

Informal Functional Hearing Evaluation (IFHE)



Developed by
Texas School for the Blind and Visually Impaired
Outreach Programs
www.tsbvi.edu | 512-454-8631 | 1100 W. 45th St. | Austin, TX 78756

Contents

■ Introduction	3
■ Instructions for Completing the IFHE	4
• Preparing for Observations	
• Determining Strengths and Needs	
• Making Recommendations	
■ Using the IFHE: Interview & Observation	7
■ Putting It All Together: Report Summary	17
■ Summary Results and Recommendations of the IFHE	19
■ References	21



Informal Functional Hearing Evaluation

Introduction

The Informal Functional Hearing Evaluation (IFHE) is meant to guide the teacher of the deaf and hard of hearing (TDHH), the teacher of the visually impaired (TVI), and the teacher of students with DeafBlindness (TDB) in determining the impact of a potential hearing loss on educational functioning for students with visual impairments and multiple disabilities.

The IFHE can serve as a guide for determining what accommodations are needed in the classroom, home, and community environments to promote student access to information. Because of the difficulty that a loss in both distance senses presents, a child who is deafblind may demonstrate a delay in identifying, understanding, and interpreting sounds and their sources. This delay can be pronounced, even if formal testing indicates a minimal loss of vision and hearing. This delay or lack of auditory response in children with deafblindness is often misinterpreted as delayed cognition. As a result, children with deafblindness may require auditory training.

If an educator is concerned that a student with a visual impairment may also have a hearing loss:

- The IFHE can provide information about how the child is currently using his/her hearing in a variety of settings and then guide the Individualized Education Program (IEP) team in developing instructional strategies to address the child's dual sensory needs.
- The IFHE can document concerns when a student is unable to participate in formal testing (a lack of formal language, health issues, or concerns regarding sedation to test for an auditory brainstem response (ABR)).
- The IFHE can help shape programming considerations for a student with deafblindness.
- The IFHE can serve as a guide for determining what accommodations are needed in the classroom, home, and community environments to promote student access to information.
- The IFHE can be used as a compliment before formal testing to provide valuable information to the audiologist or ENT. **IFHE should not serve as sole documentation of hearing impairment; formal testing is needed.**

Instructions for Completing the IFHE

The Informal Functional Hearing Evaluation (IFHE) should be completed by the educational team under the guidance of the TDHH, TDB, and/or speech-language pathologist, in collaboration with the TVI. The process consists of the following components:

- **Parent/Staff/Medical Team Interviews:** Use the Interview Worksheet with the IFHE to discuss observed behaviors related to the child’s hearing with those who can share information about the child’s auditory functioning in home, classroom, and community settings.
- **Natural Observation:** Use the IFHE while watching the child in familiar environments, during familiar activities.
- **Systematic Observation:** Use the IFHE while referencing information from formal hearing tests to observe behavior within familiar routines and record patterns that might indicate a child’s use of hearing.

Preparing for Natural and Systematic Observation Example

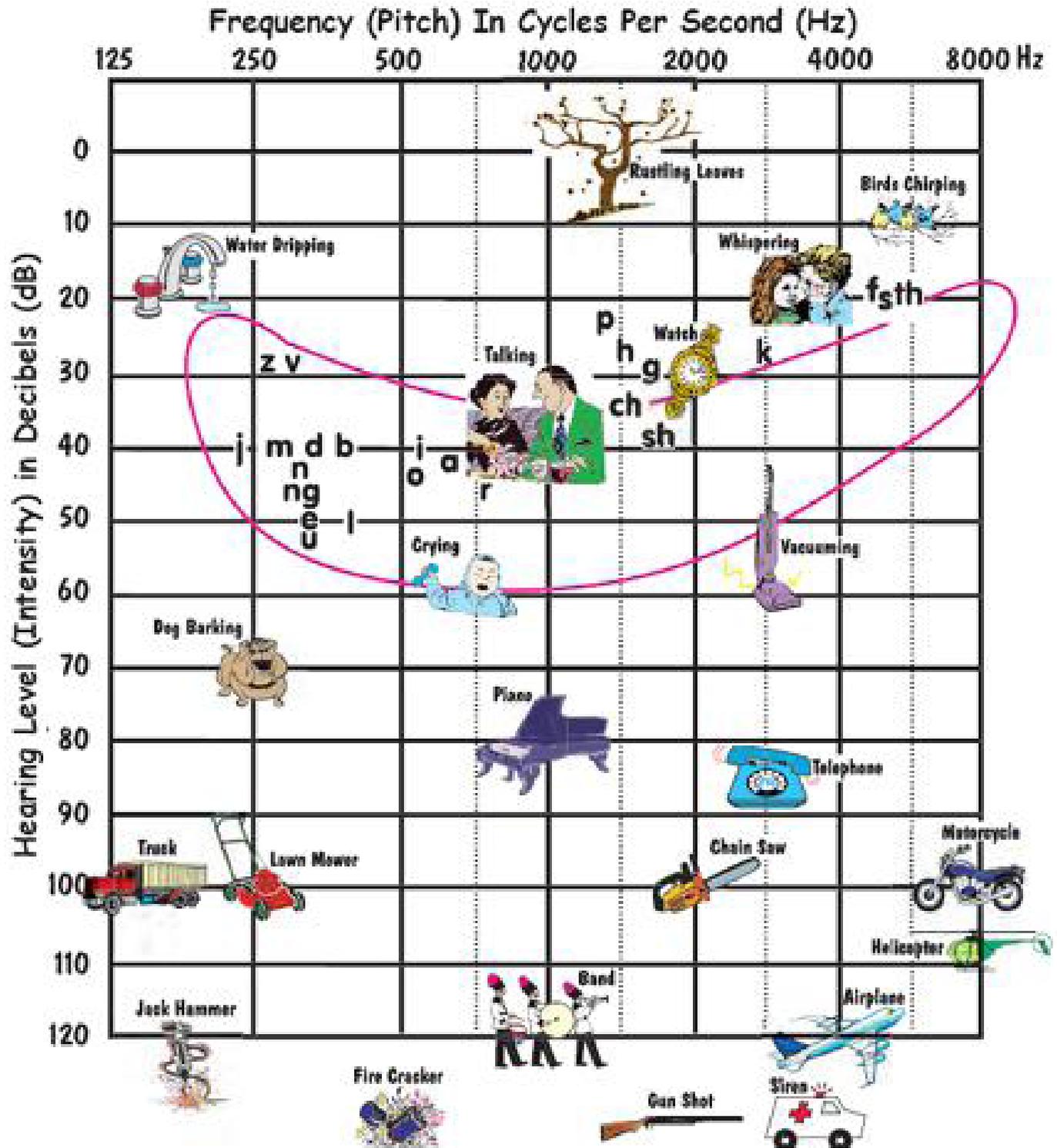
The graphic below presents familiar and typical environmental sounds and their corresponding frequency levels. When designing the materials and protocols for your observations it is important to first review any existing audiological evaluations to determine the best available frequencies and degrees of hearing loss. Is it low-frequency or high-frequency loss? This information will help to collect sound sources to use when designing the routines that will serve your observations.

Routines add predictability and structure and should be used as the observational context for the IFHE. To learn more about routines and to see some examples of routines that can be used to evaluate a child’s functional hearing, visit [Communication for Children with DeafBlindness](#).

If no audiological evaluation exists, choose a wide range of sound sources with various frequencies, such as a drum, piano, whistle, vacuum cleaner, etc. Of course, the human voice is also a good sound source and should be used in all evaluations.

If the results of formal hearing tests indicate that the child should be able to hear loud low frequency sounds like a drumbeat, set up a simple turn-taking game, beating a drum to see if the child participates. Does the child take a turn after you stop? If the child participates in this game, you can try similar interactions, with other sounds, that vary by pitch and loudness. Record your observations. It might take several repetitions of the game, across several days or weeks, before the child learns his or her role.

Frequency Spectrum of Familiar Sounds



Frequency Spectrum of Familiar Sounds showing frequencies and intensity of various sound sources. Creative Commons image

Determining Strengths & Needs

After compiling all of the information collected in interviews and observations, the TDHH, TDB, and/or speech-language pathologist should list the student's strengths and needs in the areas of functional hearing to determine whether a referral for formal testing should be made.

- **Strengths:** Areas of functioning that can be identified and described that demonstrate the child's attention to or understanding of sound.
- **Needs:** Areas of auditory functioning in which the student appears to demonstrate difficulty due to lack of auditory training.

Instructions for Making Recommendations

Accommodations and instructional strategies to address functional hearing needs should be detailed in the **Recommendations** section of the report and provided to the IEP team. Recommendations should address the effects that a combined vision and hearing loss will have on the child's ability to access instruction and environmental information. If possible, share the results of the IFHE with the audiologist prior to a formal hearing screening.

- Recommendations can be included in the students' Communication Evaluation and/or the Learning Media Assessment.
- Recommendations can be used to help design instructional strategies and an optimal learning environment before beginning a phase of diagnostic teaching. Strategies include specific focus on connecting sound sources to the person or object producing the sound during familiar activities and routines.
- Recommendations can be used to develop a comprehensive list of accommodations to be implemented by the IEP team.
- Recommendations from the IFHE can be used in documenting student progress, implementing auditory training strategies, and applying information gained from formal testing results, thereby assisting the IEP team in determining whether a child meets eligibility for deafblindness.

Using the IFHE: Interview & Observation

Interview Worksheet

It is important to collect information from those who know how the child typically functions. This can include parents/caregivers, educational staff or members of the medical team. Use the questions and spaces below to record information from your interview(s).

1. What sounds do you think the child hears?

2. What reactions or behaviors make you think the child is hearing the sound?

3. Does the child seem to associate a particular sound with a person or activity?
(For example, the sound of the garage door opening causes the child to get excited because he knows his dad is home.)

4. Does the child seem to have any favorite sounds, such as a song, a person's voice, or a sound created by an object or animal?

5. Do some sounds seem to frighten or upset the child?

6. Do some sounds seem to calm or soothe the child?

7. Does the child vocalize? When, and under what conditions?

8. Does the child seem to respond to his/her name under most conditions?

9. Does the child respond to other phrases under most conditions?

10. Do you think there are sounds the child does not hear? Why?

11. Does the child have a history of ear infections?

12. Does/did anyone in the child's family have a hearing loss?

13. Has the child been treated with medicines for major infections, cancer, etc.?



Go to the Report Summary (page 17). Record information from your interviews on the section labeled Interview Worksheets.

Notes from Parent/Staff/Medical Team Interviews

Use the space below for any additional notes or summaries.

Observation Checklist

- Review existing documentation, including notes from the Parent/Medical Team Interview, to guide your natural and systematic observations of the student in a variety of settings.
- Use the checklist below to document and make notes on the child's performance in the functional hearing categories listed.
- Record the results of your observations on the Summary Results of Informal Observations (p. 15) section of the report summary.

Student Name:

Date Observed:

Briefly describe the child's state of awareness at the time of the assessment (e.g., excited, sleepy, highly aroused, agitated):

General Functioning and Awareness

1. Does the child show any awareness of any sensory information (visual, tactual, etc.)? How do you know this?

YES

NO

DESCRIBE

2. Does the child show any awareness of auditory information? How do you know this? (Example: Does the child demonstrate an association between movement cues and a pleasurable auditory stimulus or activity?)

YES

NO

- a. Contextual—Familiar sounds in a familiar routine/environment
- b. Out of context—Familiar sounds in an unfamiliar routine/environment
- c. Novel—New sounds in a familiar context/environment
- d. Novel/unfamiliar—New sounds in an unfamiliar context/environment

DESCRIBE

Sound is Meaningful

3. Does the child attend to and associate auditory stimuli with their sources?

YES

NO

DESCRIBE

4. Does the child show anticipation of an event or recognition of a person or object through the use of hearing? (Example: The child giggles and claps her hands at the sound of her mother's voice in another room or the music produced by a favorite toy hidden from view.)

YES

NO

- a. In familiar context
- b. In unfamiliar context

DESCRIBE

Auditory Patterning

5. Does the child show awareness of the start and cessation of sounds?

YES

NO

DESCRIBE

6. Is there a difference in performance based on type of sound?

YES

NO

- a. Pitch (high vs. low)
- b. Rhythm (simple vs. complex)
- c. Intensity (loud vs. soft)
- d. Duration (short vs. long)
- e. Distance (near vs. far)
- f. Movement (moving toward vs. away from)
- g. Vowel sounds (in isolation)
- h. Consonant sounds (in isolation)
- i. Sound source (voice vs. environmental)
- j. Male vs. female voices
- k. Familiar vs. unfamiliar voices
- l. Specific type(s) of music
- m. Specific instrument(s)

DESCRIBE

7. Is there a difference in behavior based on environment?

YES

NO

- a. Quiet vs. noisy
- b. Places with high levels of reverberation vs. places where reverberation is dampened (e.g., gym vs. carpeted classroom)
- c. Places with competing vocal and environmental sounds (e.g., teacher's voice when AC turns on)
- d. Places with competing sensory information (lights, smells, etc.)

DESCRIBE

8. Is there a delay in response? (latency)

YES

NO

- a. In quiet environments (e.g., carpeted room with little to no extraneous conversation, empty playground far removed from traffic noise)
- b. In noisy environments (e.g., gym, cafeteria, tiled classroom with multiple sound-emitting electronic devices and conversations)
- c. In familiar context
- d. In unfamiliar context

YES

NO

9. Are there different responses based on the child's bio-behavioral state or at various times of day?

- a. Before or after a meal
- b. Before or after medication
- c. Time of day
- d. Quiet alert or active alert vs. fussy or agitated

DESCRIBE

10. Does the child recognize when an adult mimics his/her vocalizations? (Example: The child stops moving or vocalizing when an adult attempts to mimic his vocalizations. The child then responds by repeating his previous vocalization.)

YES

NO

- a. Familiar adult with familiar pattern
- b. Unfamiliar adult with familiar pattern
- c. Familiar adult with random pattern
- d. Unfamiliar adult with random pattern

DESCRIBE

11. Does the child try to mimic familiar vocal patterns?

- a. Mimics rhythm
- b. Mimics pitch
- c. Mimics vowel sounds
- d. Mimics consonant sounds
- e. Mimics animal sounds or funny sounds
- f. Mimics line from a song or rhyme

YES

NO

DESCRIBE

Sound as Meaning

12. Does the child startle to sound but otherwise not pay much attention? (reflexive awareness)

YES

NO

DESCRIBE

13. Does sound help the child enter and maintain a quiet alert or active alert state? (self-regulation)

YES

NO

DESCRIBE

14. Are there sounds that make the child fussy or agitated?

YES

NO

DESCRIBE

Localization

15. Does the child turn toward, move toward, or reach for a sound source?

YES

NO

- a. Familiar object or environmental sound
- b. Unfamiliar object or environmental sound
- c. Familiar human voice
- d. Unfamiliar human voice

DESCRIBE

Auditory Feedback

16. Does the child enjoy making noise, either with his or her mouth, by activating switches, hitting two objects together, playing musical instruments, etc.?

YES

NO

DESCRIBE

17. Does the child vocalize when amplification is turned on? (Example: The child consistently giggles or makes a “shhh” or “he” sound when amplification is engaged.)

YES

NO

DESCRIBE

18. Does the child vocalize in response to others' vocal play?

YES

NO

DESCRIBE

Short-Term Auditory Memory

19. Does the child associate a particular sound with a particular event?

YES

NO

DESCRIBE

20. Does the child attempt to repeat familiar vocal sequences or sounds?

YES

NO

DESCRIBE



Putting It All Together: Report Summary

Report Summary

The IFHE Report Summary is an opportunity to organize information from the inventory as well as information from interviews, information observations or other formal testing and assessments. The report summary can also serve as place to gather all medical and formal audiological information into one document.

Interview Worksheets

Use the space below to summarize information collected from the interviews.

Family/caregiver:	Staff:	Medical Team:
--------------------------	---------------	----------------------

General History

Etiology: Cause of vision loss:

Audiological Information

History of middle ear infections:

History of hearing loss in family:

History of treatment with ototoxic drugs:

Results of ENT report:

Appearance of ears:

Results of unaided testing:

Results of aided testing:

Implications of hearing loss:

Prescribed listening devices:

Listening devices child currently wears/uses:

Other Medical Information



Summary Results & Recommendations of the IFHE

Summary Results of Formal Testing and Assessment

Formal Test Results:

Speech:

Communication:

Summary Results and Recommendations of the IFHE

Observation Checklist (pp 7-16)

General Functioning and Awareness:

Sound Is Meaningful:

Auditory Patterning:

Sound As Meaning:

Localization:

Auditory Feedback:

Short-Term Auditory Memory:

Linguistic Auditory Processing:

Auditory Strengths:

Auditory Needs:

[Empty box for Auditory Strengths]

[Empty box for Auditory Needs]

Recommendations Related to Hearing in Instructional Settings:

[Large empty box for Recommendations Related to Hearing in Instructional Settings]

Texas School for the Blind and Visually Impaired

References

Brown, D., 2001. Follow the Child – Approaches to Assessing the Functional Vision and Hearing of Young Children with Congenital Deaf-Blindness. Volume 10, Number 9 Winter 2001 reSources, published by California Deaf-Blind Services.

Durkel, J. and Moss, K., 2005. Formal Versus Informal Hearing Tests: What is Functional Hearing? Originally published in See/Hear newsletter, Summer edition, 2005 by Texas School for the Blind and Visually Impaired. <http://www.tsbvi.edu/formal-versus-informal-hearing-tests-what-is-functional-hearing>

Hearing and Cognition Screening Checklist, 2010. <http://documents.nationaldb.org/TA/Oregon%20Deafblind%20Project%20Hearing%20and%20Cognition%20Screening%20Checklist.pdf>

Inventory of Sound in the Home and Community Environments. <http://documents.nationaldb.org/TA/Inventory%20of%20Sounds%20in%20Home.pdf>

Petroff, J.G., Ruetsch, C.L., & Scott, E., 2003. Functional Assessment of Sensory Status of Children who are Deafblind. New Jersey Technical Assistance Project (N.J. TAP). <http://documents.nationaldb.org/products/SensoryFunctioningAssessment2004.doc>

Stredler-Brown, A. & Johnson, D.C. (2001, 2003). Functional Auditory Performance Indicators (FAPI) An Integrated Approach to Auditory Skill Development. Retrieved from <http://www.cde.state.co.us/cdesped/SpecificDisability-Hearing.htm>. Available on the NCDB website at <http://www.tsbvi.edu/attachments/FunctionalAuditoryPerformanceIndicators.pdf>

Success for Kids with Hearing Loss

Tests- Informal Assessments for Parent, Students, Teachers

<http://successforkidswithhearingloss.com/tests>



DEAF-BLIND NETWORK
TECHNICAL ASSISTANCE ACROSS THE NATION



"This project is supported by the U.S. Department of Education, Office of Special Education Programs (OSEP). Opinions expressed herein are those of the authors and do not necessarily represent the position of the U.S. Department of Education."