





We are Zebra Experts!

Recognizing the Needs of Zebras in a World of Horses

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Supporting Success for Children with Hearing Loss
2017 Conference Keynote Session

Session Objectives

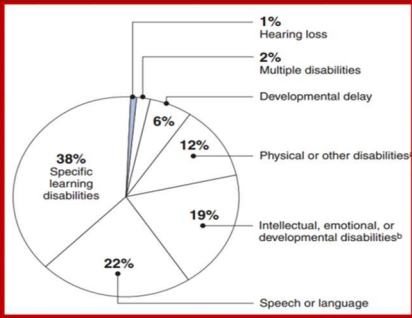


The participant will be able to:

1. Describe the analogy of zebras versus horses when considering the needs of children with hearing loss versus other populations
2. Describe how educational practices and learning level can impact achievement
3. Describe the differences in competencies between the roles of the teacher of the deaf/hard of hearing, speech language pathologist, and the special education teacher
4. Describe ways in which this knowledge can be used to advocate for appropriate student services

HL ≠ LD with Hearing Aids

Hearing loss is rare – only 1% of kids with IEPs have hearing loss as the basis of learning needs



Category	Percentage
Specific learning disabilities	38%
Speech or language	22%
Intellectual, emotional, or developmental disabilities	19%
Physical or other disabilities	12%
Developmental delay	6%
Multiple disabilities	2%
Hearing loss	1%

38% specific learning disabilities

22% speech/language

19% intellectual, emotional or DD

<http://www.gao.gov/new.items/d11357.pdf>

If you've seen one child with hearing loss you've seen one child with hearing loss!

– There are some vulnerabilities in common but actual learning issues can be very different, especially with variations in early ID & early intervention outcomes.

Hearing Loss is Invisible

Hearing loss looks like other learning issues



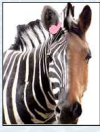
"When you hear hoof beats, they are usually horses and not zebras."

- Hearing loss is not a disorder, like LD or language disorders
- Hearing loss is not an attention disorder, like ADHD or ASD
- Hearing loss is not a cognitive disorder, but academic delays and some functional classroom issues are common
- Hearing loss can LOOK like every one of these issues.

LD

LD

S/L



LD

ADD

"When you hear hoof beats it is usually horses, not zebras."



Hearing loss is NOT a learning disorder. **Hearing loss is a communication ACCESS issue** that can cause challenges in learning at the same pace.

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Students with Hearing Loss truly are ZEBRAS!
We need to advocate for our 'Zebras'!

Ask me about zebras!



"When you hear hoof beats it is usually horses, not zebras."

Only 1 out of 100 IEPs are for kids with hearing loss.

Hearing loss is NOT a learning disorder. Hearing loss is a communication ACCESS issue that can cause challenges in learning at the same pace.

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***"He hears just fine."* Classroom Teacher Study**

- Study said...half of teachers thought hearing loss and academic problems were not linked.
- Teachers accused students of daydreaming because they participated inconsistently. **Teachers 'knew' the child could hear.**



Study by Ross, Brackett, and Maxon 1991

But his speech is great!!!

- Age appropriate speech and language at age 3 is a triumph of the hard work and dedication of the family and EI providers
- A good start does not *inoculate* a child from developing learning gaps in the future



Hearing Loss is **not** the same as other Special Education populations

Hearing loss is an **ACCESS Issue** creating barriers to learning in the typical classroom environment and impacting social interactions.

This *invisible* barrier is why it is necessary to consider functional performance in the classroom across situations

CUMULATIVE learning gaps due to incidental learning/overhearing deficits



Access issues are discrimination issues



Hidden Barriers
Noise and distance is just as much a barrier to a student with hearing loss as a narrow doorway is to a student in a wheelchair.

We live in challenging times....

- Because of early diagnosis of hearing loss, better amplification and early intervention, fewer students are signing AND more have abilities 'within normal' at school age (*this is good but misleading*)
- The typical result of early intervention is language performance at low average – standard scores of 85-88 rather than 100
- Hard of hearing students are often ignored or their needs are minimized because they are not 'Deaf enough'
- Students are evaluated using the same tools that teams evaluate suspected learning disabilities or language disorders
- Expertise in hearing loss is often not sought on teams evaluating students with hearing loss



We live in challenging times....

- Many Schools for the Deaf are closing/have closed
- Many (most?) districts no longer offer self-contained DHH options
- So despite the IDEA requirement for a continuum of alternative placements, intensive support specific to the needs of students with hearing loss is becoming less available
- ‘Inclusion’ has resulted in students who are DHH being in the regular education classroom, whether they have the skills to compete, or not – often with ‘pull out’ time discouraged
- More DHH teachers are deemed to be in a consultative role only or allowed only to ‘push in’ or ‘team teach’, again regardless of the intensity of intervention needed by the student

Let’s Review! Areas of learning most likely to be impacted by hearing loss:

- Inability to completely **perceive speech sounds** in typical school conditions – broad impact!
- **Vocabulary gaps** due to decreased ability to overhear incidental language
- Understanding **syntax rules** (can’t hear /s/ so don’t understand plurals, possessives)
- **Early reading** (phonology/phonemic awareness issues related to not distinctly hearing speech sounds)
- Understanding intent/**emotions** of others
- Viewing information from **different perspectives**
- Immature **listening skills** (discrimination of sounds to comprehension of conversation or verbal instruction)

Let’s Review! Areas of learning most likely to be impacted by hearing loss:

- **Language processing** issues due to fragmented hearing, vocabulary gaps, syntax, listening rate, etc.
- **Social language** use (socially awkward due to delays in pragmatic language development)
- Periodic **inattention** due to listening fatigue and gaps in understanding
- Passive or immature skills in **responding when they do not understand** what was said (need for self-advocacy)
- Understanding group discussions or **participating** in small group work due to distance/noise

Why Involve the Teacher of the Deaf/Hard of Hearing

On the Student Support Group Team and the IEP?

Hearing loss is not a learning disorder. Hearing loss by itself does not affect cognitive ability or disordered language. Hearing loss reduces the ability to overhear or benefit from incidental language learning, which is how most vocabulary and social behaviors are learned. Hearing devices do not restore typical hearing. This includes FM systems. Hearing loss causes a barrier to accessing teacher instruction and peer-to-peer communication, especially in a typical classroom where there is some background noise and the teacher is further than 3 feet from the student.

A student may be able to “hear” the teacher, but miss enough of the speech sounds to not fully understand. “The story in yellow illustrates the challenge of listening comprehension with fragmented hearing. This level of missing bits and pieces of speech is typical of what is heard by a child with optimally fit hearing aids. If you were very familiar with the story “The Country Mouse and the City Mouse” it may not be difficult for you to understand the story. If you had never heard the story, it would probably be difficult to understand who it was about and what happened. Certainly unknown vocabulary, listening at a distance and in a bit of noise in an active classroom all work together to make accessing what is said a considerable challenge.

What about a story that is very new, that you have never heard before? How can you be sure you understand it and the story ends?

HANDOUT



Specific information that should be collected and considered is often overlooked

IEP PLANNING GUIDE FOR STUDENTS WITH HEARING LOSS

Student: _____
School: _____

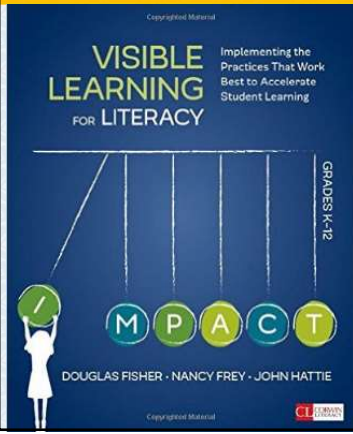
When discussing the development of an IEP, the following information should be considered *in addition to* transition, etc.):

- **Speech Audibility:** Under typical classroom listening conditions, how does he need to access instruction?
- **Speech Perception and Listening:** Under typical classroom listening conditions, how does each deficit area impact his learning?
- **Self-Concept:** How would you rate his hearing loss and can he explain it? For example, is the student passive?
- **Self-Advocacy:** Can the student manage the transmitter as needed? Does he know about its use? Can she describe her needs to address his hearing needs? Does he use communication services effectively (interpreter, transcriber, notetaker, captionist, etc.)?

- **Social and Communicational Competence:** Does the student demonstrate pride in accomplishments? Know how to handle defeat, disciplinary action, negative comments, bullying? Establish friendships? Initiate conversations? Maintain topics? Give-and-take in conversation?
- **Communication Repair:** Does the student recognize when he is missing information? Ask for repetition or clarification when he doesn't understand? Clarify communication? How does the student's level of skill development in this area impact achievement?
- **Access to Instruction:** How does the student handle questions posed by the teacher during typical instruction? Does she understand various forms of figurative language, including idiomatic expressions used in conversation, instruction and in grade-level reading materials? Can she follow multi-part directions in both oral and written formats? Does she comprehend the print posted in the classroom and school environment? Can she comprehend grade-level texts adequately enough to access critical content? Is she able to fully participate in classroom rituals and routines? Can she demonstrate knowledge using typical testing procedures?
- **Additional Considerations** (Please note: The IEP team is required by IDEA to consider special factors related to the child's language and communication needs, ensuring that the student be provided with opportunities for direct communication with peers and professionals and instruction in his or her communication mode at his or her language and academic level. The need for assistive technology devices and services must also be considered in this context):

HANDOUT

Educational Practices Less Effective for Students with HL



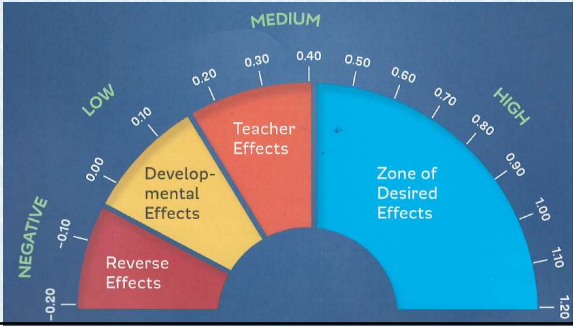
- Condenses hundreds of research articles on educational practices
- Focuses on the statistical analysis of the level of influence the practice had on actual outcomes
- Reports the effect sizes of common practices
- Effect sizes = amount of influence on desired school achievement

Effect Sizes as Means to Identify Appropriate Practices

What improves student achievement? Nearly all the things that teachers do! But only a few things work to ensure that students **gain a full year's worth of growth** for a year of enrollment in school.

Just maturation and attending school for a year have an effect size of **0.40**.

To be an truly effective educational practice must have an effect size that **exceeds 0.40**



Examples of practices that have effect sizes less than 0.40

- Homework (effect size of 0.10 in elementary, 0.55 in high school)
- Teaching test taking (0.27)
- Grade retention (0.13)
- Ability grouping (0.17) vs mixed small group learning (0.49)
- Matching 'learning styles' with instructional style (0.17)
- Open vs traditional learning spaces (0.01)
- Whole language (0.06)
- Co-/Team-Teaching (0.19)
- Summer school (0.23)
- Mainstreaming (0.24)



Levels of learning? **Surface – Deep - Transfer**

- Students are
 - first exposed to information to gain **surface** or general understanding.
 - they must acquire and then consolidate information.
- They then need to move their knowledge to **deep** learning
 - via interaction with the material
 - comparison to what is already known, and
 - integration into their knowledge base.
- Without adequate surface-learning students cannot go deep**
- Specific instructional routines, procedures, or strategies need to be **matched** with the appropriate level/phase of student learning.**

Mismatching an approach with the level of learning
will not create the desired impact

Mismatching example

- When used during the surface-learning phase **problem-based learning** has an effect size of only 0.15
- It has an effect size of 0.61 during deep instruction
 - Students need to possess the knowledge needed to start to problem solve

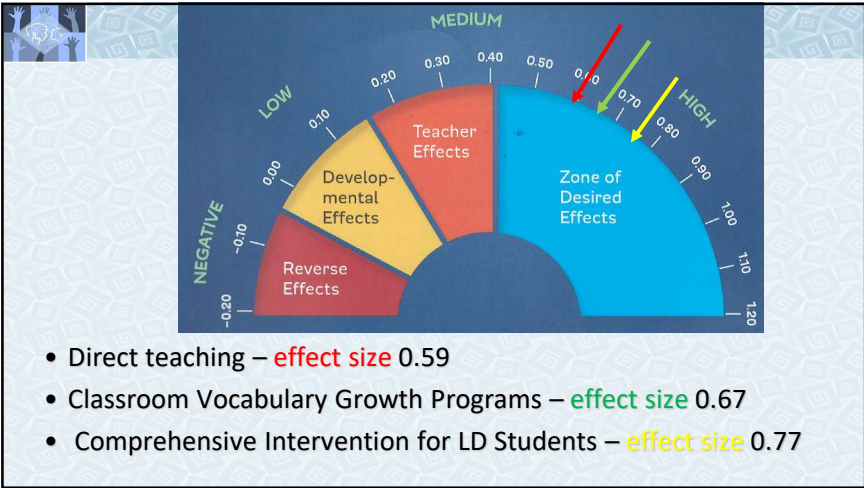
Levels of learning? **Prior knowledge**

- Prior knowledge is an excellent predictor of performance on new tasks. **Effect size is 0.65**
- Impact for students with hearing loss
 - ‘Swiss cheese’ language
 - Reduced world knowledge due to limitations in effective exposure
 - Reduced audibility impacting early literacy skills most children develop naturally by age 4
- Add to this the impact of fragmented hearing, listening in noise, listening at a distance, fatigue, etc. - **Less information is received.**
- WE CAN EXPECT THAT SURFACE LEARNING WILL TAKE LONGER FOR STUDENTS WITH HEARING LOSS THAN TYPICALLY HEARING PEERS.**

Teaching vocabulary, **without sufficient phonological awareness will NOT develop the reading fluency needed to comprehend**

- Phonological awareness needs to be assessed in depth for students with hearing loss (*TOPEL, Phonological Awareness Test – PAT*)
- Direct teaching** (effect size 0.59) of the 12 phonological awareness subskills needs to occur when deficits are identified
- Vocabulary review alone is likely an insufficient support**
 - Need to identify prior knowledge
 - Need to work on reading fluency via phonological awareness
 - Need to integrate new vocabulary into growing web of knowledge
- Effect size of **classroom vocabulary growth** programs = 0.67

COMPREHENSIVE INTERVENTION FOR STUDENTS WHO ARE LEARNING DISABLED = **0.77**. We can assume something similar for DHH students



One of the most effective practices - **Self-Assessment**

• Showing students near the beginning of a series of lessons what success at the end should look like is among the more powerful things we can do to enhance learning. i.e., Kool Kidz Vidz as a part of self-advocacy skill development (*Teacher Tools*)

• I do not yet understand. I need coaching	I am starting to understand. I need coaching but want to try some on my own.
• I understand! I make a few mistakes, so I'm working through those.	I understand very well. I can explain this to others Without telling them the answers

Levels of learning impact on **Participation in the Classroom**

- **Surface learners** are described as relying on memorization and are concerned about failure; therefore, they are **risk-averse**.
- **Deep learners seek to interact** with content and ideas, and actively link concepts and knowledge across content.
- **We can assume/generalize that students with hearing loss tend to be at the surface learning level longer than hearing peers.**
- Due to uncertainty with what has been said (fragmented hearing) in addition to 'spotty understanding' they are **less likely to participate**.
- **Direct instruction in self-advocacy to improve student participation is important for overall achievement!**

Levels of learning impact on **Participation in the Classroom**

Cooperative learning does **NOT** enhance learning **surface information**. It **DOES** engage students in moving from **surface to deeper** levels of learning.

Lack of access during group discussion and group work impacts deep learning.
(level of learning and rate)

Activity	Percentage
Front instruction	22%
Exciting activities	22%
Group work	22%
Interactive lessons	12%
Working individually	13%
Other	9%

Estimates indicate that group work and interactive lessons together comprise 34% of the day in a typical classroom (Feilner, Rich & Jones, 2016).

Participation in the Mainstream

Students who benefit most from classroom discussions are those who are **struggling to comprehend** text.

Students with hearing loss during class discussion:

- 1) May have **less surface knowledge** to be able to benefit
- 2) They may have a **greater need** to effectively learn from class discussion due to auditory fragmentation/comprehension issues

This further strengthens the need for effective use of FM, communication repair skills, self-advocacy skills and self-concept.

The teacher repeating key information is **not an equivalent substitution**.

'Zebras' really aren't the same as 'Horses'!

- Amplification does not restore normal hearing
- Student learning issues often occur beyond those **attributable to unequal access** to instruction due to poorer acoustic perception
- 'Swiss cheese' language and incomplete perception impact the **rate and level of surface learning**, resulting in students who are less prepared to move to deep learning phases of instruction
- Mismatch of instructional level with learning level of our students **can add to their slower overall rate of learning**
- We need to inform school staff of effective practices and the impact of hearing loss on resulting surface learning

EXPOSURE IN THE CLASSROOM ≠ SAME LEARNING RATE/LEVEL

A look at roles and responsibilities for persons providing services to students with hearing loss



Roles – DHHT vs Other School Providers

- There is no one resource that ‘speaks for’ teachers of the deaf/hard of hearing and their specific services
- There is no Scope of Practice which makes it easy for other fields to ‘creep’ into responsibilities of the DHH teacher
- Lack of role definition has made it challenging for teachers to easily respond to “What do you do that is different from the....”
- Few administrators are aware of the unique learning needs of students with hearing loss and the special training of DHH teachers
- Evidence-based practices are assumed to apply to every child, equally

We need to be able to advocate for appropriate services for students which includes advocating for our own involvement



Handout

Role Comparisons: Supporting Students Who are Deaf or Hard of Hearing

Example Activities / Responsibilities	Educator of the Deaf/Hard of Hearing	Educational Audiologist	Speech Language Pathologist*	Special Educator	Educational Interpreter
Observe classroom and school environments to evaluate communication access issues	X	X			O
Educate school staff about impacts of hearing loss and use of hearing technology	X	X	X*		O
Inservice classroom teachers about required daily monitoring of amplification	X	X			
Appropriately select, set, validate, manage implementation of hearing assistance technology		X			
Gather information to determine if amplification is fit optimally	X	X	X		
Teach student about use of amplification and troubleshooting malfunctions	X	X			O
Participate in eligibility evaluations, IEP and 504 initial and review meetings to address access to classroom communication, social interaction, self-advocacy and education needs	X	X	X		X
Perform basic technology checks and respond to student reports of amplification malfunction	X	X	X*		X
Perform formal and informal assessment of access to classroom communication (i.e., FLE)	X	X			
Collaborate regarding expressive/receptive preferences/abilities of students accessing via CART, interpreters, transliterators, auditory, etc.	X	X			X
Assess classroom acoustics, make recommendations to improve school listening environments	O	X			
Assessment of academic, communication, social self-concept issues related to hearing loss, including full evaluation identifying continuing areas of need when ‘grades become okay’	X		X		
When possible, distinguish learning issues related to hearing status from learning or performance issues due to other conditions beyond just the hearing loss/deafness	X			O	O
Use audiologic and performance data to recommend appropriate access technologies/services		X	O	O	
Lead discussion of the Communication Plan/Special Factors, communication effectiveness (requiring access) per ADA in team meetings	X	O			
Develop data-based IEP plans, modify goals and objectives based on gathered progress data	X		X	X	
Act as liaison between student, teachers, parents, administrators to address ongoing student needs	X				
Develop expanded core skills including self-advocacy, communication repair, hearing loss impacts	X		X*		
Teach hearing loss prevention and the importance of limiting noise exposure	X	X			
Facilitate regular interactions between students with hearing loss for self-identity, advocacy, etc. to provide emotional support to children who are deaf or hard of hearing (including	X	X			
					O
					X

This is general only! Roles vary district by district.
Individuals vary in knowledge and skill. May vary building by building



General Comparison Only. Does not reflect comorbidity

X= primary role, O= secondary, non-IEP ‘teaching’ role, *= special training

Example Activities / Responsibilities	Educator of the Deaf/Hard of Hearing	Educational Audiologist	Speech Language Pathologist*	Special Educator	Educational Interpreter
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Educate school staff about impacts of hearing loss and use of hearing technology	X	X	X*		O
Inservice classroom teachers about required daily monitoring of amplification	X	X			
Appropriately select, set, validate, manage implementation of hearing assistance technology		X			
Gather information to determine if amplification is fit optimally	X	X	X		
Teach student about use of amplification and troubleshooting malfunctions	X	X			O
Participate in eligibility evaluations, IEP and 504 initial and review meetings to address access to classroom communication, social interaction, self-advocacy and education needs	X	X	X		X
Perform basic technology checks and respond to student reports of amplification malfunction	X	X	X*		X
Perform formal and informal assessment of access to classroom communication (i.e., FLE)	X	X			
Collaborate regarding expressive/receptive preferences/abilities of students accessing via CART, interpreters, transliterators, auditory, etc.	X	X			X
Assess classroom acoustics; make recommendations to improve school listening environments	O	X			
Assessment of academic, communication, social self-concept issues related to hearing loss, including full evaluation identifying continuing areas of need when ‘grades become okay’	X		X		
When possible, distinguish learning issues related to hearing status from learning or performance issues due to other conditions beyond just the hearing loss/deafness	X			O	O

Roles vary district by district. Individuals vary in knowledge and skill.



General Comparison Only. Does not reflect comorbidity

X= primary role, O= secondary, non-IEP ‘teaching’ role, *= special training

-Address gaps in (pre)literacy skills including phonological awareness audibility or visually	X			X*	
-Develop comprehension abilities via use of context, morphology, figurative language	X		X	X	
-Preview/review content vocabulary, making connections to enhance global knowledge base	X		X	X	
Teach to specific delays in the performance/comprehension of math, reading, writing	X			X	
Deliver modified instruction of all academic areas (consultative or in 1:1 settings)	X				
Plan/provide general education teachers with appropriate teaching strategies	X				
Program monitoring of development in growth of skills targeted by specialized instruction	X		X	X	
Address transition, including self-determination and advanced advocacy problem-solving	X		X*		O
Oversee the use/performance of interpreters, CART providers, captionists, automated speech-to-text captioning, accommodations as appropriate	X				
Support families of children with hearing loss including informing them of the child’s abilities and limitations in hearing, education, social skills, use of amplification, etc.	X	X	X		

How can the following be performed in only a consultative role?
How can unique needs be met by a non-DHHT? Read on for more issues.

Possible issues considered based on the individual child which help to illustrate the importance of involving a teacher for the deaf/hard of hearing:

- Is there just one communication mode? More than one? Combinations of methods?
- How do the parents communicate with the child? How does the child communicate outside of school or with friends? Expectations for hearing technology?
- When was the child’s hearing loss identified and amplification fit? Is hearing technology functioning? How many hours per day is it in use?
- How well do staff members recognize the impact of the hearing loss? Do they think the student ‘hears just fine’ despite data and performance illustrating otherwise?
- How does the student access inferential learning? What strategies are in place to ensure adequate exposure to information learned by others inferentially?
- Who are the student’s current peers? (hearing kids? deaf or hard of hearing oral children? cueing children? deaf or hard of hearing signing children?)
- Has the student’s ability to access information in the preferred mode of communication been measured objectively? How does access compare to peers?
- How does this student access information in noise? How does this student access information in a room with poor acoustics? Strategies used?
- What type of technology does this student use? Hearing aid? FM system? Cochlear implant? Teletypewriter (TTY)? Note-taking systems? Real time captioning?
- What is the back-up plan when communication breaks down, including malfunctioning equipment and/or absent/inadequately trained service providers?



A Word on Hearing Loss + Other Disabilities

- Opaki = part horse, part zebra, part?
- Hearing loss is invisible and is easy to disregard
- We need to be involved in planning appropriate educational services for our zebras and the opakis!





How can we use Zebras to Advocate?



1. Use your zebra clipboards and wear zebras proudly!
2. Talk about access – it is at the heart of developing zebra ‘issues’
3. Be prepared to list specific learning challenges typically caused by hearing loss – have your “Why Involve” handout ready to share!
4. Be sensitive to effective practices and potential challenges with HL
5. Be prepared to describe the unique skills you bring to the team; why your services are most appropriate – have your ‘Roles’ handy
6. Be ready to address the potential result in outcomes if another professional without DHH training is providing needed services
7. Advocate for the **intensity** of services **needed** for the child to close gaps and to prevent further gaps from developing or compounding



Thanks to all of you
Zebra Experts for
listening and
ENJOY THE REST OF THE
CONFERENCE!



Hooray for Learning & Networking!