Ling Sound
Listening Bubble Checklist
For Young Children

Administration Protocol

Purpose:
To identify a child's ability to perceive the Ling sounds from different distances. Children with hearing loss often miss some parts of speech, especially at a distance and in the presence of background noise. The ELFLing procedure systematically identifies under which listening conditions a child is no longer able to auditorilly detect different speech sounds. In a classroom or family setting an adult may "know that a child hears" because a response to speech can be observed. The results of the ELFLing serve to illustrate how fragmented speech can be challenging to hear in noise and at increasing distances. This assists in estimating the probable level of access to verbal communication under typical classroom conditions or during dynamic family communication settings.

Target Test Ages:
The child must be at a point of cognitive development to be able to respond appropriately when a presented Ling sound is detected auditorilly. Acceptable responses in order of difficulty are: (1) raise hand or otherwise indicate when a Ling sound has been heard (e.g., stack a block when a Ling sound is heard), (2) place a chip on a picture representing the Ling sound detected (e.g., place a chip on the picture of a cow for /oo/), (3) identify the sound by naming the picture that corresponds to the Ling sound detected (e.g., says 'cow' when /oo/ is detected). Ideally, children as young as 2-3 years of age will be able to respond to the Ling sound listening task.

Test Protocol:
1) This is an auditory perception test; the child will not be allowed to look at the speaker's face. This can be controlled by the speaker using a hoop of acoustically transparent fabric or requiring the student to look at a spot on the floor.

2) Control of distance is important. The administrator should mark the floor with masking tape or otherwise identify distances at 15 feet, 10 feet, 6 feet, 3 feet and 1 foot. A tape measure or a string with knots at these distances can be used as the basis for identifying the test distances.

3) The child should be very familiar with the Ling listening and response activity prior to attempting the ELFLing test protocol. To familiarize the child with the ELFLing task, it is recommended that the speaker and child practice responding to a few Ling sounds at 3, 6, and 10 feet; reinforcing that the child must listen only.

4) Start presenting the recorded Ling sounds in QUIET at a distance of 6 feet, then 10 feet and 15 feet. If there were any Ling sounds that the child did not consistently respond to at 6 feet then present the sounds at 3 feet. Likewise, if there were any that were missed at 3 feet repeat the presentation of Ling sounds at 1 foot.

5) Repeat this procedure for listening in low background noise. A recording of classroom noise* can be presented from a SmartPhone. If a sound level meter (phone app) is available it is suggested that the average noise level be set at +10 dB S/N for a family setting and +5 dB S/N to simulate classroom listening. Relate results to the concept of 'listening bubble' or distance needed for good speech perception.

*Record a 10-minute sample of classroom noise from http://successforkidswithhearingloss.com/classroom-acoustics-impact/

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Child_____**Date(s)**_____ **Age**_____ **Hearing Age** _____**Evaluators**_____

As a child gets ready to exit early intervention, the interventionist can work with the family to complete the ***Early Listening Function (ELF)*** checklist. The *ELF* is a discovery tool that provides 12 listening activities that are presented at varying distances ranging from responding to someone from the next room (>15 feet) to responding at a distance of only 6 inches. In practical terms, the task is to identify the size of the child's listening bubble. The *ELF* procedure has been adapted below so that, in addition to the listening activities presented, the child can be asked to point to or repeat the Ling sounds at the different distances. Care must be taken that no cues are given, such as allowing the child to view the speaker's face or the child detecting the breath of the speaker when the /th/ and /s/ are presented from a close distance. It can be assumed that if a child can respond to a sound at a far distance that he will also be able to detect it at a close distance. In other words, if a child can identify the EE sound at 10 feet then it is not necessary to see if he can do so at 6 feet, 3 feet and 1 foot. One result of this process is that it is likely find that the child will need to be quite close to the speaker to detect/identify /voiceless th/ and /s/ sounds. In other words, these sounds become undetectable for many children from just a few feet away. This is a powerful illustration of the necessity of close proximity, or the listening bubble concept. Refer to the ELF for more information on procedure.

Listening to Ling Sounds at Different Distances

Based on the child's responses to sound, place Y (Yes), M (Maybe/Inconsistent), or N (No) in the boxes.

QUIET □	**NOISE** □ Source_____		**AMPLIFICATION**_____		
Ling Sound	**15 FEET** Next Room	**10 FEET**	**6 FEET**	**3 FEET**	**1 FOOT**
OO					
AW					
EE					
M					
SH					
S					

Comment:

QUIET □	**NOISE** □ Source_____		**AMPLIFICATION**_____		
Ling Sound	**15 FEET** Next Room	**10 FEET**	**6 FEET**	**3 FEET**	**1 FOOT**
OO					
AW					
EE					
M					
SH					
S					

Comment:

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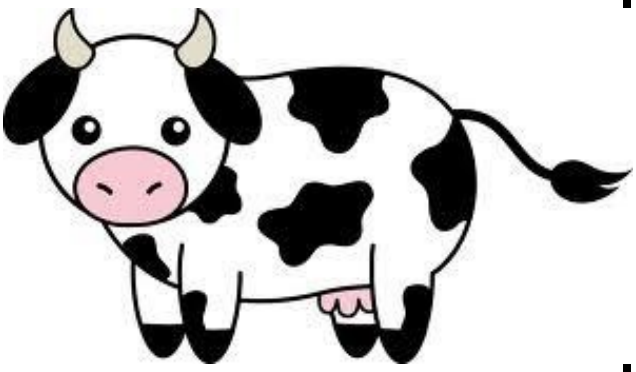
Early Listening Function checklist can be downloaded from http://successforkidswithhearingloss.com/tests Permission to reproduce.

AHHH



OOOO

EEEE

SHHH

SSSS

MMMM

TH