

Functional Hearing Skills Assessment

It is often difficult to determine the hearing abilities of students who have multiple physical and cognitive challenges. Students may be seen for audiological evaluations, but may not respond well in an unfamiliar environment such as an audiology booth. They also may not be motivated by the sound stimuli used in typical audiological assessments, and may habituate quickly to a particular sound stimulus. Responses may be variable, depending on overall physical state. While formal audiometric assessments are helpful, but may not provide information on how a student uses auditory information in every-day situations.

We need to check out how students respond to sounds within their typical routines. For example, we can see if there is an increase or decrease to responsiveness to sounds in the presence of background noise. A functional hearing screening also helps to determine how the student uses sound when other sensory information is available. For instance, a child may tune out auditory information and only pay attention to visual information, or the student may close his eyes to attend to the auditory information.

Types of Auditory Stimuli to Check Out With Your Student

- Environmental (e.g., cars, blenders)
- Voice (Familiar/Unfamiliar)
- Noise Makers/ Musical Instruments (e.g., bells, rattles, horns, drums)
- Music (e.g., classical, pop rock, rap, country and western, meditative)
- Pitch (High, Medium, Low)
- Volume (High, Medium, Low)

Try a variety of sound makers:



Types of Responses to Look For:

A. Reflexive:

- Responding to a sound by eye-blinking; limb jerking (startling); changing respiration or muscle tone

B. Attentive:

- Responding to a sound by eye-widening; searching by moving the eyes or head; stilling or quieting of movement; vocalizing

C. Localization:

- Head turning when sound is at ear level (4-6 months of age)
- Head turning when sound is below or above ear level (7-11 months of age)
- Head turning when sound is coming from behind the student (10-15 months of age)

D. Discrimination:

- Smiling or vocalizing, associating sound with something positive
- Crying or frowning, associating sound with something negative

E. Anticipation:

- Responding to a sound that demonstrates anticipation of the event that usually follows the sound. For example, increasing body movement when the sound of the school bus in the driveway is heard (9 months of age)

F. Habituation:

- Lack of responding to a sound
- Could be a sign of remembering the sound and interpreting it as non-threatening or familiar

G. Latency:

- Amount of time it takes before the student responds to a sound
- When the student does respond, sometimes it's difficult to determine if the response was actually to the sound, or to something else. Try repeating the sound, but keep in mind that habituation may occur

Assessment Procedures

A. Interview - See Questions On Next Page

B. Informal Assessment - Use Assessment Form Below

When completing the assessment, keep in mind the following:

- Have an Educational Assistant speak from across the room with the student faced away from the EA. If No Response, have the EA move closer until the student responds. Have the EA speak to the student's right side and to the left side Watch for reflex, attention or localization response to voice. Also watch for negative

reactions, such as turning away, hand in front of face, hand behind ear, facial grimaces, or frowning.

- Assess responses to:
 - a variety of sounds (e.g., different noise-makers – bells; horns; tuning fork; music that represents a variety of frequencies and intensities
 - Sound from different distances and directions. Note the amount of background noise present. Try doing this within a typical routine. In a typical routine, note if there is visual information present. Make sure you wait for at least 10 seconds for a response.
- Try to assess when the student is in a quiet, alert state.

Reference

Nelson, C. and Payette, T. Routine-based Functional Hearing Screening for Young Children who are Deafblind and have Multiple Disabilities. URL

Hearing Screening Interview

Student's Name: _____ Date: _____

1. What types of sounds does the student respond to (including male and female child/adult voices, music)?

2. How does the student respond?

3. Is there a difference in response to:
 - a. quiet or loud sounds

 - b. high or low pitch sounds

 - c. familiar or unfamiliar sounds (including voices, music)

4. Does the student look in the direction of a sound or speaker?

5. Does the student associate a sound with its sound source (e.g., looks to the door when someone knocks on it)?

6. Does the student respond to his/her name? If so, how?

7. When you name a familiar object, does the student look at it, or reach for it?

Based on C. Nelson and T. Payette. Routine-based Functional Hearing Screening for Young Children who are Deafblind and have Multiple Disabilities.