



Dyslexia Bootcamp

Just what exactly is it?
How is it diagnosed?

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USD Scottish Rite Children's Clinic For Speech & Language Disor

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Serving children (birth to 21) & their families with communication disorders through providing screenings, evaluations, treatment, and parent/professional education services. All areas of oral and written speech & language disorders are served.

Provides clinical training to advanced students in the Communication Sciences & Disorders Department at the University of South Dakota.

Clinical services provided both by certified clinical staff and by USD students as part of their clinical training.

Clinic opened in 1993, offering dyslexia evaluations since 2000!



Three partners:

University of South Dakota: Communication Sciences & Disorders Department
Scottish Rite Foundation of South Dakota
Sioux Empire United Way

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UNIVERSITY OF
SOUTH DAKOTA
DEPARTMENT OF COMMUNICATION SCIENCES & DISORDERS
USD SCOTTISH RITE CHILDREN'S CLINIC FOR
SPEECH AND LANGUAGE DISORDERS



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Dyslexia Definition

“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.”

Adopted by the IDA Board of Directors, Nov 12, 2002. This definition is also used by the National Institute of Child Health and Human Development (NICHD). Many state education codes have adopted this definition.

How widespread is dyslexia?

- ▶ About 13-14% of the school population nationwide are identified as having a handicapping condition that qualifies for Special Education Services
- ▶ 50% of all students identified for SPED services are classified as having a learning disability. About 85% of those have a primary learning disability in reading and language processing
- ▶ Up to 15-20% of the population as a whole may have symptoms of dyslexia. Not all will qualify for Special Education, but most benefit from systematic, explicit instruction in reading, writing, and language (aka, structured literacy).
- ▶ International Dyslexia Association IDA Fact Sheet, "Dyslexia Basics", Moats & Dakin, 2016.

Typical Brain / Dyslexic Brain comparison

Typical



Dyslexic



● Broca's area, Inferior frontal gyrus
(articulation/word analysis)

● Parieto-temporal
(word analysis)

● Occipito-temporal
(word form)

● Broca's area, Inferior frontal gyrus
(articulation/word analysis)

To include in a dyslexia elevator pitch....

- ▶ **What dyslexia is:* a neurological learning disability: a dyslexic's brain is wired to handle information differently
- ▶ *How dyslexia affects an individual:* may take longer to process info & figure out how to use the new data, makes reading & writing more difficult
- ▶ **Advantages of dyslexia:* dyslexic brain is often great at spatial reasoning & creative thought
- ▶ **What it doesn't mean:* not dumb or lazy
- ▶ **What is needed:* being patient goes a long way!

So what does dyslexia look like?

Clusters of distinguishing characteristics include:

- ▶ *Family history and early development:*
- ▶ *Reports of reading/spelling difficulties across generations in the family
- ▶ *Normal prenatal/birth history
- ▶ *Delays/difficulties acquiring speech/language

Clusters of distinguishing characteristics continued

- ▶ *Early Childhood/Primary Grades:*
- ▶ *Difficulty with rhyming, blending sounds, learning the alphabet, linking letters with sounds
- ▶ *Difficulty learning rules for spelling words
- ▶ *Difficulty remembering “little” words (the, of) that can’t be sounded out
- ▶ *Listening comprehension usually better than reading comprehension

More characteristics.....

- ▶ *Middle & Secondary School*
- ▶ * Reluctant readers
- ▶ *Slow, word-by-word readers; great difficulty w/words in lists, nonsense words and words not in their listening vocab
- ▶ *Very poor spellers
- ▶ *Non-fluent writers (slow, poor quality and quantity)
- ▶ *Mispronounces common words (floormat for format)

Characteristics continued....

- ▶ *Listening comprehension is usually superior to performance on timed measures of reading comprehension
- ▶ *Weak vocabulary knowledge and use



Outcomes of an evaluation for dyslexia

- ▶ *Written report should include:*
family literacy hx, signif
medical issues,
prenatal/birth conditions,
preschool development,
including *speech and
language learning*
- ▶ Education hx: info on
school attendance, tests
administered, test scores
(stated as standard
scores)
- ▶ Provide framework for
strengths/weaknesses and
fit with typical profile of
dyslexia for child's age

Evaluation report should include...

- ▶ Initial dx of dyslexia
- ▶ Intervention planning (appropriate instructional programs/intervention strategies research has shown to be effective for students with dyslexia)
- ▶ Accommodations
- ▶ IEP? 504 Plan?
- ▶ *IDA "Just the Facts: Testing and Evaluation"*

The diagnostic team?

- ▶ School Psychologist
- ▶ Speech Language Pathologist
- ▶ Educational assessment specialist
- ▶ Classroom teacher
- ▶ *Interpreting the information collected needs to be the professional who is thoroughly familiar with the important characteristics of dyslexia at different stages, and knowledge of the influence of language development and behavior on literacy learning (school psychs and/or SLPS)*

Areas Assessed:



Phonological Awareness: awareness of and access to the sound structure of oral language



Phonological Memory: ability to recall sounds, syllables, words



Rapid Automatic Naming: speed of naming objects, colors, digits, or letters



Gold Standard: Comprehensive Test of Phonological Processing-2 (CTOPP-2)

Areas assessed:

Alphabet/Sound-letter
Association: the understanding
of the symbol (letter) to the
sounds relationship, alone or in
combo w/ other letters

*Often done informally, can include oral
recitation of alphabet, writing the
alphabet, identifying letters, naming
letters, giving sounds for letters. Look
for accuracy, automaticity (time, effort)*

Areas Assessed:

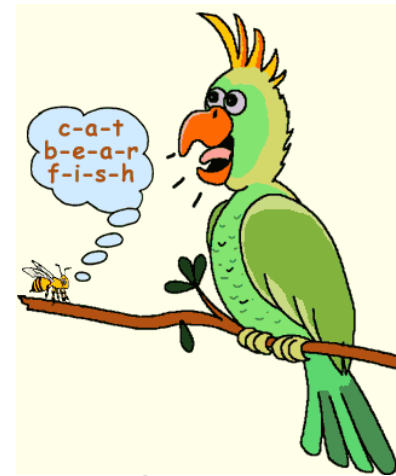
- ▶ Decoding: the ability to use symbol-sound associations to identify (read) words. Include both real and nonsense words, untimed and timed.
- ▶ *Gold Standard: Test of Word Reading Efficiency-Second Ed;*
- ▶ Similar tests include: Word Identification & Word Attack subtests of WJIII; Word Reading and Pseudoword Decoding subtests of the WIAT-III

Areas Assessed:

- ▶ Oral Reading Fluency and Comprehension: the ability to read accurately with sufficient speed, and to understand what was read.
- ▶ *Gold Standard: Grey Oral Reading Test-5;*
- ▶ Similar tests: Passage Comprehension subtest of WJ III and Reading Comprehension WIAT-III (comprehension); Reading Fluency subtest of WJ III and TOWRE-2 (accuracy)

Areas Assessed:

- ▶ **Spelling:** should provide info about understanding of phonological awareness & conventional spelling patterns. Word, sentence, paragraph level samples helpful.
- ▶ Standardized assessments: Word Identification & Spelling Test (WIST); Test of Written Spelling-5, SPELL-2; Test of Orthographic Competence (TOC)



Areas Assessed:

- ▶ Writing: Sentence, paragraph levels
- ▶ Standardized assessments: Oral and Written Language Scales: Written Expression (OWLS-2 Written Expression)

Areas Assessed:

- ▶ Oral Language: (beyond phonology) vocabulary, morphology, grammar/syntax, comprehension
- ▶ *Standardized assessments:* Clinical Evaluation of Language Fundamentals (CELF-5), CELF-Preschool 2, CELF screening; Comprehensive Assessment of Spoken Language (CASL-2); Expressive One-Word Picture Vocabulary Test-4; Expressive Vocabulary Test-2; Peabody Picture Vocabulary Test-4; Receptive One-Word Picture Vocabulary Test

Assessments that look at BOTH oral and written language:

Illinois Test of Psycholinguistic Abilities

- ▶ ITPA-3rd Ed
- ▶ Ages 5-12:11
- ▶ Composites for General Language, Written Language, Spoken Language

Test of Adolescent and Adult Language-4

- ▶ TOAL-4
- ▶ Ages 12-24:11
- ▶ Composites for Spoken Language, Written Language, General Language

Areas Assessed: Intelligence

- ▶ Kaufman Test of Educational Achievement, 2nd Ed
- ▶ Weschler Intelligence Scale for Children-V
- ▶ *Consider nonverbal intelligence tests: Comprehensive Test of Nonverbal Intelligence-2*

- ▶ *Cognitive/IQ testing is not needed as part of the SLD (including dyslexia) process. Average or higher scores on measures of listening comp, receptive vocab, math calc/reasoning can demonstrate the presence of average or higher intellectual potential. Older students still need for accommodations/tests/admissions.*

Common Assessments for Achievement:

- ▶ Kaufman Test of Educational Achievement, 2nd Ed (KTEA-II)
- ▶ Weschler Individual Achievement Test, 2nd Ed (WIAT-II)
- ▶ Woodcock Johnson III Tests of Achievement (WJIII)

Dyslexia Assessment: Areas to Assess

- ▶ Phonological Processing: phonological awareness, phonological memory, rapid automatic naming
- ▶ Alphabet/Sound-letter Association
- ▶ Oral Language Skills
- ▶ Decoding
- ▶ Word Recognition
- ▶ Oral Reading Fluency & Comprehension
- ▶ Spelling
- ▶ Written Expression
- ▶ IQ/Cognitive Ability

Excellent resource for Tests for Dyslexia: Dyslexia Help, University of Michigan. Lists tests by area and ages, includes references.

<http://dyslexiahelp.umich.edu/assessment>



Resources

- ▶ International Dyslexia Association, www.eida.org
- ▶ Florida Center for Reading Research, www.fcrr.org
- ▶ Dyslexia Help, www.dyslexiahelp.umich.edu
- ▶ Reading Rockets, www.readingrockets.org
- ▶ American Speech Language Hearing Association, www.asha.org
- ▶ Decoding Dyslexia, www.decodingdyslexia.net

- ▶ <https://rti4success.org/resources/tools-charts/screening-tools-chart>
- ▶ Many tools are useful, but not really accurate, high error rates, need to supplement with other info

Early Identification

- ▶ Risk can be identified in P-K with 50-70% accuracy
 - ▶ Early intervention 4x effective than doing nothing
 - ▶ Waiting 1 year diminishes effectiveness by 25-50%
 - ▶ For every \$1 spent, future costs can be reduced by \$16-\$31
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- ▶ IDA International Conference, Oct 2018. Fumiko Hoeft, MD, PhD, University of Connecticut Psychological Services, Director of Brain Imaging & Laboratory of Learning Engineering and Neural Systems

Universal Screening: K-2 Reading

Characteristics: quick & targeted assessments
alternate forms so can be administered 3-4x/year
standardized directions for admin/scoring
reliability & validity standards

Purpose: to ID students at risk for reading disorders

**It takes 4xs as long to intervene in 4th grade as it does in late kindergarten (NICHD) bc of brain development & increase in content for students to learn as they grow older.*

*Examples: Shaywitz Dyslexia Screen
Colorado Learning Disabilities Questionnaire-Reading
Subscale School Age Screener
DIBELS Next
Aimsweb
Predictive Assessment of Reading (PAR)
Texas Primary Reading Inventory (TPRI)
AppRISE: Risk assessment app: in development-very promising!!*

www.precisionlearningcenter.org

Now what?



- ▶ National Center on Improving Literacy: Mission is to increase access to, and use of, evidence-based approaches to screen, identify, and teach students with literacy-related disabilities, including dyslexia, www.improvingliteracy.org, Facebook page: <https://www.facebook.com/improvingliteracy/>

Questions?

Abc

