Identification of Dyslexia and Reading Difficulties: Components of an Assessment

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Dyslexia

- Characterized by weaknesses in phonological awareness or phonological processing
- Weaknesses in the explicit knowledge of the sound segments (or phonemes) which comprise words
- Phonemes are the building blocks we use to construct words and sentences when speaking, spelling, and reading

Dyslexia

- So the current model of dyslexia focuses on “the distinctive sounds of language” (Shaywitz)
- Dyslexia is a weakness within the language system at the lowest level, compared to semantics, grammar, and discourse or connected sentences

Dyslexia

- Dyslexic children or adults have difficulty - converting letters into sounds
- recognizing the internal sound structure of words
- converting alphabetic characters into a linguistic code

Phonological awareness and processing:

- Important areas to measure when evaluating for possibility of dyslexia
- Phonological awareness refers to a person’s awareness of and understanding of the sound structure of his or her language (CTOPP-2)

Phonological awareness:

- Refers to an individual’s explicit knowledge of the sound segments, or phonemes, which comprise words (Phonological Awareness Test – 2)
- When encountering a word, you have to decode a series of letters, store their associated sounds in short-term memory, and then blend these sounds to form words
Phonological awareness:
- For spelling, opposite process takes place
- First, retrieve the blended form of the word
- Break it down into sounds
- Represent them with corresponding letters

Phonological awareness:
- In order to read and spell, you have to be aware of the sound segments that are blended into syllables and words (Robertson, Salter, 2007)

Phonological processing:
The ability to see or hear a word, break it down into discrete sounds, and then associate each sound with letters that make up a word (2012, Ghotit ltd.)

Assessment for dyslexia: Tests used
- Comprehensive Test of Phonological Processing – 2
- Phonological Awareness Test – 2
- Test of Auditory Processing Skills – 3
- Portions of Woodcock Johnson Tests of Cognitive Abilities – 4
- Oral and Written Language Scales - 2

Assessment for dyslexia, cont.
- Phonological awareness and processing are measured by:
  1. Asking the student to provide rhyming words
  2. Divide sentences into their words
  3. Divide words into syllables
  4. Segment words by phonemes

Assessment for dyslexia, cont.
- Identify initial, medial and final sounds in words
- Repeat words after deleting syllables or phonemes
- Isolate a sound in a word, and then change it to another phoneme to form a new word
- Blend syllables or phonemes to form words
Assessment for dyslexia, cont.

- Match pictures that have objects beginning with the same sound
- Recall numbers in order – measures auditory sequencing and auditory memory abilities
- Repeat nonwords – again, measures auditory memory and sequencing

Assessment for dyslexia, cont.

- Rapid naming – The efficient retrieval of phonological information from long-term memory
- Related to word retrieval and reading fluency
- Rapid naming is one of the most robust early indicators of potential reading difficulties (Norton, Wolf, 2011)

Assessment for dyslexia, cont.

- Rapid naming tasks do have a visual component
- Measures how fast an examinee can scan an array of visual symbols and encode a phonological response
- This is the same type of ability that underlies decoding when reading aloud (CTOPP-2, 2013)

Assessment for dyslexia, cont.

- Rapid naming tasks are one of the best predictors of later reading disability
- Children with naming speed deficits may become laborious, dysfluent readers

Assessment for dyslexia, cont.

- Rapid naming evaluates how easily and rapidly you can retrieve phonetic information from long-term memory
- The ability to see a visual symbol and name it accurately and rapidly
Assessment for dyslexia:
- Word retrieval – a symptom of dyslexia
- Again, requires individual to name pictured objects as quickly as possible
- Provide names of objects in specific categories while being timed

Assessment for dyslexia, cont.
- Phoneme-grapheme tasks
  - Presenting them with letters or phonemes, and then asking them to provide the corresponding sound (e.g., sm, er, ou, str, ai, oa)
  - Decoding – asking the student to blend sounds into nonsense words, which requires them to demonstrate sound-symbol correspondence (neep, reeg, burm, mupe, hoy)

Assessment for dyslexia, cont.
- According to Sally Shaywitz (Overcoming Dyslexia, 2004), “the ability to read nonsense words is the best measure of phonologic decoding skills in children.”
- A.K.A: “Word attack” skills

Assessment for dyslexia, cont.
- Direct measurement of reading and written language skills
  - Reading lists of words that become progressively challenging
  - Reading nonsense words
  - Oral reading
  - Reading comprehension

Dyslexia, cont.
- Word reading efficiency – by having a student read lists of actual words and nonsense words while being timed
- Reading vocabulary – knowledge of word meanings

Dyslexia, cont.
- Spelling measure
- Written expression
- Writing a story
- Combining two sentences or more into one complete and grammatically correct sentence
- Capitalization and punctuation
Most commonly used instruments

- Woodcock – Johnson Tests of Achievement – 4
- Wechsler Individual Achievement Test – 3
- Test of Word Reading Efficiency – 2
- Gray Oral Reading Tests – 5

WISC-V

- New subtests have been added, not as Measures of intelligence, but to help Identify difficulties in cognitive processing Associated with academic learning

Measures from WISC-V:

- Automaticity of visual-verbal associations
- Rapid naming task
- Is sensitive to specific learning disorders
- Reading, written expressions

WISC-V measure

- Immediate Symbol Translation
- Visual-verbal pairs, then translates symbols into phrases or sentences
- Associated with reading decoding, word reading accuracy and fluency, text reading and reading comprehension

WISC-V measure

- Delayed Symbol Translation
- A measure of storage and retrieval, and delayed recall
WISC-V measure

- Recognition Symbol Translation
- Measures delayed recognition
- May help determine the effects of retrieval deficits on memory performance

Woodcock-Johnson Tests of Cognitive Abilities-IV Edition

- Measures evaluating the speed at which an individual can make visual symbol discriminations and identify common orthographic patterns
- Speed of lexical access – name as many words as possible having a specific sound, substitute parts of a word to create a new word

Diagnosis of dyslexia

- Shaywitz, 2003, Overcoming Dyslexia:
  - Pattern to look for when diagnosing dyslexia:
    - Difficulty reading individual words
    - Difficulty decoding nonsense or unfamiliar words
    - Reading comprehension stronger than decoding of words

Shaywitz, cont.

- Labored or inaccurate reading of passages
- Difficulty reading small function words, such as “the”, “is”, “for”
- Slow reading
- Weaknesses in spelling

Testing young adults

- Gather good historical information
- Administering tests to evaluate reading fluency is highly important
- Oral reading (Gray Oral, Woodcock Reading Mastery Tests)
- Nelson-Denny
- Nonsense words
- Speed in recognizing individual words and decoding nonsense words

Evaluating young adults:

- Determine if the reading problem is unexpected or does not fit with the individual’s level of education or professional status (Shaywitz, 2004)
- Determine evidence of a specific phonologic weakness in contrast to strong functioning in other language areas, such as comprehension, vocabulary, verbal reasoning
References

- *Straight Talk About Psychological Testing for Kids* by Ellen Braaten, PhD and Gretchen Felopulos, PhD, 2004, Guilford Press

Resources and Organizations

- Association on Higher Education and Disability (AHEAD) [www.AHEAD.org](http://www.AHEAD.org)
- Children and Adults with Attention Deficit Disorders (CHADD) [www.chadd.org](http://www.chadd.org)
- Council for Exceptional Children [www.cec.sped.org](http://www.cec.sped.org)
- International Dyslexia Association (IDA) [www.interdys.org](http://www.interdys.org)
- Learning Disabilities Association of America (LDA) [www.ldanatl.org](http://www.ldanatl.org)
- Recording for the Blind & Dyslexic (RFB&D) [www.rfbd.org](http://www.rfbd.org)

Other resources

- *How to Read, Understand, and Use Psychoeducational Reports* by Dr. Sherry Mee Bell from Keys to Effective LD Teaching Practice
- *Accommodations for Cognitive and Academic Deficits* by John Seaman, Ph.D., School Psychologist
- *Overcoming Dyslexia,* by Sally Shaywitz, 2003
- *Parenting a Struggling Reader,* by Susan Hall, Louise Moats, 2002
- *Essentials of School Neuropsychological Assessment,* Daniel Miller, 2007