Understanding Dyslexia
Assessments and the Testing Data

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Defining Dyslexia

- International Dyslexia Association Board of Directors (November 2002):
  - Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.
Defining Dyslexia

- Texas Education Code (TEC) §38.003:
- “Dyslexia” means a disorder of constitutional origin manifested by a difficulty in learning to read, write, or spell, despite conventional instruction, adequate intelligence, and sociocultural opportunity.
Testing for Dyslexia

- Phonological Awareness
- Phonemic Awareness
- Letter Knowledge
- Sound-Symbol Recognition
- Phonological Memory
- Rapid Naming
- Decoding Skills
- Word Reading
- Vocabulary (Expressive & Receptive)
- Reading Rate and Accuracy
- Reading Comprehension
- Spelling
- Orthographic Processing
- Written Expression
- Listening Comprehension
- Oral Expression
- Verbal Working Memory
- Long-Term Storage & Retrieval
- Associative Memory
- Processing Speed
- Calculation
Types of Data

- Parent Observations
- School:
  - Teacher observations of reading skills and progress
  - Classwork and grades
  - District testing
  - Reading Screening Measures (e.g., DIBELS, CBM, AIMSweb, easyCBM, etc.)
  - State testing
  - RTI data
- Norm Referenced Testing
Norm Referenced Testing

- Compares an individual’s performance with the performance of others
- Designed to yield a normal curve
Common Norm Referenced Tests Used in Dyslexia Testing

- Comprehensive Test of Phonological Processing, 2nd Edition (CTOPP-2)
- Test of Word Reading Efficiency, 2nd Edition (TOWRE-2)
- Gray Oral Reading Test, 5th Edition (GORT-5)
- Nelson-Denny Reading Test (NDRT)
- Test of Written Language, 4th Edition (TOWL-4)
- Wechsler Individual Achievement Test, 3rd Edition (WIAT-III)
- Kaufman Test of Educational Achievement, 3rd Edition (KTEA-3)
- NEPSY: A Developmental Neuropsychological Assessment, 2nd Edition (NEPSY-II)
- Clinical Evaluation of Language Fundamentals, 5th Edition (CELF-5)
But wait! Why more comprehensive assessment of the learner is important

- Most dyslexia evaluations do not cover all correlates of dyslexia
- It is important to examine for common co-occurring disorders
  - Attention Disorders
  - Specific Developmental Language Disorder
  - Dysgraphia
  - Other Learning Disabilities
- Vulnerable for anxiety, frustration, low self-esteem, low self-confidence
- Deeper understanding of a child’s learning profile informs:
  - Instruction
  - Intervention
  - Accommodations
Cognitive Processing

- Verbal Abilities
- Fluid Reasoning
- Visual Processing
- Auditory Processing
- Working Memory
- Long-Term Retrieval
- Processing Speed

Skills needed to plan and direct activities, solve problems, regulate behavior, and make efficient and effective use of your thinking and reasoning skills (Guare, Dawson, & Guare, 2013)

Look at cognitive, behavioral, and emotional regulation

Most people have certain EF strengths and weaknesses

Neurological data does indicate that EF skills require considerable cognitive effort for children and adolescents

For students who struggle with EF, problems often seem to build in frequency and/or intensity as life tasks become more complex and demanding
EF Skills

- Response inhibition
- Working memory
- Emotional control
- Sustained attention
- Shifting Attention
- Mental Flexibility
- Planning & prioritization
- Task initiation
- Organization

- Time management
- Goal-directed persistence
- Self-Monitoring
- Metacognition
EF Skills that have been empirically associated with reading ability

- Maintain focus and effort
- Short-Term *and* Working Memory
  - Decoding
  - Comprehension
- Planning (developing an organized, structured approach; metacognition)
  - Comprehension
- Flexible Thinking and Comprehension
- Self-Monitoring
Attention & Executive Functioning

- NEPSY: A Developmental Neuropsychological Assessment, 2nd Edition (NEPSY-II)
- Delis-Kaplan Executive Function System (D-KEFS)
- Continuous Performance Tests (e.g., TOVA, Connor’s CPT)
- Rating Scales:
  - Behavior Assessment for Children, 3rd Edition (BASC-3)
  - Behavior Rating Inventory of Executive Function, 2nd Edition (BRIEF-2)
  - Connors-3
  - Brown ADD Scales
Memory & Learning

- Verbal and Visual Memory
- Narrative (Contextual) vs. Rote Learning
- Associative Memory

- Test of Memory and Learning, 2nd Edition (TOMAL-2)
- Wide-Range Assessment of Memory & Learning, 2nd Edition (WRAML-2)
- Children and Adolescent Memory Profile (ChAMP)
- Children’s Verbal Learning Test, 2nd Edition (CVLT-II)
- Children’s Memory Scale (CMS)
Case Examples