



IOWA EAR CENTER

Hearing & Balance
Ear & Skull Base Surgery

Listening and Spoken Language Approach to Language Intervention for Children with Hearing Loss

Lisa Anderson MS, CCC-SLP



What is LSL?



LSL Intervention Session Plan

Child's Name: _____ Date of Session(s): _____
Caregiver's Name: _____
Child's Chronological Age: _____ Child's Hearing Age: _____
Hearing Technology Type: _____ Hearing Technology Wear Time: _____
Audiologist's Name: _____ Audiologist's Contact Info: _____
Date of Last Audiological Appt: _____ Date of Next Audiological Appt: _____

Child Goals		
Audition	Receptive Language	Expressive Language
Speech	Play	Other Areas

LSL Strategies	Parent Coaching Strategies
<ul style="list-style-type: none"><input type="checkbox"/> Be a Director<input type="checkbox"/> Point Out Sound<input type="checkbox"/> Hear it Before You See It<input type="checkbox"/> Play by Play<input type="checkbox"/> It's Your Turn!<input type="checkbox"/> Keep 'em On Their Toes!<input type="checkbox"/> Make it Easier!<input type="checkbox"/> Create a Listening Sandwich<input type="checkbox"/> Beyond the Here and Now<input type="checkbox"/> It's All About Me<input type="checkbox"/> Help Me but Don't Tell Me<input type="checkbox"/> What Did You Hear?	<ul style="list-style-type: none"><input type="checkbox"/> Show and Share<input type="checkbox"/> Test Drive It Together<input type="checkbox"/> Leading by Example<input type="checkbox"/> To the Point<input type="checkbox"/> Guided Experiments<input type="checkbox"/> News Commentator<input type="checkbox"/> So What?<input type="checkbox"/> The Fake Out<input type="checkbox"/> Secret Message<input type="checkbox"/> Making the Connections

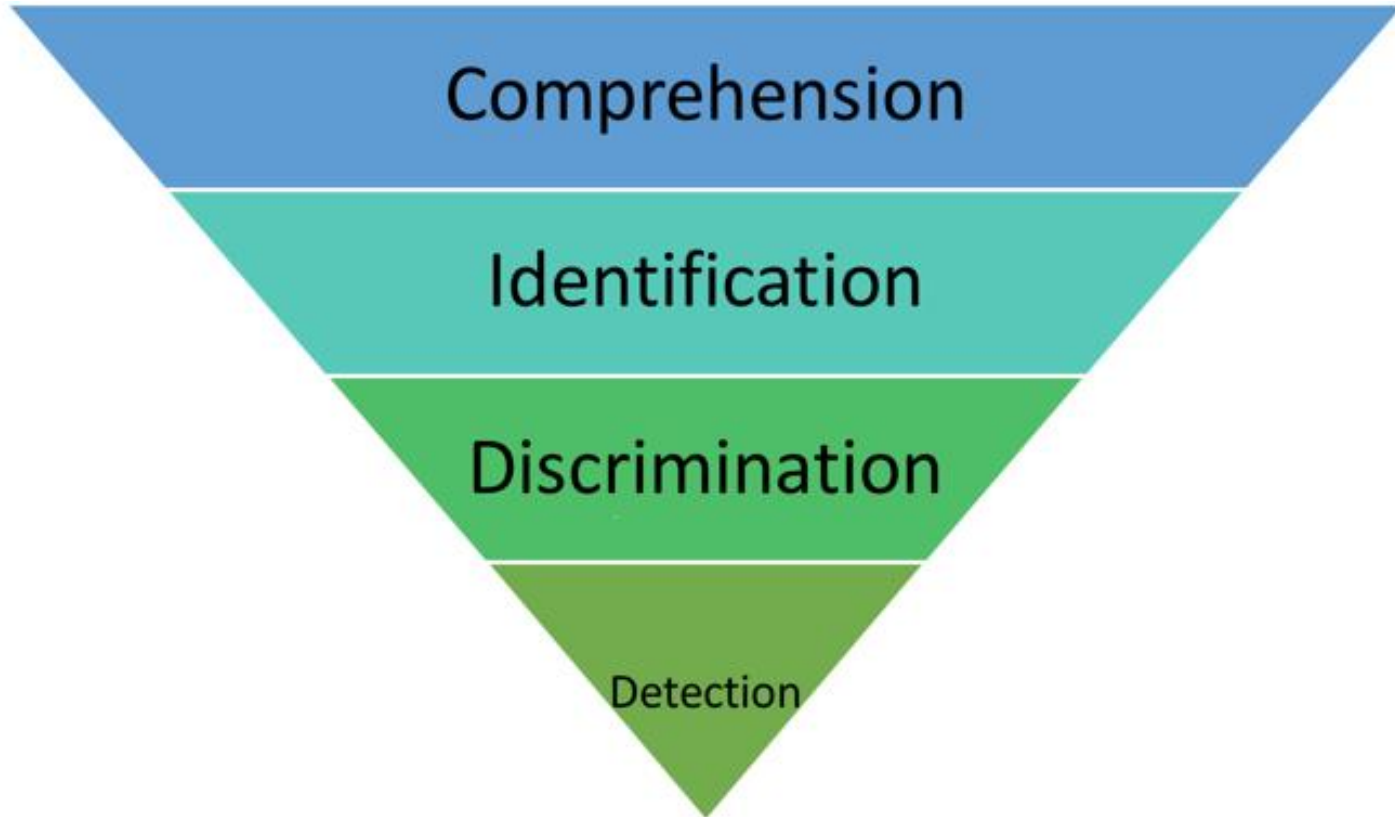
What does an LSL session look like?

Figure 1 – The Ling, Madell, Hewitt (LMH) Test.

(Original Ling Phonemes are in black. Added phonemes are in red)

	Band 1 200-1000Hz VOICING	Band 2 1000-1500 Hz CONSONANT DIFFERENTIATION	Band 3 1500-3500 Hz CONSONANT DIFFERENTIATION	Band 4 3500 Hz + FRICATION
/u/	F1:300 Hz F2: 870 Hz		F3: 2240 Hz	
/a/	F1:730 Hz	F2: 1090Hz	F3: 2440 Hz	
/l/	F1: 270 Hz		F2: 2290 Hz F3: 3010	
/m/	250-350	1000-1500 Hz	2500-3500 Hz	
/sh/			1500-2000 Hz	4500-5500 Hz
/s/				5000-6000 Hz
/dj/	200-300 Hz		2000-3000 Hz	
/z/	200-400 Hz			4000-5000 Hz
/h/			1500-2000 Hz	
/n/	250-350 Hz	1000-1500 Hz	2000-3000 Hz	

LMH 10



What are the steps to develop listening skills?



Learning To Listen Sounds And Phrases

The Learning to Listen (LTL) sounds and associated objects or actions are hallmarks of teaching spoken language through listening. The LTL sounds were chosen by early Auditory-Verbal practitioners because they are easy to hear for most babies wearing hearing devices, and they follow normal language development which makes playing with them fun for babies. This also includes the beginning sounds, phrases, and commands that are commonly spoken in early infant and child routines.

You and your LSL interventionist can select items from this list to engage your child in home and intervention activities. When you use LTL sounds in combination with LSL strategies, you'll be growing your child's brain for listening and spoken language.

Sounds for ANIMALS

BEAR gr-r	HORSE neigh, tongue click
BIRD tweet tweet, whistle	LION roar-roar
CAT, KITTY meow	MONKEY ee-ee-ee, hee, hee
CHICKEN cluck, cluck	MOUSE squeak-squeak
COW moo	OWL hoo-hoo
CROW caw, caw	PIG oink, oink
DOG bow-wow, ruff-ruff	ROOSTER cock-a-doodle-doo
DUCK quack-quack	SHEEP baa-a-a-a
FISH swish, swish, swish	SNAKE, SPIDER s, sss
FROG, RABBIT hop-hop-hop	

Sounds for ACTIONS

CRYING wah, wah, wah	SLEEPING shhhh
EATING mmmmm	SMELLING mmmm

Sounds for VEHICLES

AIRPLANE ah, a-a-a	BUS bu-bu-bu
BOAT p, pu, pu, pu	AMBULANCE owowowow
TRAIN oo, oo-oo-oo	FIRETRUCK ee-oo-ee-oo
CAR, TRUCK b-r-r-r, beep/brr	POLICE CAR wowowowo
BOAT, POPPING TOY p,p,p	MOTORCYCLE mmmmmm

Sounds for NOUNS

BABY DOLL mama, wah-wah	WATER pshhhh
BUBBLES bu, bu, pop-pop	WHEELS round and around (top, windmill)
CLOCK, WATCH t-t-t, tic-toc	YOYO wheeee
CLOWN ha-ha-ha	
SLIDE up, up, up wee-e	

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LEARNING TO LISTEN SOUNDS AND PHRASES



Commands/ Familiar Phrases FOR ACTION

Blow-blow the feather	Push the button
Bounce-bounce the ball	Push-push it down
Brush your hair	Put it on
Brush your teeth	Roll the ball
Cover up the baby	Run, run, run
Cut-cut...cut the banana	Shhhh, go to sleep
Give it to me	Sit down
Give it a kiss	Stop it
Go-up-up-up (stairs, lift me up)	Tickle the baby
Have a drink	Turn it over
Jump-jump-jump	Turn the page
Knock-knock	Up-up-up the ladder
Listen! 1-2-3 go!	Wait a minute
Mmm, smell the flower	Wake Up
No-no-no, don't touch	Walk-walk-walk
No-no-no, don't bite	Wash-wash your hands
Open your eyes / Close your eyes	Wave bye-bye
Pat the baby	Wipe your mouth
Pick it up	Wipe your nose
Play the music	Wipe the tray
Pop-pop the bubbles	



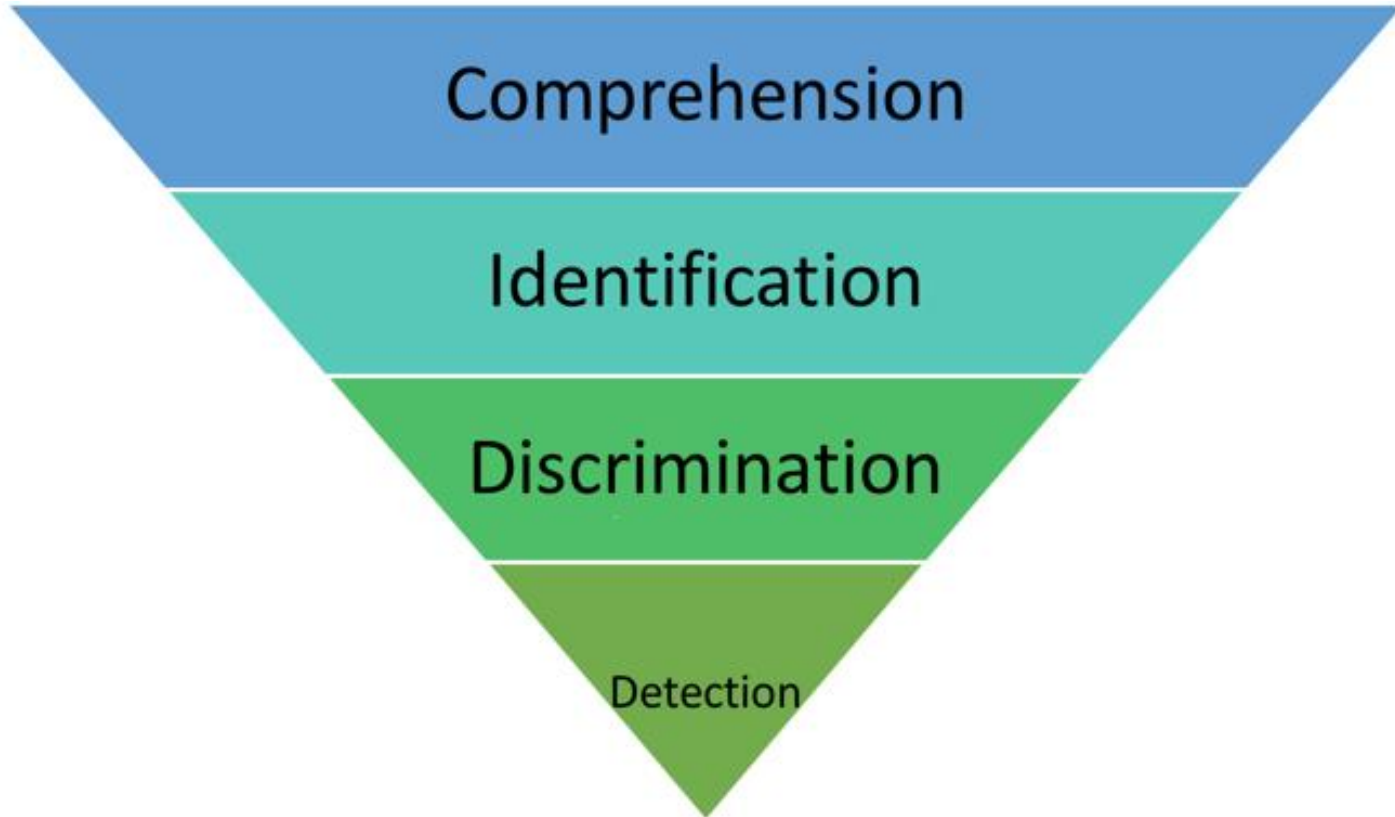
Common PHRASES

Brrrr that's cold	It's wet
Bye-bye	It's your turn
Good-night	Mmmmm that's good
Help me	Night-night
Hi baby	Ouch!
I want a _____	Ow, it's sore
I want more	That's funny
I see a _____	That's hot
I like the _____	That's mine
I'm mommy, daddy	That's my shoe, nose, mouth
It goes round and round	That's pretty
It's all gone	Uh-oh, it fell down
It's broken	Up-oh, it spilled
It's dirty	What a mess
It's my turn	Where's the _____?
It's soft	Wow! (surprised)
It's sticky	You have a _____
It's stuck	

(Adapted from Simser, 2002, Estabrooks, 2006, Estabrooks & Birkenshaw-Fleming, 1994)

Find more at hearingfirst.org
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What are the steps to develop listening skills?



When should
you start
intervention?



Should you
start therapy
prior to
cochlear
implantation?



What kind of
outcomes can
we expect?



Hearing Technology Wear Time



Hearing Technology Retention

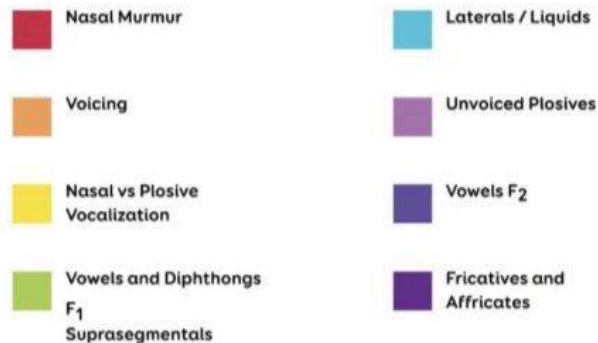
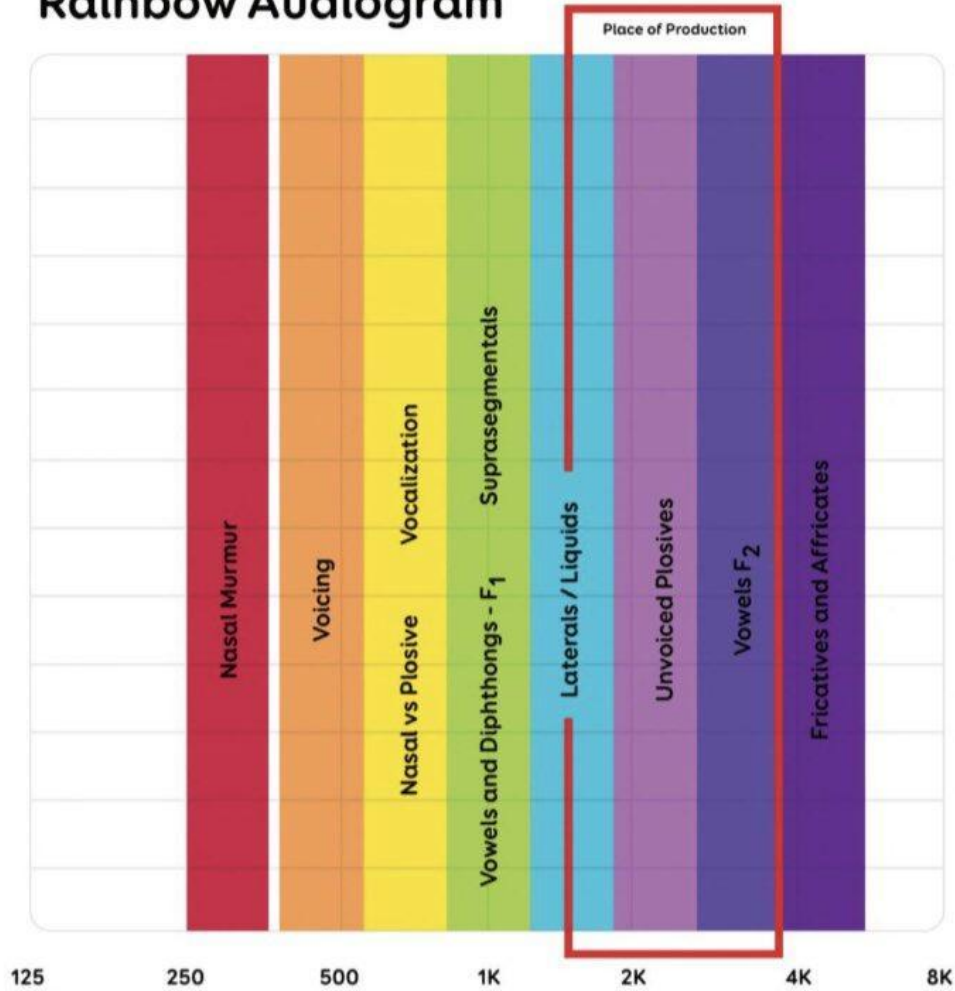


**What about
Bilingual
Families?**



How can
SLPs and
audiologists
collaborate?

Rainbow Audiogram



Speech Sound	3 ft a - a			3 ft e - e			10 ft a - a			10 ft e - e		
	R	L	B	R	L	B	R	L	B	R	L	B
T												
V												
N												
P												
M												
G												
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THE IOWA MEDIAL CONSONANT TEST

Name: _____
 Date: _____
 Technology: _____

Why perform this test? The Ling Sounds and standard word discrimination testing do not provide specific information on how a child perceives each consonant, which are the most essential elements for understanding speech clearly. A child who does not perceive all of the consonant sounds clearly will have increased difficulty comprehending speech.

Children demonstrating consonant perception errors need to have their hearing technology settings changed.

Test conditions: Quiet setting needed! With the hearing device worn, test each ear separately and then both ears together (R, L, B). Test at 3 feet and again at 8-10 feet (R, L, B). Listening only, no visual cues.

Presenting the consonants: Say all of the consonants embedded in the ah sound: aba; asa; ata; ava
 Say all of the consonants embedded in the ee sound: ebe; ese; ete; eve

Alternate: Present the consonants in isolation but be careful to present at a natural volume, not emphasizing the consonant. Thus, the /s/ and /f/ sounds will be considerably quieter than the /b/ and /d/ sounds. If you make them equally loud when you say them, you will not know how the sound is heard in normal conversation.

Recording: As the child repeats the sounds, mark the box for each correct sound. Write in substitutions when an error occurs. For example, if the child was presented asa and produced asha, you would write sh in the box. Errors may be different R, L, B.

Scoring: Desired score is 100%.
 Shared by Jane R. Madell, PhD
 Developed by: Tyler, RS, Preece, JP, Lowder, MW;
 The Iowa Cochlear Implant Test Battery: Iowa City, University of Iowa, 1983.
 Reformatted 2014. Karen Anderson, Supporting Success for Children with Hearing Loss



What about
unilateral
hearing
loss?



Questions?