

**A Primer of Tools Commonly Used in the Cognitive and Academic  
Assessment Skills of Young Children  
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**Goal for the Session:**

To help educators and parents of young children be better consumers of the results in developmental assessment reports

**What we plan to cover:**

- Overview of Types of Tests:
  - Common **Screening** Tests
  - Common **Standardized** Tests
  - Common **Criterion-Referenced** Tests
- Overview of Scores and What they Mean
- Using Tests to Develop Next Steps in Programming

**Why we see this as important.....**

- Understanding tests and their results is as important for the person who **receives** the assessment results as it is for the person who **gives** the assessment results or administers the test.
- We want early educators to be good **consumers** of assessment results to help them better serve the children with whom they work.

**Developmental Screening**

- A **brief** evaluation process to identify children for whom further assessment is needed.
- May be completed by a caregiver **or** professional
- May be direct assessment, interview, **or** checklist

**What is the aim of a good screening tool?**

- **SENSITIVITY**
  - To correctly tell us all children who need services.
- **SPECIFICITY**
  - To correctly tell us what children do not need services

***If a screening tool does both things it is a VALID screening tool.***

**What is the aim of a good screening tool?**

**Sensitivity**=  $A/A + C$

**Specificity** =  $D/B + D$

**Total Agreement** =

$A + D/A + B + C + C$

### **Some Common Screening Tools**

- *Ages & Stages Questionnaire (ASQ)*
- *Nipissing District Developmental Screen (NDDS)*
- *Early Screening Inventory- Revised (ESI-R)*
- Denver-II
- Developmental Indicators of the Activities for Learning (DIAL-3)
- Others you see???

### **Ages & Stages Questionnaire (ASQ)**

- Squires, Potter, & Bricker (1999)
- Publisher: Paul H. Brookes
- Caregiver Report is the informant
- Families and children between the ages of 4 and 60 months
- Used widely in BC by health nurses
- Training Administration & Scoring Requirements:
- Questionnaires are written at a 6th grade reading level
- Each questionnaire takes about 15 minutes to complete
- Interpretation must be done by professionals or paraprofessionals
- Training materials provided in Users Guide and extra video is also available
- No adaptation for individuals with disabilities

### **Ages & Stages Questionnaire- Social Emotional (ASQ-SE)**

- Can be administered by parents, child care providers, and preschool teachers. If parents, staff should train parents
- Designed to compliment the ASQ by providing information on social-emotional functioning for children 3 months to 66 months

### **Nipissing District Developmental Screen (NDDS)**

- 13 versions (1 month to 6 years)
- Number of items 4 to 22
- Vision, hearing, speech-language, gross motor, fine motor, cognitive, self-help
- English, French, Spanish, Chinese, Vietnamese
- Developed in Ontario during the mid 90s
- Getting a lot of attention in BC and around Canada

### **Early Screening Inventory- Revised (ESI-R)**

- Brief developmental screening instrument that is individually administered to children ages 3 to 6 years.
- Designed to identify children who may be in need of special services to perform successfully upon school entry
- ESI-P: Preschool Version 3 yrs - 4 yrs, 6 mos
- ESI-K: Kindergarten Version 4 yrs, 5mos - 5 yrs, 6 mos.
- Examines development in three major areas:
  - Visual-Motor/Adaptive
  - Language and Cognition

- Gross Motor
- Examine development in each each area but you also get a total score
- Visual-Motor/Adaptive
  - Fine Motor
  - Eye Hand Coordination
  - Short term Memory
- Language & Cognition
  - Language comprehension
  - Verbal Expression
  - Reason & Count
  - Auditory Sequences
- Gross Motor

### **Why Should Screening Tests Not be Used for Program Placement and Instructional Planning?**

#### **Norm-Referenced or Standardized Assessment Measures**

##### **Developmental Assessment**

- A more in-depth assessment done through interview with the caregiver and observation of the child
- Conducted by a professional and completed by a professional
- Goal is determine strengths and weaknesses/determine eligibility for programs
- Many of these tests are also used for diagnosis

##### **Standardized Developmental Assessment**

- Goal is to understand more about the child's strengths and areas of concern
- To help understand how the child's abilities compare to other children their age
- Secondary goal is to help determine an appropriate intervention plan
- Try to better understand their current level of skills....their present abilities

##### **Common Developmental Assessment Tools**

- **Cognitive - Level C**
  - Bayley Scales of Infant Development- 2nd Edition
  - Stanford-Binet Scales of Intelligence 5th Edition
  - Wecshler Preschool & Primary Scale of Intelligence - 3rd Edition
  - Kaufman Assessment Battery for Children - 2nd Edition
  - Leiter – Revised

##### **Bayley Scales of Infant Development - 2nd Edition**

- Designed for children from birth to 3:6
- Includes a mental and a motor scale
- The mental scale measures cognitive, sensory, and early language skills but just gives you an overall score

##### **WPPSI-III**

- Designed for children 2 years, 6 months to 7 years, 3 months
- Measures verbal comprehension, perceptual organization and processing speed abilities using 13 subtests

- An “IQ” test
- Gives you a “verbal” and “performance” score

### **Stanford-Binet Intelligence Scales - 5th Edition**

- Can be used 2 years to senior adult
- Has a verbal and nonverbal domain
- Also gives you scores in areas like reasoning, visual-spatial abilities, memory, quantitative reasoning, general knowledge
- An “IQ” test

### **Kaufman Assessment Battery for Children - 2nd Edition**

- Newest of the cognitive test revisions.
- Came out in fall 2004 for children ages 3 to 18 years
- Very popular with those who work with preschool age children as it is fun and creative.
- Another type of “IQ” test.
- Focus is on processing information
- Good for children who might have learning disabilities some day
- Looks at areas such as how children reason, their general knowledge, their memory, and how the process visual information.

### **Leiter - Revised**

- Two levels for younger children:
  - 2 years, 0 months - 3 years, 11, months
  - 4 years, 0 months - 6 years, 0 months
- Measure of non-verbal intelligence, emphasis on reasoning and visual-spatial abilities
- Designed for children who have language difficulties or those who have English as a second language

### **Common Developmental Assessment Tools**

- **Language Tests**
  - Peabody Picture Vocabulary Test - 3rd Ed
  - Expressive Vocabulary Test
  - Bracken Basic Concept Scale-Revised
- **Multiple Domain Tests**
  - Mullen Scales of Early Learning
  - Battelle Developmental Inventory - 2nd Ed

### **Peabody Picture Vocabulary Test - 3rd Edition**

- Used with a wide age range starting at 2-6 to 90+
- Best thought of as measure of receptive language.
- The child has to point to the correct of 4 pictures.
- Used by psychologists and speech-language pathologists

### **Expressive Vocabulary Test**

- Used with a wide age range starting at 2-6 to 90 years
- Best thought of as measure of expressive language.
- The child has label pictures initially and then give a synonym given a word and picture
- Used by psychologists and speech-language pathologists

### **Bracken Basic Concepts Scale-Revised (BBCS-R)**

- Used to assess the basic concept development in children ages 2 years, 6 months through 7 years, 11 months by measuring comprehension of 308 foundational and functionally relevant concepts in 11 subtests or concept categories.
- Developmentally sensitive measure of basic concepts acquisition & receptive language skills.
- Conceptual and language skills and not just vocabulary.
- Developmentally predictable pattern consistent across cultures & languages.

### **Administration**

- Individually administered
- Orally presented sentences
- Visual presentation using an easel book
- Multiple-choice format

### **Subtests/Categories:**

- Colors
- Letters
- Numbers/ Counting
- Sizes
- Comparisons
- Direction/ Position
- Shapes
- Self-/Social Awareness
- Texture/ Material
- Quantity
- Time/Sequence

### **Battelle Developmental Inventory -2**

- Personal-Social Domain
- Adaptive Domain
- Motor Domain
- Communication Domain
- Cognitive Domain

### **Administration Procedures for the BDI-2**

- Structured: Uses materials or stimuli to elicit a response in a controlled, one-

on-one setting

- Observation: Uses normal activities in natural settings to observe the behavior over time (requires sufficient observation time)
- Interview: Provides scripted, open-ended questions for obtaining information about the child from the parent, caregiver, or teacher

### **Mullen Scales of Early Learning**

- Direct child assessment with some direct parent assessment
- Training: Professionals with practical experience with young children with some formal training
- Assesses cognitive functioning of young children from birth to 68 months
- Five Skills (GM & 4 Cognitive Skills)
  - Gross Motor
  - Fine Motor
  - Visual Reception
  - Receptive Language
  - Expressive Language

### **Adaptive Behavior Measures**

- Scales of Independent Behavior- Revised (SIB-R)
- Vineland Adaptive Behavior Scales
- Achenbach System
- Behavior Assessment System for Children - 2nd Edition (BASC-2)

### **Criterion Referenced Assessment**

- Examines which individuals have reached pre-existing criteria
- No effort is made to determine better or worse but to merely assess a certain skill
- Uses standards or criteria

### **Some Common Criterion Referenced Assessment Tools**

- Gesell
- Brigance Diagnostic Inventory of Early Development- Revised
- Assessment, Evaluation, and Programming System (AEPS)
- Hawaii Early Learning Profile (HELP)
- Others?

### **Gesell Developmental Schedules**

- A developmental schedule used primarily with infants and very young children
- Examines fine and gross motor, communication, personal-social, and adaptive behaviors in children 4 to 72 months

- Developed to help describe key benchmarks.
- Will provide a Developmental Quotient (DQ) but mostly reported as age-equivalents.

### **Brigance Diagnostic Inventory of Early Development**

- Direct child and parent assessment; parent observations
- Birth to 7 years of age
- Training: The examiner should have in depth knowledge of child development and be familiar with the manual procedures
- Administration can be adapted and used to accommodate the setting
- Assesses over 200 skills in 11 domains
  - Preambulatory/motor; gross motor; fine motor, self-help; speech-language; general knowledge & comprehension; social & emotional development; readiness; basic reading skills, manuscript writing; basic math
- Examiner selects skill to administer and the method
  - Direct child assessment; caregiver observation, parent interview
- Materials can be those commonly available in home or child care setting
- No special adaptations for children with special needs highlighted but the authors indicate adaptation could be done.
- More effective with children with mild to moderate delays.

### **Assessment, Evaluation, and Programming System (AEPS)**

- Observation, direct assessment, and parent/caregiver/therapist report
- Age Range (two versions): Birth to 3 years: 3 to 6 years
- Designed to be used on an on going basis to monitor progress
- Can be used by direct service personnel and specialists
- Initial completion takes about 2 hours but that is considerably shorter once you are familiar with the test and use it for follow ups
- Designed to be used along with the AEPS curriculum
- Children with special needs or those at risk are targeted
- Six Key Developmental Areas
  - Fine Motor
  - Gross Motor
  - Adaptive
  - Cognitive
  - Social-Communication
  - Social-Behavior
- Each domain is divided into strands and objectives are developmentally sequenced
- Objectives and goals are either observed, elicited, or recorded based on parent, caregiver or therapist report
- It strongly encourages family participation in the assessment process and includes a number of special family materials
  - Family report; Planning Guide; Child Progress Record; Family Int Survey

### **Hawaii Early Learning Profile (HELP)**

- Two versions - Birth to Three and Preschool (3 to 6 years)
- Areas include: cognitive (including receptive language), expressive language,

- fine & gross motor, self-help adaptive, and social.
- Allows for adaptations for students with special needs.
- Home and Center based formats

## **Interpreting the Results of Norm-referenced Tests**

### **Common Scores - The Basics**

- **Raw Scores**
  - The total number correct.
  - Does not really tell you much
- **Age (Grade) Equivalents**
  - Common but misunderstood
  - The focus of interpreting a criterion-referenced test
- Reflects the average score obtained by children in an age group.

### **Common Standardized Scores**

- Standard Scores
- Percentile Ranks
- Scaled Scores
- T-scores

### **Standardized Scores**

- Use a norming or standardization group to compare the child to vs comparing the child to their own performance (criterion-referenced test)
- Reported as having a “*mean*” (average) and “*standard deviation*” (typical variation)

### **Common Standardized Scores**

- **Standard Scores**
  - Average is 100
- **Percentile Ranks**
  - Average is 50th percentile
- **Scaled Scores**
  - Average is 10
- **T-scores**
  - Average is 50

### **How do standard scores “behave”**

- They typically do not change much over time
- Difficult to document progress in part because it is tough to account for normal maturation
- There is a tendency for scores to move to the middle or average

### **The 5 Commandments of Understanding Test Results**

- Thou shalt know the difference in types of tests
- Thou shalt know the difference in different types of test scores



- Thou shalt not use thy test like a crystal ball to predict the future
- Thou shalt ask questions and make people who administer tests answer thy questions in language thou can understand
- **Thou shalt *KNOW THY TEST* and not use its results in vain**