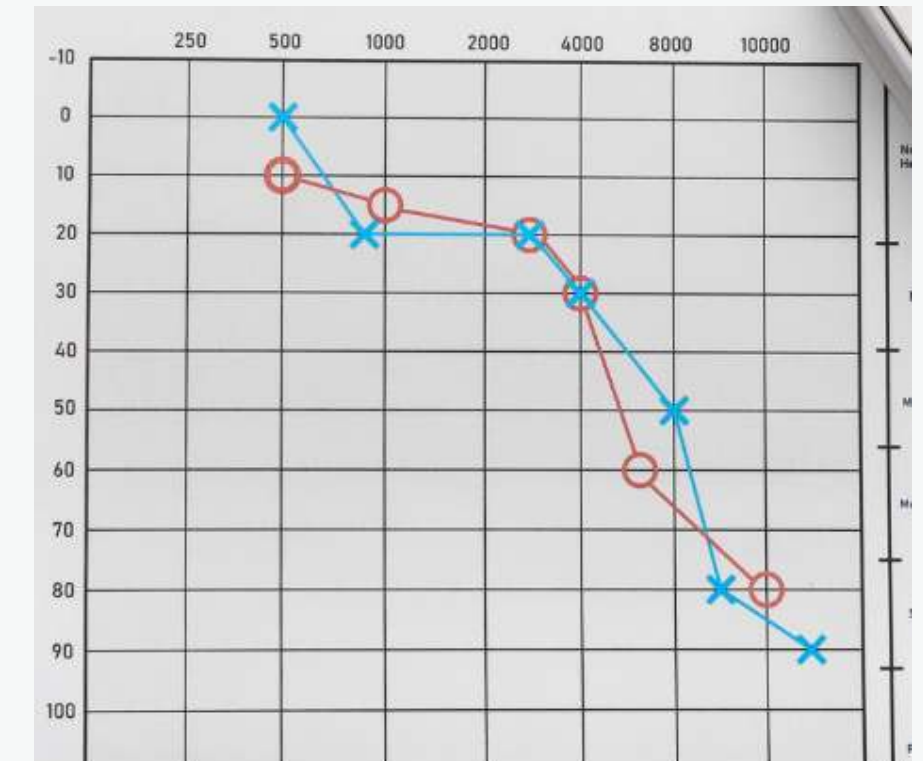
WHAT CAN YOU TELL ME?



- 8-year-old
- Identified at 5-years-old
- Fit with hearing aids 2 years ago
- No family history of hearing loss
- Word Rec Scores: 84% in both ears

WHY ARE WE HERE?

- An audiogram tell us what a child can hear
- It doesn't tell us:
 - How hard they have to work to hear
 - About their social competency skills
 - How hearing loss shapes identity
 - How hearing loss impacts their family
- Food for Thought: What if the biggest challenges facing students with hearing loss aren't the ones we measure in clinic?



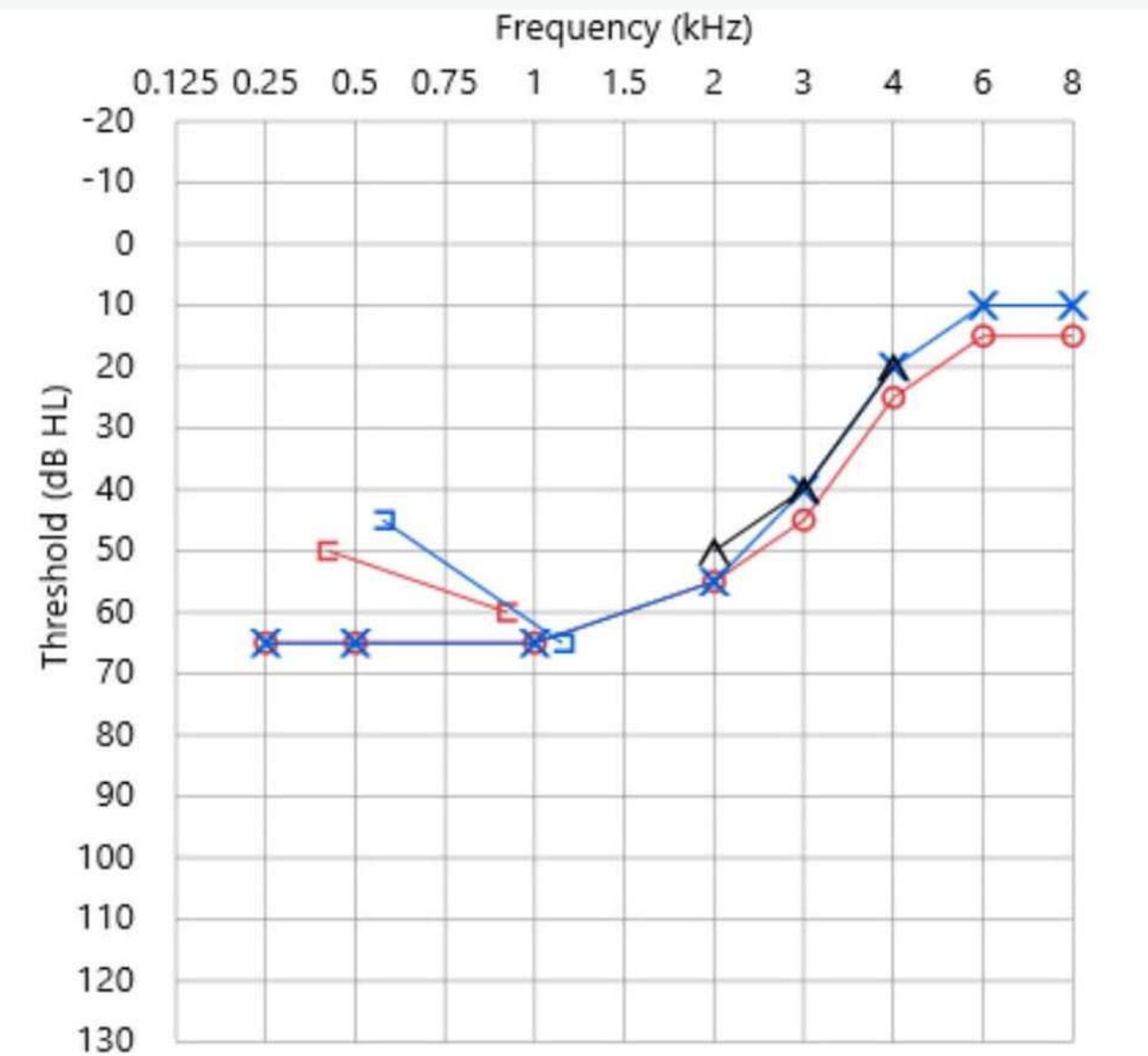
LISTENING ISN'T PASSIVE

- Hearing and listening are different processes
- Just because a student looks like they are listening, doesn't mean listening is easy
- Listening for students with hearing loss requires increased cognitive load
 - Filling in gaps
 - Predicting words
 - Using context
 - Watching facial and body cues
 - Monitoring background noise



CASE EXAMPLE

- 10 years old
- Moderate expressive & receptive speech delay after 2 years of wearing HAs and enrolled in therapy
- Falls asleep frequently in class
- Started skipping school



LISTENING FATIGUE

- Kids with listening fatigue may appear:
 - Distracted → Out of listening energy
 - Withdrawn → Exhausted or overwhelmed
 - Shy → Fear of misunderstanding
 - Slow to respond → Needs extra time to process/fill in gaps
 - Easily frustrated → Communication breakdown
 - Not willing to participate → Protecting themselves
 - Lacking motivation → Mentally exhausted
 - Behavioral concerns → Misunderstood behaviors



LISTENING FATIGUE

- Vanderbilt Fatigue Scale
 - Child version
 - Teacher version
 - Parent version



VANDERBILT FATIGUE SCALE-CHILDREN (VFS-C)

This scale is designed to assess listening-related fatigue in children aged 6-17 years.

Instructions: Sometimes people feel tired from listening and trying to understand. We would like to know how you feel when you listen in different places. Please read each sentence and mark the SINGLE response that best describes how often you feel or act that way in a typical WEEK. Do not skip any questions.

CHILD NAME: _____ DATE: _____ GRADE: _____

	NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
I want to "zone out" in very noisy places.	0	1	2	3	4
It is hard for me to concentrate when lots of people are talking.	0	1	2	3	4
My brain gets tired after listening all day.	0	1	2	3	4
I get worn out from listening at school.	0	1	2	3	4
Trying to listen at school stresses me out.	0	1	2	3	4
I use a lot of energy trying to listen in class.	0	1	2	3	4
I want to go to sleep after a long day of listening.	0	1	2	3	4
I give up trying to listen when I get tired.	0	1	2	3	4
I get so tired from listening that I don't want to do anything else.	0	1	2	3	4
I feel worn out when I have to listen carefully.	0	1	2	3	4

Social Impacts of Hearing Loss in School



Social Competence Development

- Some children with hearing loss have advanced vocabulary and perfect articulation, but that doesn't mean they are socially competent
- Social competence requires cognitive processes:
 - Detecting and processing speech
 - Filling in missing information
 - Integrating visual information
 - Inhibiting background noise
 - Holding words in working memory
 - Recognizing humor and sarcasm
- Children with hearing loss spend cognitive resources understanding before they can even begin learning.



Social Competence Development

- Study found social competence is highly correlated with language ability
(Hoffman et al., 2014)
- Food for thought: When during the school day is communication most difficult for this student?
- For kids with hearing loss, some may think lunch time is more difficult than math class, or recess is harder than reading



Theory of Mind (ToM)

- ToM is the ability to recognize other people have their own: Thoughts, Feelings, Belief, Intentions, Perspectives
- It allows children to:
 - Predict behavior
 - Understand humor and sarcasm
 - Interpret social situations
 - Build social relationships
- Strong ToM is correlated with:
 - Greater social competence
 - Better peer acceptance
 - Improved literacy and academic success



Theory of Mind (ToM)

- Typical hearing children develop ToM between 4-5 years
- Children with hearing loss typically acquire ToM 4 years later than typically hearing peers (*Goberis et al., 2012*)
- Children with hearing loss have fewer opportunities to learn ToM because they have reduced access to:
 - Incidental learning
 - Mental-state language
 - Peer interactions



Theory of Mind (ToM)

- Specific ToM skills children with hearing struggle with:
 - Apologizing
 - Interjecting in conversation
 - Asking for clarification
 - Making promises
 - Retelling a story
 - Creating an original story
 - Desire and belief understanding

(Goberis et al., 2012)



Social Development Milestones

- Preschool:
 - Learning how to play
 - Turn taking
 - Following directions
 - Incidental learning
 - Recognizing emotions in others
- Elementary:
 - Following group conversations
 - Establishing friendships
 - Understanding humor and sarcasm
 - Developing ToM for more complex emotions



Social Development Milestones

- Middle School:
 - Identity
 - Maintaining friendships
 - Bullying
 - Self Esteem
 - Understanding lies and deceit
- High School:
 - Autonomy
 - Dating
 - Extracurricular activities
 - Employment



Theory of Mind (ToM) Intervention

- ToM can be built into every session
- One of most effective ways is to encourage using mental-state language:

Think	Guess	Wonder	Remember
Believe	Hope	Feel	Know
Wish	Understand	Expect	Prefer

- Model your thinking out loud
- Ask student to reflect on social interactions that day



(Harbor, 2020)

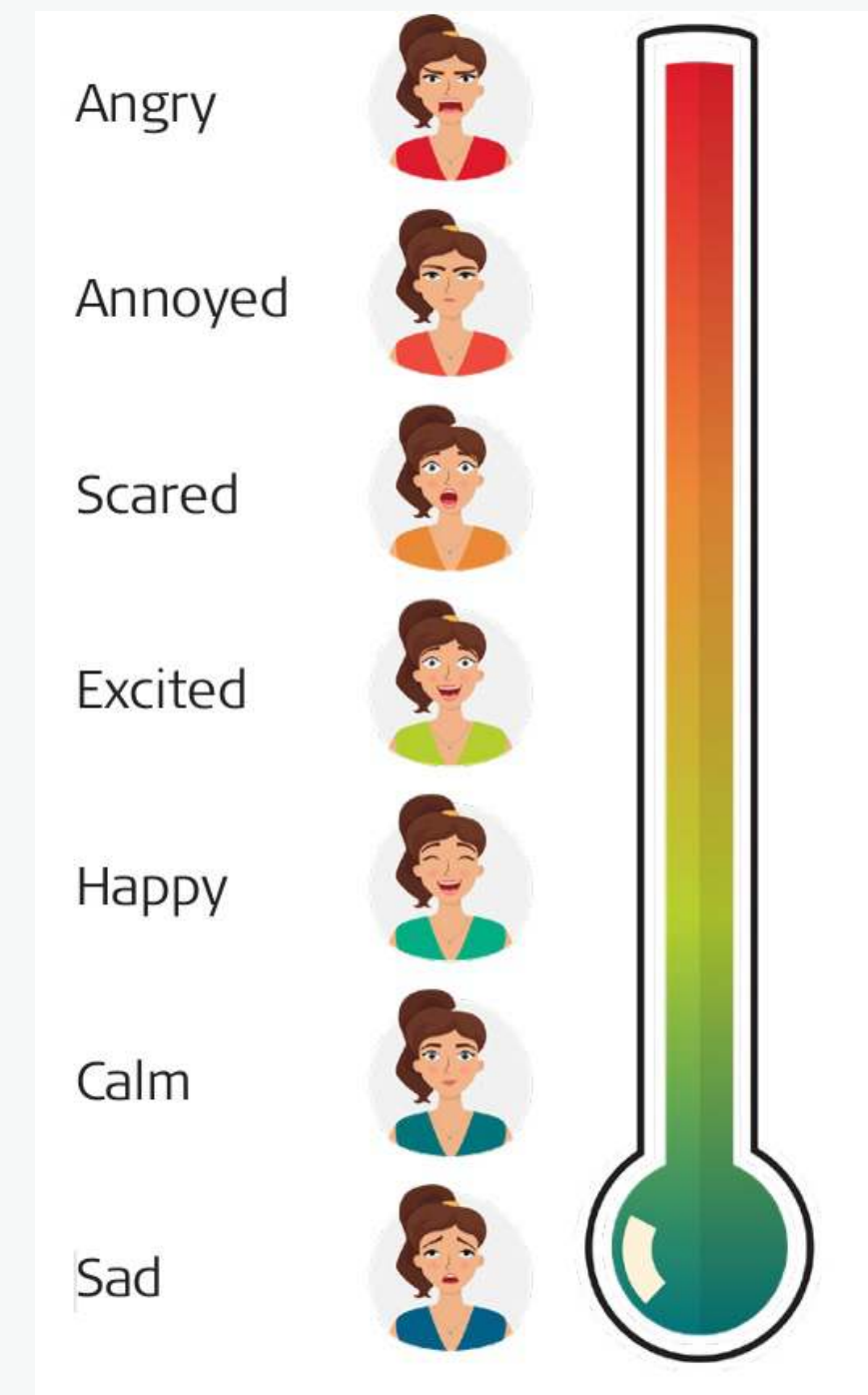


Theory of Mind (ToM) Intervention

- Using tools like a feelings thermometer
- During book reading ask (can also use movies or TV shows):
 - What is this character thinking/feeling?
 - Why did they make that choice?
- During imaginative play:
 - Explain imaginary people's perspective
 - Explain emotions they are experiencing



(Harbor, 2020)

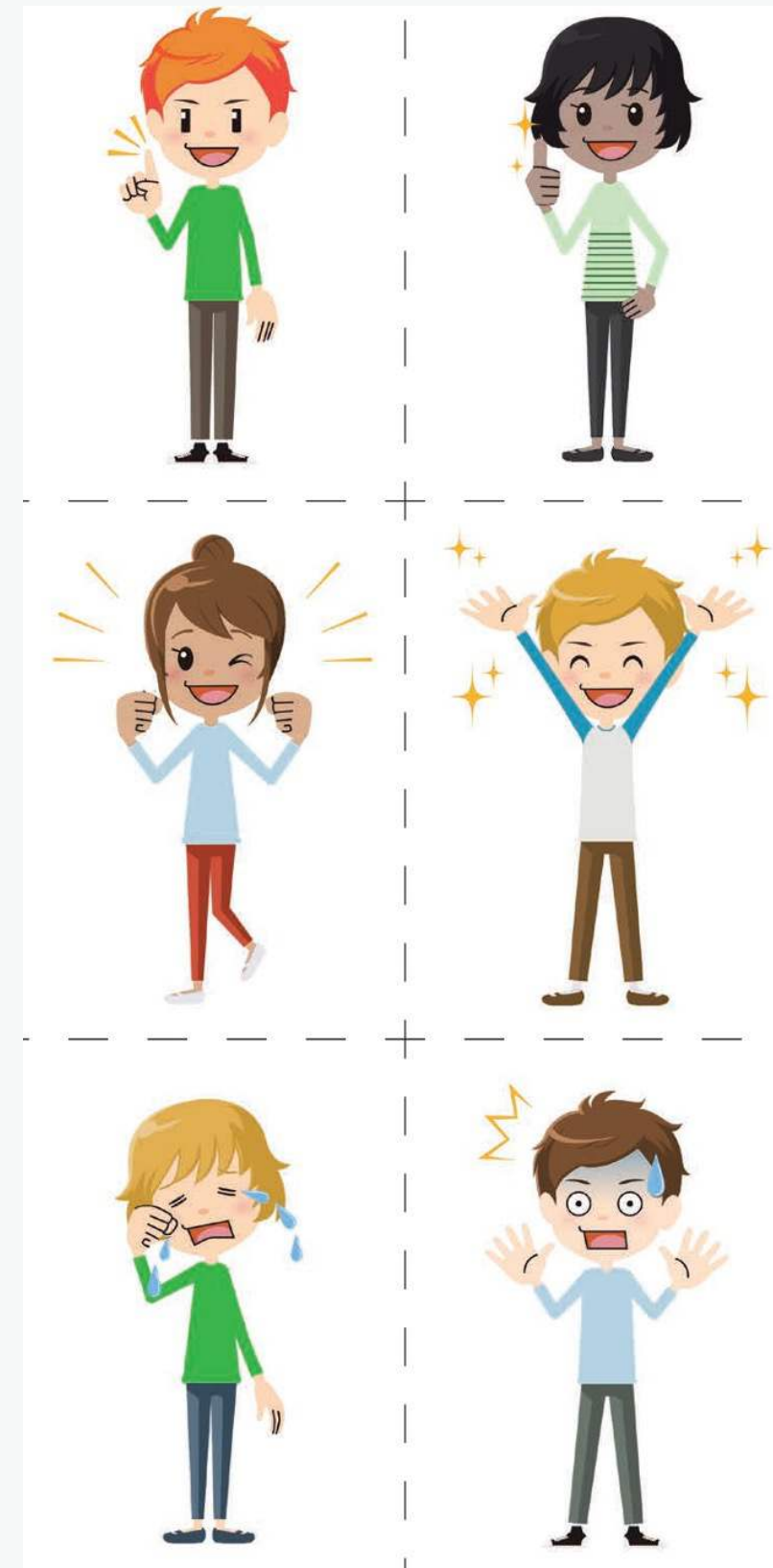


Theory of Mind (ToM) Intervention

- Emotions & feelings cards
 - Name the emotion
 - When have you felt that emotion?
 - When have you seen someone else experience that emotion?
 - How could you tell?
- Feelings Charades
 - Write feelings on cards then take turns acting out the emotion and the other person guesses



(Harbor, 2020)



Theory of Mind (ToM) Intervention

- Magic Potion
 - Have student make a potion for their friend, mom, etc.
 - Have them put things in the potion that they think the other person might like
 - Ex: Dad might like golf clubs, chicken wings, and a fishing pole



(Harbor, 2020)

Emotional Impacts of Hearing Loss in School



Emotional Experience

- Common things heard from children with hearing loss:
 - “Nobody talked to me.”
 - “When can I stop wearing hearing aids?”
 - “I hate asking people to repeat themselves.”
 - "You don't understand."



Emotional Experience

- For children with hearing loss, anxiety may look different
 - Not participating
 - Avoiding group work
 - Wanting to sit in the same seat
 - Sitting out at recess
 - Letting others answer first
 - Saying “never mind”



Emotions Over Time

- Preschool
 - Frustration
 - Lacking confidence
 - Clinging to people they trust
- Elementary
 - Noticing differences
 - Impact on social relationships
 - Questioning why



Emotions Over Time

- Middle School
 - Fear of standing out
 - Embarrassment
 - Anticipatory anxiety
- High School
 - Peer acceptance
 - Impact on personal relationships
 - Fear of the future



Bullying

- Children with hearing loss are at 22% greater risk for peer victimization (*Warner-Czyz et al., 2018*)
- Specific to hearing loss, bullying can look like:
 - Teasing about hearing technology
 - Mimicking speech
 - Purposefully talking when they can't hear
- But “bullying” doesn't always look stereotypical:
 - “Never mind.”
 - Social exclusion
 - Being left out of conversations
 - Not being chosen for groups

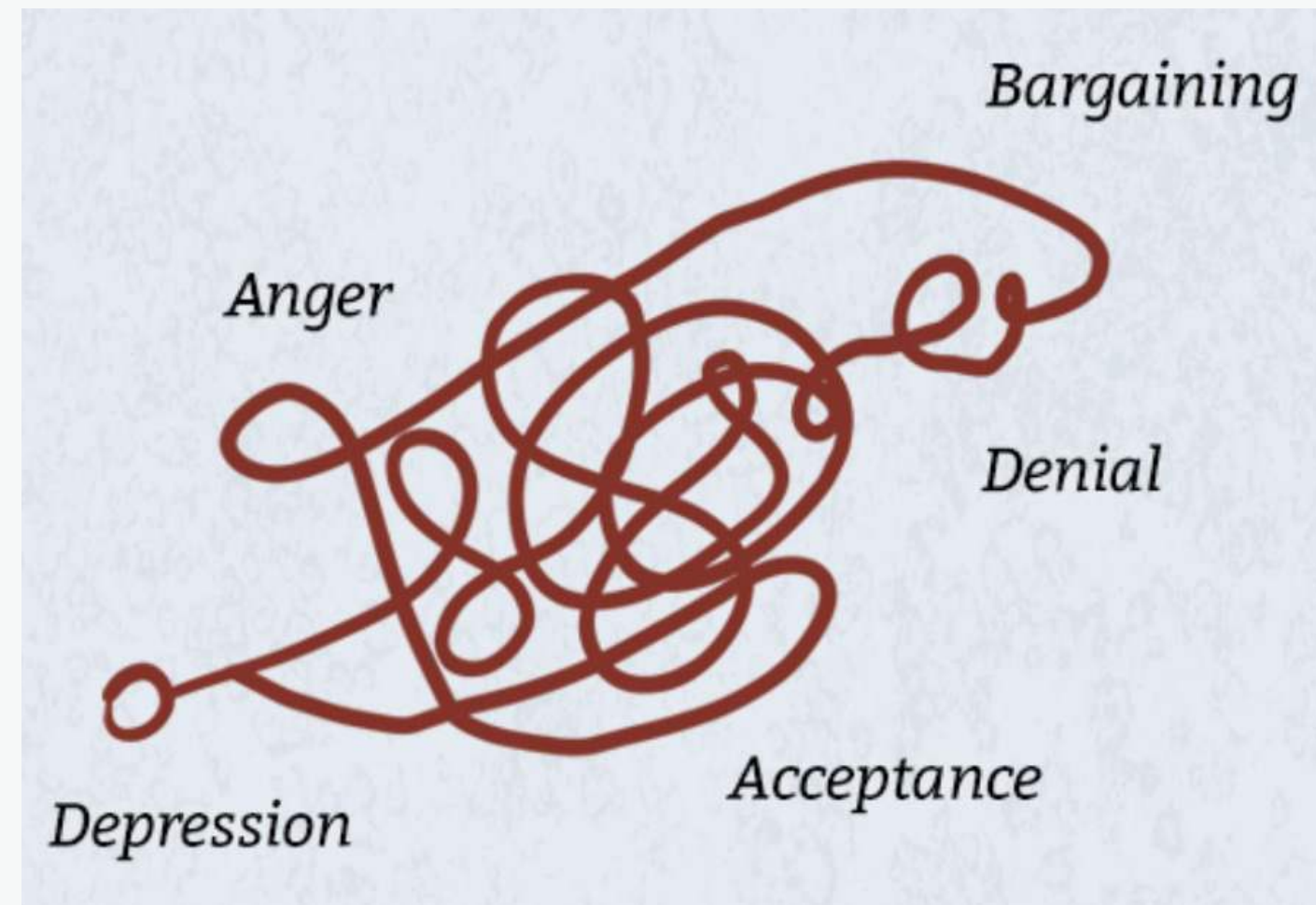


Family Experience Across the School Years



Family's Grief Doesn't End at Diagnosis

- Families don't just grieve hearing loss once
- Grief cycle isn't linear
- Grief cycle is revisited with every new developmental milestone
 - Every new school year
 - First spelling test
 - Starting to play a sport
 - First music class
 - Starting group projects
 - First school dance



Family's Grief Doesn't End at Diagnosis

- Early Childhood:
 - Will my child make friends?
 - Will their teacher understand?
- Sports:
 - Will they hear the coach?
 - Will they be safe?
- Sleepovers:
 - Will they hear a smoke alarm?
 - How will they communicate at night?
- High School:
 - Will they be safe driving?
 - Can they find a part-time job?
 - Will they get a date to the dance?



Families Get Fatigue Too

- Families often stress about:
 - How much is my child missing?
 - Are they too far behind?
 - Will my child ask for help?
 - Are they making friends?
 - Are accommodations actually being used?
- This stress and fatigue can present as:
 - Asking a lot of questions
 - Frequently emailing
 - Appearing overprotective
 - Requesting frequent meetings
 - Seeming anxious during transitions
- Food for thought: What are "difficult" parents really communicating?



Your Role in Supporting Children with Hearing Loss



Role of School-Based SLP

- SLPs don't simply help with spoken language communication
- Support students in learning to interact with others:
 - Entering conversations
 - Recognize when information was missed
 - Communication repair strategies
 - Reading social cues
 - Navigate group conversations
 - Listening fatigue awareness



Role of School-Based SLP

- Normalize conversations about:
 - Listening fatigue
 - Feeling different
 - Confidence
 - Frustrations
 - Anxiety
 - Asking for help
- Teach self-advocacy
 - How to explain their hearing loss
 - Requesting repetition or clarification
 - Recognizing when technology isn't working
 - Identifying difficult listening environments
 - Suggesting accommodations
 - Emotional vocabulary (i.e. "I need a break.")



Role of School-Based SLP

- Help teachers and school personnel understand:

- Listening fatigue
- Classroom acoustics
- Group work challenges
- Incidental learning
- Social challenges
- Checking comprehension



Role of School-Based SLP

- Support Families:
 - Listen to their concerns – ask what they are worried about right now
 - Understanding impacts of their child's hearing loss
 - See their child's strengths
 - Communicate concerns early
 - Prepare for transitions
 - Celebrate their successes!
 - Show them their child belongs



...one supportive professional can change a family's entire school experience

Building into IEP Goals

- Beyond expressive and receptive speech goals, need to consider:

Domain	Example Skills
Listening Fatigue	Recognizing fatigue, identifying difficult environments, requesting breaks
Theory of Mind	Perspective taking, understanding humor and sarcasm
Conversation Repair	Entering conversations, topic maintenance, asking for repetition/clarity
Self-Advocacy	Explaining hearing loss, identifying listening needs, asking for repetition
Emotional Regulation	Identifying emotions, coping strategies, building confidence

Building Into IEP Goals



Preschool	Elementary School	Middle School	High School
Turn taking	Group conversations	Listening fatigue	Independence
Play skills	Repair strategies	Identity	Transition planning
Emotional vocab	Humor	Self-advocacy	College/work
Joint attention	Perspective taking	Bullying	

Example IEP Goals

- ***Listening Fatigue***- When experiencing listening fatigue, the student will independently request a "listening break" or utilize a designated quiet space in the classroom in 4 out of 5 observed opportunities.
- ***Communication Repair***- During a 5-minute conversation, the student will repeat what he thought was said to clarify 3 out of 5 times.
- ***Self-Advocacy***- When asked by a peer about their hearing devices, the student will respond appropriately (i.e. explain what they are for, why they wear it) in 3 out of 5 situations.



Building Into IEP Goals

- Self-Advocacy Checklists are great resources for IEP goals
- Elementary and Middle School versions available



Competency (Insert the date introduced in the date column)	
1.	Describes own hearing status (e.g., level and configuration, cause if known, identifies self as person who is deaf, person who is hard of hearing, person with hearing impairment).
2.	Describes basic communication implications of his/her hearing status (e.g., what is heard/ not heard, audibility vs intelligibility of speech, speechreading).
3.	Describes hearing loss prevention strategies.
4.	Describes concepts of privacy and confidentiality.
5.	Transports equipment to and from various classrooms and school environments.
6.	Understands and is able to notify teacher or talker when devices are not working properly.
7.	Understands the flexibility of the devices (e.g., ability to connect to audio devices, computers, video, PA system).
8.	Understands basic functioning of personal and HAT devices (e.g., programming options, limitations of technology).

Building Into IEP Goals

- For high school students, start transition planning
- Examples:
 - Knowing what to do when their hearing device breaks
 - How to make an appointment with audiologists
 - Where to find classroom accommodations
 - How to request accommodations from employer
 - Insurance and financial support for hearing devices



Building Into IEP Goals

- Partner with the audiologist!
- Ask about:
 - Changes in hearing
 - Speech in noise testing
 - Noise reduction technology
 - Datalogging
 - Family reports and concerns
 - Student's level of independence with technology



Key Takeaways

- The audiogram is only part of the story.
- Social-emotional skills require intentional support.
- Families are navigating grief throughout the journey.
- Our goal is bigger than communication- it's to help children participate, belong, advocate for themselves, and thrive.



Key Takeaways

- When working with a child with hearing loss, ask yourself:
 - Can they hear?
 - Can they understand?
 - Can they participate?
 - Do they feel like they belong?
 - Can they advocate for themselves?
 - Are we preparing them for independence?



Key Takeaways

- When working with a child with hearing loss, ask yourself:
 - Can they hear?
 - Can they understand?
 - Can they participate?
 - Do they feel like they belong?
 - Can they advocate for themselves?
 - Are we preparing them for independence?



References

Goberis, D., Beams, D., Dalpes, M., Abrisch, A., Baca, R., & Christine Yoshinaga-Itano. (2012). *The missing link in language development of deaf and hard of hearing children: Pragmatic language development. Seminars in Speech and Language, 33*(4), 297–309. <https://doi.org/10.1055/s-0032-1326916>

Harbor, D. (2020). *Thinking together to mind the gap*. MED-EL & The Ear Foundation.

Hoffman, M. F., Quittner, A. L., & Cejas, I. (2014). Comparisons of Social Competence in Young Children With and Without Hearing Loss: A Dynamic Systems Framework. *Journal of Deaf Studies and Deaf Education, 20*(2), 115–124. <https://doi.org/10.1093/deafed/enu040>

Warner-Czyz, A. D., Loy, B., Pourchot, H., White, T., & Cokely, E. (2018). Effect of Hearing Loss on Peer Victimization in School-Age Children. *Exceptional Children, 84*(3), 280–297. <https://doi.org/10.1177/0014402918754880>





**QUESTIONS? THOUGHTS?
LET'S DISCUSS!**

THANK YOU!

mhowe@uams.edu

