

# Guidelines for Psychological Testing of Deaf and Hard of Hearing Students

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# Illinois Service Resource Center

*Serving deaf/hard of hearing student behavioral needs*



A Technical Assistance Center of the Illinois State Board of Education

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To All Interested Parties:

These *Guidelines for Psychological Testing of Deaf and Hard of Hearing Students* are provided by the Illinois Service Resource Center. The purpose of the guidelines is to assist clinical and school psychologists unfamiliar with assessing children who are deaf or hard of hearing.

The Illinois Service Resource Center is legislatively mandated by P.A. 87-1127 to provide services for children in Illinois who are deaf or hard of hearing and have an emotional or behavioral disorder. Some of the ISRC activities mandated by the legislation include assuring the consistency of test instruments, providing behavior support services and providing technical assistance and training for existing programs and providers.

The Illinois Service Resource Center wishes to thank the members of the team who contributed to this third edition of the guidelines, including Dr. Judith Kahn, Dr. Linda Mathias Kaskel, Karen Loyer Ed.S., Dr. Pat Scherer, and Dr. Jim Vanderbosch. Thank you to ISRC Clinical Psychologist Dr. Daniel Friedman for his additional efforts in coordinating this booklet.

These guidelines are based on the numerous years of experience of the team members in working with deaf and hard of hearing individuals. The test instruments mentioned in this document are suggested to be the most effective for assessing deaf and hard of hearing children. Comments in this document concerning tests are not applicable to the assessment of children with normal hearing.

In addition to the guidelines, the ISRC provides Phone Consultation Services for psychologists who are testing deaf and hard of hearing students. This service can be accessed by contacting the Illinois Service Resource Center at 847-559-8195 (Voice and TTY).

We welcome your feedback on these guidelines. Please feel free to contact us with any suggestions or requests for additional information.

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Cheri L. Sinnott, LCSW  
ISRC Director

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## I. Referral

1. The referral source should provide the psychologist with a specific, not vague, referral question(s). The question(s) should be posed with regard to the information needed or the decision to be made.
2. The psychologist must first identify the purpose of the assessment:
  - a) Diagnosis/ initial documentation of individual's performance
  - b) Confirmation of previous identified needs/ prognosis
  - c) Intervention Planning
  - d) Academic/Triennial evaluations
    - Does the student have one or more disabilities?
    - What are the present levels of academic achievement and functional performance of the child compared to same age children without a disability?
    - Does the disability adversely affect the child's education?
    - Does the child need special education and related services?
  - e) Documentation for legal proceedings
3. In general, follow these guidelines:
  - a) Determine what information is needed.
  - b) Clarify why the testing is being done.
  - c) Describe how the information gained from testing will be used.
4. Consider various assessment strategies:
  - Traditional  
Clinic/office based  
Psychological (I.Q., personality, social emotional, educational achievement, neuropsychological, executive functioning)  
Vocational and independent living  
Behavioral observation  
Record Review  
Interviews with parents/guardians, teachers and the student
  - Alternative  
Emphasize extended evaluation via outpatient, partial or full inpatient basis.  
Functional assessment of daily living skills and needs  
Learning potential assessments  
Assessment of transition skills (such as vocational and independent living skills)  
Curriculum-based assessments (CBA)
5. Prepare the student for the evaluation:
  - a) Provide a straightforward explanation of purpose
  - b) Emphasize benefits
  - c) Describe basic process and content
  - d) Establish rapport and engage student in testing process
    - In some instances where the student cannot grasp the reason and benefits for an evaluation, then rapport and engagement are the examiners primary goal.

## II. Deafness as Impacting the Evaluation Setting

1. The psychologist should consider the impact of language acquisition and development, over time, keeping in mind that deafness is a disability of communication. Impacting:
  - a) Auditory (receptive) and spoken (expressive) communication
  - b) Incidental learning
  - c) Vocabulary development
  - d) Writing skills (grammar)
  - e) Verbally mediated abstract reasoning skills
  - f) Concept of self/other/world
  - g) Relational skills- perspective taking, empathy, social skills
2. Children with a hearing loss are not a homogenous group. They can be broadly divided into several subgroups.
  - a) Students who are prelingually deaf and whose primary mode of communication is through sign language.
  - b) A student with a hearing loss that was identified at birth and amplification was begun immediately. Early intervention services may also have begun within the first few months. The primary mode of communication is through aural/oral communication.
  - c) Students with an identified hearing loss and living in a home environment where the language is different from the language in the school environment (Spanish speaking families).
  - d) Students with an identified hearing loss and other medical conditions.
3. Before beginning any evaluation the psychologist should consider the unique aspects of the hearing loss including:
  - a) Type of loss (conductive, sensorineural, mixed)
  - b) Degree of loss (mild, moderate, severe, profound)
  - c) Age of identification
  - d) Etiology and family history of hearing loss
  - e) Effectiveness of amplification used
  - f) Auditory skills (use of residual hearing)
  - g) Preferred mode of communication
  - h) Presence of additional disabilities or medical conditions
  - i) Primary language in the home
  - j) Visual skills
4. The major limitation for a deaf or hard of hearing individual is not difficulty with hearing, but difficulty understanding others and being understood. Many children who are deaf or hard of hearing have not had full language access as their hearing peers to English conversation, media and cultural English models during their early years. Further, the structures of many standardized tests use language that is different in phrasing, sentence structure and grammar from everyday English. The use of homophones, idioms, and words with multiple meanings may make it difficult to understand the test item for some students who are deaf or hard of hearing. It is imperative that the psychologist ensures that an equivalent message or understanding has occurred.

5. The evaluator must be aware that deaf children use a multitude of communication approaches (ASL, CASE, SEE, speech, lip reading, writing, pantomime, gesture, and speech) and that evaluations **must be conducted in the individual's preferred mode**. Using the individual's most effective mode of communication is the only way to preserve the integrity of the testing situation. A determination of the individual's most effective mode may be obtained via consultation with the child's teacher(s), parent(s), and/or interpreter.
6. The benefits of speech reading and hearing aids are often overestimated. The best lip readers (typically hearing people) only understand 25% of what is said and most deaf children get 5%.

Lip-reading is a learned skill. Only about 30-40% of words can be lipread clearly in the absence of amplification. Good language skills improve the ability to lip-read.

7. Hearing aids amplify sound but do not always improve its clarity.
8. Most deaf students have significant experiential limitations and learning of social norms, due to a lack of information that other individuals have received via an auditory mode.

They often experience limited communication ability with their families. Fewer than 10% of families are able to communicate fluently with the individual who is deaf via sign language.

9. The academic achievement of individuals who use sign language tends to be significantly lower compared to hearing peers. Achievement tends to be lowest in areas that rely heavily on knowledge of English (e.g., reading, social studies, and science). Scores are somewhat higher in spelling and arithmetic computation. Writing deficits are most often seen in the usage of English syntax and grammar rules. Often word endings are omitted as well as the use of articles. This is due to the structure and rules of ASL. When writing most deaf individuals tend to follow the rules of ASL. 'Errors', according to standardized testing, should not always be taken as reliable or as a predictor of academic potential. Furthermore, poor writing skills do not reflect equally distorted thought processes.

### III. Assessment Considerations

1. Prior to beginning the evaluation, the test content needs to be evaluated for the suitability to use with a student who is deaf or hard of hearing.
  - a) The language used in standardized test items may vary from the familiar structure of simplified English used in instruction and day-to-day communication.
  - b) The use of homophones, idioms, and words with multiple meanings may make it difficult to understand the test item for some students who are deaf or hard of hearing.
  - c) The test items may rely on knowledge not available or experienced by individuals who are deaf or hard of hearing such as sound and music.
  - d) Solving mathematics problems involves language concepts beyond simple computation.
  - e) The timing on tests requiring fluency of a spoken response (such as an oral reading tasks) is not equivalent when the student is asked to sign the same passage.
2. In the process of evaluating a student with a hearing loss, the psychologist often needs to modify the administration or directions. The psychologist may also accept responses (such as a point or a gesture) different from the specified responses of the test. The provision of additional examples or practice items may also be considered. These actions can weaken the validity of the test results and should be discussed in the evaluation report.
3. The use of standardized tests to determine the cognitive abilities, academic achievement, and mental status of people who are deaf or hard of hearing may result in inaccurate or misleading results. Few tests have been normed on deaf and hard of hearing populations. Comparison norms are made to English-speaking, same-age students without a hearing loss. Assessment results need to be considered and interpreted in this light. Misdiagnosis can follow an individual throughout his/her lifetime, Scores from standardized tests should be interpreted in conjunction with other assessment information.
4. The best practice is when the psychologist can work directly with the individual. If this is not possible (e.g., student signs and the psychologist does not) it is imperative that a qualified interpreter be used. However, this is not recommended for legal situations or when major decisions will be based on test results. This is because interpreters will sign exactly what is spoken by the psychologist, it is not their job to ensure comprehension on part of the person.
5. The way in which instructions are given can affect the performance of the student and the results of the test. Be sure the student understands the task. It may be necessary to alter standardized administration directions in order to ensure comprehension. Although the meaning of the test question cannot be significantly changed, there are a variety of techniques that may be used to help the student understand the task. For example-

- a) Consider breaking complex sentences into simple sentences. It is critical to maintain the meaning of the instructions, however, the exact word order may be changed to facilitate understanding.
  - b) Use synonyms that may help the student understand the intent of a question. As an example, instructions using the word "missing", the evaluator may consider substituting "not there", "not drawn in the picture", "gone", "wrong". The goal is to use an equivalent word that the test-taker will understand.
  - c) Caution should be used to ensure that not too much information is given to the individual if there is a need to modify the instrument's instructions. For example, Vocabulary subtests frequently pose this kind of risk. If the psychologist signs the word, then he/she risk giving away it's meaning (i.e. "hat" or "umbrella"). If the psychologist is not certain of the impact of test results when presenting an oral test item in sign, the results should be interpreted with extreme caution or not used at all.
6. The testing environment is another important variable to consider when testing a student who is deaf or hard of hearing.
- a) Minimize auditory and visual distractions in the environment. Vibrations and background noise may become a distraction for the individual with a hearing loss. Individuals with residual hearing can be greatly affected by noise in the environment (such as activity occurring in adjacent areas such as hallway, lunchroom, or classroom, the ringing of phones, or chimes of a clock). Individuals with a profound deafness may be more sensitive to vibratory distractions (such as fans or movement on wooden floors).
  - b) The examiner should sit directly in front of the individual and avoid sitting on the side. An interpreter should never be placed to the side of a student.
  - c) The lighting should be bright (not glaring) and directly overhead. Lights behind the speaker, or dim lights can affect the individual's ability to utilize speech reading skills.
7. Individuals with a hearing loss rely heavily on their vision for communication. Therefore it is important to consider the functional vision of the student.

## IV. Use of interpreters

1. It is important to test individuals in **their** preferred mode of communication. When it is not possible for the psychologist to directly communicate with the individual an interpreter can provide a communication bridge between people who are deaf or hard of hearing and people who can hear.
2. Sign language may take many forms and are not necessarily equivalent to each other. For example-
  - a) American Sign Language (ASL) does not have a direct word-for-word correspondence to spoken English.
  - b) Signing Exact English (SEE) is an exact representation of spoken English.
  - c) Conceptually Accurate Signed English (CASE) may be the language used in the classroom but not an individual's preferred mode of communication.
3. Interpreting is more complex than simply replacing a word of spoken English with a signed representation of that word. American Sign Language has its own grammatical rules, sentence structure, and cultural nuances.
4. There are skill level differences among interpreters. For students who communicate in sign language, it is preferable to use an interpreter who holds a Comprehensive Skills Certificate, or CI/CT Certification from the Registry of Interpreters of the Deaf (they are bound by a Code of Ethics). Interpreters with a rating of Level 3.0 or above on the Educational Interpreter Performance Assessments (EIPA) can also be used within the school environment. For students who used cued speech, it is also preferable to use a Cued Speech Transliterator with a rating of Category 4 or above on the Basic Cued Speech Proficiency Rating administered by the Testing, Evaluation and Certification Unit (TEC Unit) or have attained a Transliteration Skills Certification from TEC Unit at a Level 3 or above.
5. For the psychologist not experienced in working with an interpreter, some training and/or background in how to use an interpreter would be beneficial. For example:
  - a) Understand that the interpreter's sole purpose is to facilitate communication. He/she cannot answer questions about the student or otherwise offer opinions about issues outside of communication.
  - b) Ideally, the interpreter should sit next to, but slightly behind the psychologist.
  - c) All communication during testing should be directed toward the student. Never ask the interpreter to "tell him (her) ..... "The interpreter should never be asked to administer the evaluation tool.
  - d) The interpreter is required to sign all auditory-based input within the test environment. It is inappropriate to ask the interpreter to stop signing so that the psychologist can answer a phone call or talk with someone else in the room.

6. Potential issues regarding the use of an interpreter include:
- a) The traditional one-to-one relationship between psychologist and student is altered. The psychologist may feel that a stronger relationship is established with the interpreter than with him/herself.
  - b) It is natural to have concerns about the interpreter's ability to accurately translate instructions *and/or* provide sign to English interpretation for the deaf person using sign language.
  - c) Potential clues may be given when using conceptual signs. For example, on the Vocabulary test of the WISC-III, many of the signed words are iconic (pictorial in nature) and may provide clues to the correct answer. The word "winter" is signed by showing coldness and shivering. Using fingerspelling or showing the word in written form, is not an equivalent presentation to what hearing children receive, as you are no longer testing their word knowledge, but rather their ability to read.
  - d) The reliability, confidentiality, and reputation of the interpreter may need to be considered.
  - e) Prior to beginning an evaluation, the psychologist should ask the interpreter if she/he has any prior training *and/or* experience in interpreting in educational *and/or* assessment settings.
  - f) The psychologist and the referral source must discuss the responsibility for arranging and paying for the interpreter, prior to the start of the evaluation. Under IDEA and ADA, the individual or their family is not required to pay for the interpreter.
  - g) If there are no locally skilled interpreters available, the psychologist may choose to contact the Illinois Deaf and Hard of Hearing Commission (IDHHC) or the Illinois Service Resource Center (ISRC) for support in this area.

IDHHC- 217-557-4495  
ISRC- 847-559-0110

## V. Evaluator Issues

1. Whenever possible psychological evaluations should be conducted by a qualified professional who is knowledgeable about deaf culture and proficient in the student's language.
2. Many psychologists have minimal experience with deaf people. There is a tendency to see all deaf people as similar. Deafness may be viewed as pathology. In addition, inappropriate testing has, historically, resulted in deaf people frequently being misdiagnosed, frequently as mentally retarded.
3. There are few formal training opportunities for psychologists to learn about assessing this population and become aware of the impact that deafness may have on reading levels, testing issues, use of interpreters, etc. The ISRC is available for training, support, consultation, and referral at no charge for any psychologist throughout the state.
4. Many evaluators are unable to communicate effectively with deaf students. There is often a sole reliance on speech, writing, or typing. Reading levels of the individual may limit the effectiveness of these methods.
5. The evaluator may not have knowledge of deaf culture, emotional indicators, or developmental aspects of the disability, etc. For example, there are significant language and communication differences between students who are congenitally deaf versus students who become deaf post language development.
6. Children with a hearing loss may nod their head "yes" without fully understanding the questions or directions provided. As a result, an appreciably greater error of measurement has been observed on standardized tests given by psychologists not experienced testing those with a hearing loss.

## VI. Guidelines for Selecting Tests

### 1. General Considerations

- a) Few standardized tests include specific norms for comparisons with people who are deaf or hard of hearing.
- b) Some standardized tests provide guidelines for administration of test items to people who are deaf or hard of hearing.
- c) Due to the problems encountered with standardized instruments, the inclusion of informal assessments is suggested. The use of informal assessments (such as interviews, observations, and work samples) can provide additional information on the student's skills.
- d) A word-for-word transliteration of standardized administration procedures may not adequately convey test instructions or student responses.

### 2. Achievement Testing

- a) There are many facets to consider when selecting standardized, norm-referenced achievement tests for students with hearing loss, considering the student's communication modality, difficulty translating questions into sign language and the lack of validity studies of such techniques.
- b) Achievement testing is beneficial to establish baseline levels of an individual's educational performance and to monitor their academic progress over time.
- c) Consider the use of hearing impaired norms (if available). This approach is valid when the desire is to compare the student with other hearing impaired children.
- d) It is suggested that academic achievement testing be conducted along with a communication assessment (expressive and receptive language skills) to identify the student's strengths and needs.
- e) Curriculum-based measurements (CBM) and criterion-referenced tests may also be used to monitor academic progress over time. With these measures, a student's performance is compared to his/her own baseline rather than same age peers without a hearing loss.
- f) Oral reading CBM measures should not be used with students who are deaf except in highly specialized circumstances.
- g) Classroom observations and portfolios are additional sources of educational data.

### 3. Adaptive Behavior Scales

- a) It is important to include an assessment of adaptive behavior anytime cognitive or intellectual delays are suspected.
- b) There are none available with deaf norms. This is not considered to be a serious problem.
- c) Caution: Communication and Socialization Domains tend to be lower for Hearing Impaired individuals compared to their hearing counterparts.
- d) Daily Living Skills may be artificially deflated due to test items that a hearing impaired person may have no need for or have limited exposure to (e.g. Answers a phone, knows how to dial 911, etc.).

### 4. Cognitive /Intellectual Tests

- a) Verbal tests tend to measure the language deficiency caused by the hearing loss rather than the intellectual ability of the student. Therefore nonverbal (performance type) instruments should be emphasized. Additionally, select tests that can be adapted without impacting reliability and validity.
- b) Consider verbal measures only with students who are hard of hearing. Do not, however, calculate full scale IQ's.
- c) In determining whether to use verbal or combined components, consider:
  - Degree of hearing loss (Verbal skills typically decrease as Severity of hearing loss increases- See Reference Section).
  - Age of onset (late deafened vs. pre-lingual hearing impairments)
  - Reason for referral
  - Degree and nature of the score scatter
  - If in doubt, one can report performance scale scores and utilize the verbal scores for qualitative purposes in the report.
- d) Appraise the test in terms of ease of administration and visual interest and applicability of normative groups.
- e) Scores from a standardized intelligence test should not be the only information used to make decisions for students with a hearing loss.
- f) When attempting to identify a cognitive disability in addition to the hearing loss, it is best to use a measure of functional skills/adaptive behaviors in conjunction with an intellectual test.
- g) When working with hearing impaired individuals who have a physical disability (such as paraplegia, cerebral palsy, CHARGE syndrome), it is important to consider the impact of motor abilities on the performance of timed nonverbal tasks that require the manipulation of small pieces. A valid and reliable cognitive score may not be possible to obtain.
- h) In legal situations, relying solely on nonverbal assessments may prove contestable. Additionally, assessing "fitness" issues will most likely demand a verbal component (e.g. Comprehension of legal concepts and procedures).

- i) The use of group administered standardized tests is not recommended with students who are deaf or hard of hearing.
- j) If the test requires verbal communication carefully review administration instructions and make appropriate modifications as necessary. Caution: Many "nonverbal" tests are verbally administered.
- k) Cautions when interpreting results:
  - When reviewing Verbal subtest scores and Working Memory subtest scores, one should keep in mind that they are generally lower compared to hearing cohorts. One researcher's meta-analysis found the Average Verbal IQ for hearing impaired population is 85.54 with SD of 9.54 for deaf and hard of hearing individuals compared to hearing examinees (Braden, J.P., 1994).
  - Scores on preschool and primary measures of intelligence for children with a hearing loss have been found to be unreliable and unstable compared to school-aged hearing children.
  - Many congenitally deaf students exhibit reading levels below grade level (e.g., third grade reading skills are not uncommon among deaf high school students). This presents particular difficulty when trying to administer many paper and pencil tests.
  - Interpret with extreme caution any test items that discriminate against an individual with an auditory impairment. For example, many deaf students would be unlikely to know "information" typically learned via auditorally mediated incidental learning (e.g. Who is Louis Armstrong or Ghandi). Similarly, one should not expect deaf students to correctly respond to tasks of auditory discrimination and/or comprehension. At best, results yield a baseline of current functioning in these areas.

## 5. Communication Assessment

- a) Students who are deaf or hard of hearing have limited access to incidental learning of language. Assessment of communication skills need to consider background and current skills.
- b) As previously discussed, caution should be exercised when interpreting standardized measures normed on individuals without a hearing loss. Therefore, the inclusion of informal measures (such as rating scales, structured observations, language samples, and work portfolios) should be considered.
- c) Whenever possible the qualitative assessment of communication skills should be by a trained evaluator in deafness. Whenever a qualified interpreter is used as part of the evaluation, the modifications in testing must be listed along with the professional's impressions.
- d) A comprehensive communication evaluation can be completed by a psychologist or in conjunction with a speech and language therapist. A comprehensive communication assessment should involve a combination of direct measures and some checklists completed through observation and interviews with parents and teachers.
- e) Few standardized communication skills assessments are available regarding sign language.

## 6. Neuropsychological Assessment

- a) Few neuropsychological assessments are available regarding the use of sign language.
- b) Neuropsychological evaluation tools must be used with caution as they have not been normed on individuals with a hearing loss and results may be atypical.
- c) It is important to assess etiology of the hearing loss along with the possible association of neuropsychological deficits. Therefore it is important that the person completing a neuropsychological assessment understand the unique aspects of deafness in addition to having the necessary training in the administration and scoring of these instruments (such as the Halstead-Reitan or the Luria-Nebraska batteries).

## 7. Personality Assessment

- a) The use of personality tests designed for hearing people with individuals who are deaf or hard of hearing have resulted in misleading and inaccurate results. For example, deficits in reading comprehension and language skills do not reflect an equally distorted thought process.
- b) Few personality tests have deaf norms (other than Meadow-Kendall Test of Social Emotional Maturity).
- c) Figure drawings can be easily administered to people who are deaf or hard of hearing. The results must be interpreted with caution.
- d) Word association and sentence stem completion tasks should be used with caution by experienced clinicians who are also familiar with working with individuals who are deaf or hard of hearing.
- e) Narrative projective measures (such as the Children's Apperception Test (CAT) or the Thematic Apperception Test (TAT) should be used with caution by experienced clinicians who are also familiar with working with individuals who are deaf or hard of hearing.
- f) Poor writing skills do not reflect equally distorted thought processes.
- g) The Rorschach Test also yields questionable validity. It should be used only by an experienced clinician who is familiar with cultural and educational aspects within the deaf and hard of hearing community.
- h) The Minnesota Multiphasic Personality Inventory, Adolescent Edition (MMPI-A) and the Minnesota Multiphasic Personality Inventory, Second Edition (MMPI-2) do not yield valid results for individuals with a hearing loss and should not be used.

## 8. Social-Emotional-Behavioral Assessment

- a) Social-Emotional-Behavioral assessments may provide a more accurate assessment for a student who is deaf or hard of hearing compared to the use of personality tests.
- b) A wide range of assessment tools is available. Few of the rating scales have deaf norms or norms that include people who are deaf or hard of hearing.
- c) Social emotional-behavioral assessments can be completed using behavioral observations, rating scales, and structured interview formats with the parent, the teacher, and the student.
- d) Assess student behavior across settings to provide valuable comparative data important for program planning. Including, interpersonal communication between the hearing impaired individual and significant others at home and school.
- e) For students with problem behaviors that significantly interfere with learning, relationships with others, or daily living, a Functional Behavioral Assessment (FBA) is recommended.

## VII. Suggested Evaluation Instruments

### 1. Achievement Testing

This is not an all inclusive listing of assessment batteries that may be utilized.

**Bold** = More commonly used assessments

- Basic Reading Inventory, Tenth Edition (BRI-10)
- Bracken School Readiness Assessment, Third Edition (BSRA-3)
- Gray Oral Reading Tests, Fourth Edition (GORT-4)
- KeyMath Diagnostic Arithmetic Test, Third Edition (KM3DA)
- Kaufman Test of Educational Achievement, Second Edition (KTEA-II)
- Oral and Written Language Scales (OWLS)
- Peabody Individual Achievement Test – Revised Norm Update (PIAT-R/NU)
- Qualitative Reading Inventory, Fourth Edition (QRI-4)
- **Stanford Achievement Test** (10th edition for hearing-impaired students)
- Test of Early Reading Ability, Third Edition (TERA3- D/HH)
- Test of Reading Comprehension, Third Edition (TORC-3)
- Wechsler Individual Achievement Tests: Third Edition (WIAT III)  
Note: Refer to WIAT II Examiner's Manual, 2002 (pp. 135-137: Individuals with Hearing Impairments & Mean Performances of Individuals with HI)
- Woodcock-Johnson III Tests of Achievement, Norm Update (WJIII NU)  
Note: Refer to the Examiner's Manual, 2005 (pp. 40-42: Guidelines & Tests Useful for Individuals with Hearing Impairments)
- Woodcock Reading Mastery Tests-Revised-Normative Update (WRMT-R/NU)

This list is not an inclusive list of progress monitoring tools that can be used with students who are deaf or hard of hearing:

- Curriculum-Based Measurement Correct Word-Incorrect Sequence writing probes
- Curriculum-Based Measurement Reading MAZE probes
- Curriculum-Based Measurement Math Fluency probes
- Curriculum-Based Measurement Math Operation probes
- Curriculum-Based Measurement Total Words Written probes
- Curriculum-Based Measurement Multiple Choice Reading Comprehension probes

### 2. Adaptive Behavior Scales

This is not an all inclusive listing of assessment batteries that may be utilized.

**Bold** = More commonly used assessments

- Adaptive Behavior Scale – School, Second Edition (ABS-S:2)
- Callier - Azusa Scale G (for students with deaf-blindness)
- Developmental Profile-3 (DP-3)
- **Hawaii Early Learning Profile (HELP Strands: Curriculum Based Assessment for Birth to Three)**

- Hawaii Early Learning Profile (HELP Strands: Curriculum Based Assessment for Three to Six)
- Inventory for Client and Agency Planning (ICAP)
- Scales of Independent Behavior – Revised (SIB-R)
- **Vineland Adaptive Behavior Scales, Second Edition**

### 3. Cognitive/Intellectual Assessment

This is not an all inclusive listing of assessment batteries that may be utilized.

**Bold** = More commonly used assessments

- Bailey Scales of Infant Development, Second Edition (BSID-2)
- **Battelle Developmental Inventory, Second Edition (BDI-2)**
- Comprehensive Test of Nonverbal Intelligence (CTONI)
  - Note: Refer to CTONI Examiner's Manual (p. 15-21: Administration and Scoring Procedures includes individuals who are hearing impaired)
- Differential Ability Scales (DAS)
- Kauffman Assessment Battery for Children (KABC)- Nonverbal subtests
- **Leiter International Performance Scale-Revised (LIPS-R)**
  - Note: Refer to LIPS-R Examiners Manual, 1997 (pp. 173-174: Studies of Special Groups includes Severe Hearing Impairment)
- **Raven's Progressive Matrice, Ninth Edition (for adults only)**
- **Stanford-Binet Intelligence Scale-Fifth Edition (SB5)**
  - Note: Refer to SB5 Examiner's Manual, 2003 (pp. 311-322: Use of the Stanford-Binet Intelligence Scales, Fifth Edition, With Deaf and Hard of Hearing Individuals: General Considerations and Tailored Administration, also includes Guidelines for Special Communications: Sign Language Interpreters, Cued Speech Transliterators, and Examiners)
- Test of Memory & Learning: Second Edition (TOMAL-2)
  - Note: Refer to TOMAL-2 Examiner's Manual, 2007 (pp. Development and Standardization section includes Hearing Impaired sample)
- The Test of Nonverbal Intelligence-Third Edition (TONI-III)
- **Universal Nonverbal Intelligence Test (UNIT)**
  - Note: Refer to UNIT Examiner's Manual, 1998 (pp. 192-193 & p. 221: Chapter 6 – Topics include Test Theory & Fairness, Deaf and Hearing Impaired Examinees Study; Chapter 7 – Underlying Abilities and Exceptional Individuals)
- **Wechsler Preschool & Primary Scale of Intelligence: Third Edition (WPPSI III)**
- **Wechsler Intelligence Scale for Children: Fourth Edition (WISC IV)**
  - Note: Refer to WISC IV Integrated Technical & Interpretive Manual, 2004 (pp.253-259)
- Wechsler Intelligence Scale for Children: 4<sup>th</sup> Ed. Integrated (WISC IV Integrated)
  - Note: Refer to WISC IV Integrated Technical & Interpretive Manual, 2004 (pp. 253-259: Additional Guidelines and Caveats for Children who are Deaf or Hard of Hearing, Guidelines for the Use of Sign Language Interpreters and Cued Speech Transliterators, Considerations for Children Using Assistive Listening Devices, General Core and Supplemental Subtest Caveats for Deaf and Hard of Hearing Children)

- **Wechsler Adult Intelligence Scale: Fourth Edition (WAIS IV)**  
Note: Refer to WAIS-IV Technical & Interpretive Manual, 2008 (pp. 185-187: Guidelines for the Use of Sign Language Interpreters and Cued Speech Transliterators & Considerations for Examinees Using Assistive Listening Devices)
- **Wechsler Nonverbal Scale of Ability (WNV)**  
Note: Refer to WNV Technical & Interpretive Manual, 2006 (pp. 64-66: Information includes: Individuals Who Are Deaf or Hard of Hearing and Mean Performances of Deaf/Hard of Hearing and Matched Control Groups)
- Woodcock-Johnson Tests of Cognitive Abilities, 3<sup>rd</sup> Ed. (Executive Processes Cluster & selected other subtests)  
Note: Refer to WJ III Tests of Cognitive Abilities Examiner's Manual 2001 (pp. 42-44: General Guidelines and Tests Useful for Individuals with Hearing Impairments)

#### 4. Communication Assessment

The following measures listed below were developed for students who are deaf or hard of hearing or have deaf norms.

**Bold** = More commonly used assessments

- Carolina Picture Vocabulary Test (CPVT)
- Carolina Sign Vocabulary Test (CSVV)
- Clinical Evaluation of Language Function, Fourth Edition (CELF-4)
- Comprehensive Assessment of Spoken Language (CASL)
- **Cottage Acquisition Scales for Listening, Language, and Speech (CASLLS)**
- Early Listening Functioning (ELF)
- Early Speech Perception Test (ESP)
- **Listening Inventory for Education: An Efficacy Tool (LIFE)**
- Rhode Island Test of Language Structure (RITLS)
- **Screening Instrument for Targeting Educational Risk (SIFTER)**
- SKI-HI Language Development Scale (SKI-HI)
- Total Communication Test Battery (TCTB)

This is not an all inclusive listing of communication measures that may be utilized.

- Brigance Diagnostic Inventory of Early Development (Brigance)
- Expressive One Word Picture Vocabulary Test (EOWPVT)
- Hawaii Early Learning Profile (H.E.L.P)
- Functional Auditory Performance Indicators (FAPI)
- Maryland Syntax Evaluation Instrument (MSEI)
- Oral and Written Language Scales (OWLS)
- Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4)
- Preschool Language Scales – Fourth Edition (PLS-4)
- Receptive One Word Picture Vocabulary Test (ROWPVT)
- Teacher Assessment of Grammatical Structures (TAGS)
- Test of Auditory Comprehension of Language, Third Edition (TACL3)
- Test of Language Development – Primary, Fourth Edition (TOLD P4)

## 5. Neuropsychological Screening

This is not an all inclusive listing of assessment batteries that may be utilized.

**Bold** = More commonly used assessments

- Beery-Buktenica Developmental Test of Motor Coordination (MC)
- **Beery-Buktenica Developmental Test of Visual-Motor Integration (VMI)**
- Beery-Buktenica Developmental Test of Visual-Perception (VP)
- **Bender Visual Motor Gestalt Test, Second Edition (Bender Gestalt II)**
- Benton Test of Visual Retention, Fifth Edition (BTVR5)
- Kohs Block Design Test (KBDT)
- The Halstead-Reitan Battery - performance type tests, (e.g., trails, categories, grip strength).
- Luria-Nebraska

## 6. Personality Assessment

This is not an all inclusive listing of assessment batteries that may be utilized.

**Bold** = More commonly used assessments

- **Draw-A-Person Test (DAP)**
- **Kinetic House-Tree Person Drawings**
- Meadow-Kendall Test of Social Emotional Maturity
- Sentence Completion Test for Children
- Thematic Apperception Test (TAT)/ Children's Apperception Test (CAT)

## 7. Social-Emotional-Behavioral Assessments

This is not an all inclusive listing of assessment batteries that may be utilized.

**Bold** = More commonly used assessments

- Achenbach Child Behavior Checklist & Achenbach Youth Self Report Scale
- Asperger Syndrome Diagnostic Scale (ASDS)
- Beck Youth Inventories, Second Edition for Children and Adolescents (BYI-II)
- **Behavioral Assessment Scale for Children: Second Edition (BASC-2)**
- Behavioral Observation of Students in Schools (BOSS)
- Childhood Autism Scale, Second Edition (CARS-2)
- Conners Third Edition (Conners 3)
- Gilliam Autism Rating Scale (GARS)
- **Meadow-Kendall Social-Emotional Assessment Inventory for Deaf & Hearing Impaired Students**
- **Motivation Assessment Scale (MAS)**
- Piers-Harris Children's Self Concept Scale, Second Edition (PH2)
- **Reynolds Adolescent Adjustment Screening Inventory (RASSI)**
- Social Skills Rating System (SSRS)

## VIII. Components of a Complete Assessment Report

1. Identifying data.
2. Reason for referral (source, type, information sought by the evaluation, and purpose of assessment).
3. Background information
  - a) Hearing loss information, including a review of audiological functioning and history to determine the stability or possible changes in the individual's hearing capabilities, and the use of amplification.
  - b) Current medical history, including secondary disabilities
  - c) Significant family, social, or academic information
  - d) The family's response to deafness
    - The family's choice of communication modes and their skill level within that modality.
    - The best predictor of future behavior remains past behavior. Many of the best psychological evaluations of hearing impaired students are based to a large extent on background information.
    - Background information helps the evaluator to develop an estimate of baseline functioning, respond to referral questions, select specific assessment approaches, and correct potential misimpressions.
  - e) Educational history
4. Behavioral observations  
Describe:
  - a) The student's skills, attention, eye contact, and preferred communication mode.Describe the psychologist's communication skills, including the-
  - a) Use of an interpreter
  - b) How test instructions were communicated.
  - c) How test instructions were modified or standardization violated.
  - d) How much training or modification was required to administer the subtests.
  - e) Describe any emotional reactions on the part of the student to the evaluator's use of language.
5. Previous psychological referrals (Dates, reason for referral, significant findings, treatment)
6. Present psychological evaluation and clinical interview.
  - a) Specific tests, scores, interpretation
  - b) Clinical interview and impressions
7. Diagnosis (optional, depends on setting)

## GLOSSARY

**Age of onset** and **Severity of hearing loss** have implications for language development and cultural identification.

**Support Systems/Social Environment.** In general, the feeling of connectedness to the deaf/hard of hearing community, and the perceived support systems available, are important considerations related to emotional and behavioral development.

**Etiology.** Most major causes of pre-lingual deafness can be associated with additional disabling conditions, often neurological. At least 1/3 of the hearing impaired population has at least one additional disability.

**Parental hearing status.** Ninety percent of deaf children are born to hearing parents. This has profound implications for parent child interaction, family life, and the development of the child.

**Educational Setting** varies on a number of dimensions including day versus residential programs, self-contained classrooms versus mainstreaming versus full inclusion. These options have implications for cultural affiliation/identity, availability of deaf/hard of hearing role models, and access to unambiguous communication in the child's preferred mode.

**American Sign Language (ASL)** A recognized language separate from English with structural, grammatical and semantic rules.

**Conceptually Accurate Signed English (CASE)** - based on English, this utilizes some ASL.

**Signing Exact English (SEE)** - Uses a phonetic English approach to utilizing manual communication.

**Signed English** - Manual Communication that follows English rules.

**Like spoken languages, Sign Language is distinct country to country.**

**Similar to spoken English, signs for words can vary regionally within the United States.**

## Additional Readings & References

### Language Acquisition

Bess FH, Dodd-Murphy J, Parker RA. (1998). Children with minimal sensorineural hearing loss: prevalence, educational performance, and functional status. *Ear and Hearing*. 19(5);339-54.

Betty Vohr, MDa, Julie Jodoin-Krauzyk, MEd, MAa, Richard Tucker, BAa, Mary Jane Johnson, MEdb, Deborah Topol, BAb and Marianne Ahlgren (2008). *Pediatrics*. Early Language Outcomes of Early-Identified Infants With Permanent Hearing Loss at 12 to 16 Months of Age. 122 (3); 535-544.

Kiese-Himmel C, Reeh M. (2006). Assessment of expressive vocabulary outcomes in hearing-impaired children with hearing aids: do bilaterally hearing-impaired children catch up? *The Journal of laryngology and otology*. 120(8):619-26.

Richter B, Eissele S, Laszig R, Löhle E (2002). Receptive and expressive language skills of 106 children with a minimum of 2 years' experience in hearing with a cochlear implant. *International Journal of Pediatric Otorhinolaryngology*. 64(2):111-25.

Moeller MP (2000). Early intervention and language development in children who are deaf and hard of hearing. *Pediatrics*. 106(3): 43-51.

Wake M, Poulakis Z, Hughes EK, Carey-Sargeant C, Rickards FW. (2005). Hearing impairment: a population study of age at diagnosis, severity, and language outcomes at 7-8 years. *Archives of disease in childhood*. 90(3):238-44.

### Assessment of Hearing Impaired Individuals

Braden, J.P. (1994). Deafness, Deprivation, and IQ. Plenum Press, New York.

Schum, R. (2004). Psychological Assessment of Children with Multiple Handicaps Who Have Hearing Loss. *Volta Review*. 104 (4): 237-255.

### Mental Health

Brunnberg E, Boström ML, Berglund M. (2008). Self-rated mental health, school adjustment, and substance use in hard-of-hearing adolescents. *Journal of deaf studies and deaf education*. 13(3):324-35.

Van Gent T, Goedhart AW, Hindley PA, Treffers PD. (2007). Prevalence and correlates of psychopathology in a sample of deaf adolescents. *Journal of Child Psychology and Psychiatry*. 48(9):950-8.

### Demographics and Other Characteristics of Interest

Gallaudet Research Institute (Dec. 2006). State summary Report of Data from the 2006-2007 Annual Survey of Deaf and Hard of Hearing Children and Youth. Washington, DC: GRI, Gallaudet University.

Kral, A., O'Donoghue, G.M. (2010). Profound Deafness in Childhood. *New England Journal of Medicine*. 363(15); 1438-1450. (Table 2- etiologies related to hearing loss)