Psycho-Educational Evaluation (But Were Afraid to Ask)

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What is Psycho-educational Evaluation?

Evaluation or Assessment is the process of using various tests, measurements, and observations to develop a deeper understanding of a child’s functioning across multiple dimensions – cognitive, linguistic, academic, emotional, etc.

What can assessment tell us?

- General cognitive potential (“IQ”)
- Language proficiency
- Learning style, strengths and weaknesses
- Presence of processing deficits
- Level of academic skill development
Benefits of Evaluation

- In the public setting, may make child eligible for a range of special education services
- Suggests appropriate therapeutic interventions
- Provides a better understanding of the child as a learner and communicator
- Allows teaching to be individualized to the needs of the child
- Assesses progress of the child in language acquisition and academic skills development

How does formal evaluation differ from informal or classroom assessment?

Standardized – tests are given the same way every time so that results are comparable:
- Across children: allows comparison of the child with other children of the same age or grade level
- Within the child: allows comparison of the child’s abilities across skill areas
- Over time: allows an assessment of the child’s growth and development over time

Norms

- In formal standardized testing the child is compared with a large sample of other children of the same age or grade level
- Virtually all tests are normed on typical hearing children
Limitations of Tests

- A test is a useful but imperfect tool
- Importance of observations and judgment in interpreting test results
- Need for multiple sources of information (including teacher and parent observation)
- Decisions should never be made on the basis of one test

A Very Short Course in Measurement

Reliability and Validity

- Validity – is the test measuring what it says it measures?
- Reliability – would the test give the same result if it were given again?
Test Scores

For any given test, there will be a variety of scores, for example:

Reading decoding

Standard Score = 106
Confidence Interval (.05) = 102 – 110
Percentile Rank = 66
Grade Equivalent = 6.2

Standard Scores

- Compare children with typical hearing peers
- Used by both cognitive and academic tests
- Mean = 100, Standard Deviation = 15
  - >120 Superior
  - 110-120 High Average
  - 90-110 Average
  - 80-90 Low Average
  - 70-80 Borderline
  - <70 Very Low, Delayed

Standard Scores and the Normal Curve
Confidence Intervals

- The probability that the “true” score for an individual lies within a given range
- If a child earns a SS of 106, with a .05 confidence interval of 102 to 110, that means that there is a 95% chance that the child’s “true” score is between 102 and 110, and a 5% chance that the true score is actually higher or lower.

Types of Scores: Percentiles

- Percentile rank = the percentage of students who would fall below a given score
- Compare children with typical peers
- Example: a student who scores at the 66th percentile would score higher than 66% of children who took the test
- Percentile ranks of 25 to 75 are within the average range.

Normal Distribution: Percentile Rank
Types of Scores:
Age and Grade Equivalents

- The median raw score for a particular age- or grade-level
- Example: if a child earns a grade equivalent of 6.2, this means that he or she has as many correct answers as a typical child in the second month of 6th grade
- Can appear to be the most understandable to parents – but...

Limitations of age and grade equivalents

- Intervals not necessarily even or linear
- Not interval scales – shouldn’t be added or subtracted
- Not interpretable at extremes
- Does not say anything about the pattern of the child’s skills and ability
- Should never be used to make decisions about diagnosis or placement

Types of Tests
Types of Tests: Cognitive

- Overall aptitude or ability
- Development of key processing skills
  - Attention
  - Working memory
  - Processing speed
- Learning strengths and weaknesses

Common Cognitive Tests

- Wechsler Intelligence Scale For Children (WISC-IV) – ages 6 to 17 years
- Wechsler Preschool and Primary Scales of Intelligence (WPPSI-IV) – ages 2½ to 7½
- Woodcock-Johnson Scales of Intelligence
- Leiter-R and Leiter-3 Intelligence Scales (nonverbal)
- TONI-2 and C-TONI (nonverbal)

Verbal vs. Nonverbal Intelligence

- Most intelligence tests provide a “Verbal” score and “Nonverbal” score (typically averaged together to obtain a “Full Scale” score
- For children with deafness, the “Full Scale IQ” is usually not an appropriate measure of ability
- The most accurate estimate of their true cognitive potential is the Nonverbal score
- The verbal score should not be interpreted as a measure of intelligence for a child who is deaf
What does the “Verbal IQ Score” really measure?

Academic Language Ability
(“Cognitive-Academic Language Proficiency”)
- Acquired vocabulary
- Ability to comprehend increasingly complex sentence and question forms
- Ability to express complex thoughts and ideas in words
- Acquired verbal knowledge
- Verbal reasoning skills

Interpretation of cognitive test scores in children with deafness
- The Verbal Score should be interpreted as a measure of acquired language rather than intelligence
- For children with hearing loss, the Verbal Score is typically significantly lower than the Nonverbal Score
- Ideally, we would like the child’s Verbal score to improve until it is close to the Nonverbal Score, suggesting that the child’s verbal skills are close to their cognitive potential

Assessing “Learning Disabilities” in Children with Deafness
- Learning disabilities (legal term) vs. processing weaknesses or disorders
- Ability – achievement discrepancy
  - Why it doesn’t work with deaf children
  - Why deaf auditory processors sometimes test as intellectually deficient
  - Need for a more process-oriented approach
Importance of discriminating language delay from academic weaknesses

- Need to “tease out” how much of student’s academic struggle is due to language deficit and how much is due to other learning differences
- Is there a “language disorder” in addition to the child’s hearing impairment?

Assessing processing weaknesses in children with deafness

- Visual vs. auditory processing
- Attention and executive processing
- Visual-motor integration/graphomotor skills
- Processing speed
- Memory – working, short-term, long-term

Types of Tests:
Academic Achievement

- How does the child compare with others of the same age or grade on broad reading, math, written language, and academic language?
- Is the child developing crucial academic “subskills”?
Choosing Tests for the Student with Hearing Loss

- How complicated are the tasks or the instructions?
- How is the material presented – verbally, pictures, print?
- How is the child expected to respond – open ended verbal response, single word response, in writing, pointing to a picture?

Important Issues for the Evaluator

- Audition – Does the child hear me?
- Comprehension – Can the child understand me and the language of the test?
- Expression – Is the child able to express the skills or knowledge he or she possesses in the format required by the test?

Assessing Academic Subskills

A score on a standardized reading or math test doesn’t tell us much about the problem or how to help
Psycho-Educational Evaluation

Reading Subskills

- Phonemic awareness
- Sound-symbol association
- Decoding
- Fluency
- Reading vocabulary
- Factual comprehension
- Inferential comprehension

Math Subskills

- Number sense
- Quantitative reasoning
- Math facts
- Math procedures
- Math concepts
- Word problems

Written Expression Subskills

- Graphomotor ability (printing and writing)
- Spelling
- Capitalization and punctuation
- Written language structure
- Ideas and Content
Typical Pattern of Skills in Children with Hearing Loss

- **Strengths in mechanics**
  - Reading decoding/word recognition
  - Math calculation
  - Spelling
  - Capitalization and punctuation

- **Weaknesses in areas that require language**
  - Reading comprehension
  - Math word problems
  - Written sentence structure
  - Expression of ideas – content may be minimal or poorly expressed

Types of Tests: Behavioral

- Behavior checklist can be completed by the parent and/or teacher to assess:
  - Attentional problems (ADHD)
  - Adaptive functioning (self-help skills, etc.)
  - Emotional and behavioral problems
  - Sensory issues

- Allows a comparison of the child’s behavior with peers of the same age and sex
Evaluation Under IDEA

- Evaluation can be requested by the school or the parent
- Need to show the necessity for the evaluation
- Need to show that interventions have been unsuccessful

Obtaining an Evaluation

- Evaluation can be requested by the school or the parent
- Need to show the necessity for the evaluation
- Need to show that interventions have been unsuccessful

Re-evaluation under IDEA

- IDEA requires re-evaluations at 3 year intervals, but upon reviewing the existing data the district may decide that no further information is needed, and elect not to test
- Testing is only required if there is a question of a new or additional educational diagnosis
Review of Existing Data (RED) Meeting

- The evaluation team reviews the child’s functioning over multiple domains and decides whether there is a need for additional information or testing in each domain
- The assessment is planned, including specification of the tests to be used
- The parent must give consent

More on evaluation procedures...

- Evaluation must take place within 60 days following RED meeting
- The team must reconvene to report results within 30 days of testing (often this is coupled with an IEP meeting)

Questions to ask about evaluations

- Does the psychological examiner have experience working with children with deafness or hearing loss?
- Does the examiner have experience working with CI users?
- Does the examiner have experience in interpreting test results for children with hearing impairments?
Independent Evaluations

If the parents disagree with the results of the evaluation, they may request an independent evaluation at the district’s expense (although this will not necessarily be granted).

For more information

- State Department of Education website
- Procedural Safeguards
- Recommended reference: *What Do I Do When....: The Answer Book of Special Education Law* by John W. Norlin