

COMPASS Program for Children with a Hearing Loss – Steered by LENA

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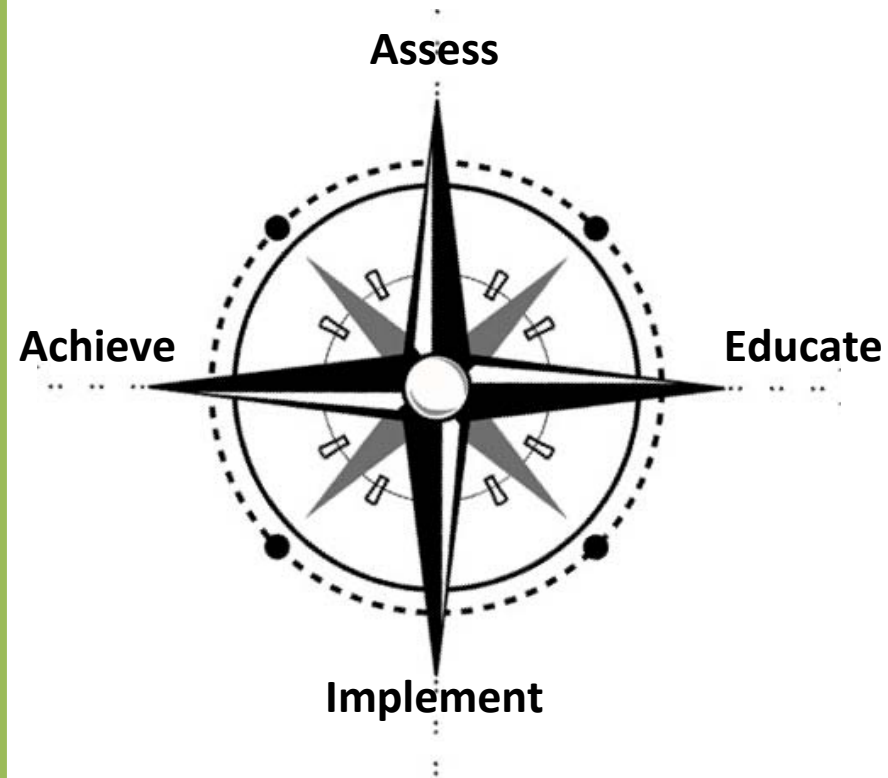
What Does The LENA System Mean for Children with a Hearing Loss?

- Information on language environment
 - Adult Word Count, Conversational Turns, Child Vocalizations, & Auditory Environment
- Birth to three: Critical window of language opportunity

How can we apply LENA data for practical use in the everyday lives of families in Early Intervention?

What is the COMPASS Program?


- Creating Outcomes to Maximize Practical Application of Skills & Strategies
- Mountain Lakes Early Intervention Program, NJ
 - Children with hearing loss, ages birth to three
 - Home and center-based services
 - Frequency and intensity varies based on Individual Family Service Plan (1x/month, 2x/month, 1x/week, etc.)
 - Hearing Aid, Baha, & Cochlear Implant Users
 - Various cultures, SES, language, family make-up



Practical Strategies for Children with a Hearing Loss

- Research-based strategies for developing listening and spoken language in children with a hearing loss
- Selected strategies that could be easily implemented by families with children birth to three years of age
 - ***Expansion & Extension:*** build & take to the next level
 - ***Auditory Bombardment:*** increase frequency
 - ***Self-Talk:*** narrate daily routines
 - ***Following the Child's Lead:*** allow child-directed play

Participants

The background image shows a young girl with a cochlear implant on her head, wearing a green shirt, and a woman with a headset, likely a researcher or caregiver, interacting with her. The girl is holding a blue and green sippy cup. The woman is smiling and looking at the girl. The scene appears to be a clinical or research setting.

- Six families of children with hearing loss (mild to profound)
- Assistive listening technology: baha, hearing aids, cochlear implants
- 12 to 23 months of age at the beginning of the pilot

Procedure

- Pre-survey & collect baseline LENA data
- Review data & first strategy with family
 - *Expansion & Extension*
 - *Auditory Bombardment*
 - *Self-Talk*
 - *Following the Child's Lead*
- Collect data again using LENA & repeat strategy implementation
- Complete post-survey



Parent Questionnaire

Child's Name: _____ Parent's Name: _____

Age & Hearing Age (chronological age and time with amplification): _____

Degree of Loss: _____

Type of Amplification Used: _____

Month/Year Started Early Intervention: _____

Date Survey Completed: _____

1. I often build upon the vocalizations that my child uses by adding new sounds/words to those vocalizations.



Never



Occasionally



Neutral



Often



Always

2. I feel comfortable using a desired word naturally multiple times throughout my child's daily routines.



Not at all



Slightly
Comfortable



Neutral



Somewhat
Comfortable



Very
Comfortable

Modeling the Strategy

Follow your child's lead.

Remember when you were a kid playing "Follow the Leader"? The group gets in a line and the person in front, the "leader" performs actions that the rest of the group must follow. Everyone always wanted a turn to call the shots. Your child feels this way too! It is important to focus on topics that are relevant and important to your child as well. We call this "following the child's lead". Imagine: you're on a team with your child, and they're calling the plays.



What you can do to make it happen:

- Watch what your baby or toddler is attending to and start a conversation about that item or action.
- Mimic laughter, vocalizations, and actions that your child produces.
- Comment and model what your baby might be thinking.
- Incorporate vocal play into activities that your child is already showing interest in.
- Remember to "OWL": Observe, wait, & listen. (The Hanen Program, *It Takes Two to Talk*, 2004) **Observe** your child's interests in the moment. **Wait** to provide them the opportunity to vocalize. **Listen** to your child's message.



Examples:

- You and your child are engaged in a game of block building when you notice he wanders off to play with a ball. Rather than calling him back to blocks, use this as an opportunity to engage in conversation about what he is interested in: the ball. "Oh, you see the ball! Let's bounce the ball. Roll the ball into the blocks."
- Your child touches the grass. You say, "The grass is tickly!"

Results

- The majority of participants showed positive changes:
 - 66% increased adult word count
 - 50% increased child vocalizations
 - 66% increased conversational turns
- Two participating families remained static in LENA measures

Adult Word Count			
Child	Baseline Recording	2nd Recording	3rd Recording
QG	9,216	10,836	
CG	6,284	20,487	17,249
MG	10,312	30,596	
RN	21,147	19,531	7,463
DP	10,402	15,537	
JT	14,455 (13 hrs)	14,080 (14 hrs)	13,966 (11hrs)

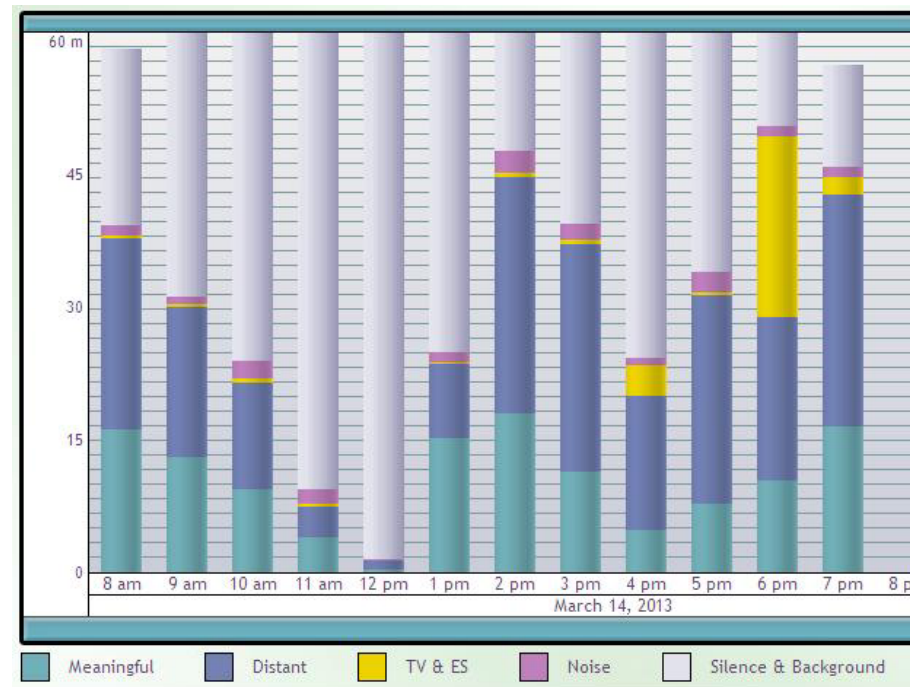
Child Vocalizations			
Child	Baseline Recording	2nd Recording	3rd Recording
QG	2,650	2,248	
CG	292	769	2,277
MG	3,701	7,041	
RN	1,185	1,333	379
DP	1,181	1,674	
JT	1,145	1,013	1,205

Conversational Turns			
Child	Baseline Recording	2nd Recording	3rd Recording
QG	481	646	
CG	79	311	645
MG	637	1,935	
RN	408	400	136
DP	327	525	
JT	292	267	275

Changes in Audio Environment



Baseline Recording

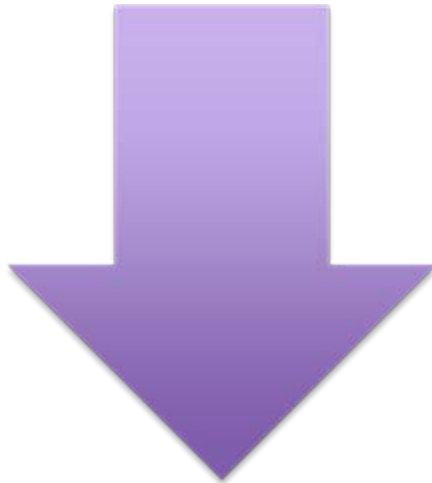


2nd Recording

Cause and Effect

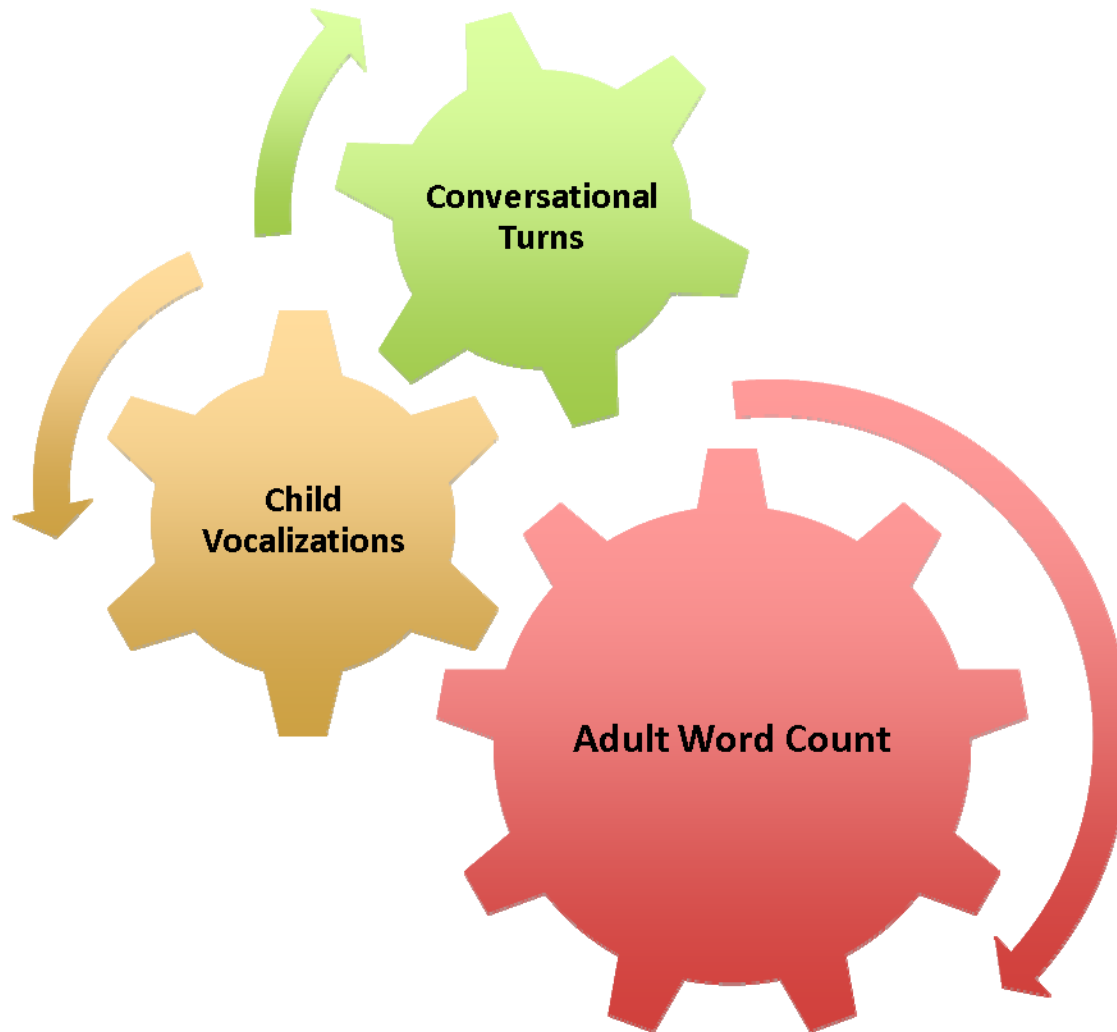


Adult Word Count,
Child Vocalizations, &
Conversational Turns



Television (Audio
Environment)

Trends



Future Plans & Limitations

- LENA as a motivating factor
 - Visual component
 - Effects
- Incorporating videos – Parent success
 - Therapist modeling – family doing
 - Pre & post comparison

Future Plans & Limitations (cont.)

- Other caregivers/therapists
 - Educating all members
 - Differences in environment
- Additional Strategies:
 - Auditory Environment – turn the TV off
 - Why talk? Understanding language and brain development

“Children with hearing loss require **three times** the exposure to learn new words and concepts due to a reduced acoustic bandwidth”

- Pittman, 2008