

Demystifying Dyslexia: Breaking Down Barriers and Developing Common Language

Proficient Reading	<p>Simple View of Reading (Gough and Tunmer, 1986)</p> <ul style="list-style-type: none"> Decoding and linguistic comprehension are required to read and comprehend print
Dyslexia is...	<ul style="list-style-type: none"> Is a <i>language-based</i> problem Exists across all levels of intelligence An appropriate label for 5% of students with reading problems Occurs at all socioeconomic levels Occurs slightly more often in boys than in girls A matter of degree of difficulty with reading and not a different type of problem
International Dyslexia Association definition (2002)	<ul style="list-style-type: none"> “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.”
“neurobiological”	<ul style="list-style-type: none"> no reading center in the brain; by learning to read, specialized circuits for reading are created Through fMRI technology, scientists have discovered that brains of struggling readers and brains of strong readers work differently Differences DO NOT have anything to do with intelligence or a defect in the structure of the brain Differences are in how brain communicates Skilled readers use left side of the brain, circuits run lightning fast Struggling readers show over activation on the right side of the brain, connections much slower Ongoing research looking at function, structure and chemical factors
“difficulties with accurate and/or fluent word recognition”	<ul style="list-style-type: none"> 90% of poor readers have problems with word reading accuracy (hallmark characteristic) Reading difficulty related to inherited brain differences Involves ability to map sound onto letters to read and spell Some students, when provided systematic, explicit phonics instruction may become accurate decoders, but continue to struggle with reading words automatically and fluently
Poor spelling and decoding abilities	<ul style="list-style-type: none"> Also affects spelling and writing May learn to read fairly well, but difficulty with spelling and writing persist Poor spellers have trouble remembering the letters in words because they have trouble noticing, remembering, and recalling the features of language that those letters represent (orthographic mapping)

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Phonological component of language	<ul style="list-style-type: none"> • Phonological & phonemic awareness- awareness that spoken words are made up of individual sounds • Phonological memory- working with, storing and retrieving information from memory • Speech perception and production- perceiving and producing phonological sequences
Often unexpected in relation to other abilities and effective classroom instruction	<ul style="list-style-type: none"> • “We usually refer the term dyslexic for children whose reading, spelling and language difficulties persist even when they receive excellent instruction.” Moats & Dakin, 2008
Secondary consequences	<ul style="list-style-type: none"> • Reading comprehension as a result of decoding and fluency difficulties • Reduced reading experience impacts <ul style="list-style-type: none"> ○ Vocabulary development ○ Background knowledge
Additional consequences	<ul style="list-style-type: none"> • Social/emotional impact
Prevalence	<ul style="list-style-type: none"> • Estimates vary from 5-20% of the population
<p>NC Department of Public Instruction <i>Dyslexia Topic Brief</i> http://ec.ncpublicschools.gov/dyslexia-topic-brief.pdf</p>	
Legislation	<ul style="list-style-type: none"> • NC has dyslexia legislation HB 149 • Definition of dyslexia in NC Policies Governing Services for Children with Disabilities • Professional Development • NCDPI webpage bit.ly/ECDdyslexia • NCDPI Dyslexia Topic Brief
Myth or Fact? Students with dyslexia see letters and words backwards.	<ul style="list-style-type: none"> • Symptoms sometimes include flipping or reversing letters, but reversing letters isn’t always a sign of dyslexia. • Young children who don’t have dyslexia often make reversals • Indication that orthographic representations are not fully established • Hallmark characteristic is difficulty in single word reading, not reversals
Myth or Fact? NC Public Schools do not screen students for word level reading difficulty (dyslexia)	<ul style="list-style-type: none"> • Screening assessments required for use by all North Carolina schools for students in grades K-3 under the NC Excellent Public Schools Act include: <ul style="list-style-type: none"> • Dibels First Sound Fluency and Phoneme Segmentation Fluency • Dibels Nonsense Word Fluency • Dibels Letter Naming Fluency • Dibels Oral Reading Fluency and Dibels Oral Reading Accuracy • Teach first, then test if necessary
Myth or Fact? Using the term dyslexia in an IEP is prohibited	<ul style="list-style-type: none"> • There is no regulation, policy or encouragement from NCDPI to exclude the identification of dyslexia in a student’s IEP • Diagnosis of dyslexia (provided by parent) can always be added as additional information on the IEP or in other EC documents • IEP teams may state “the student has characteristics consistent with dyslexia” in the IEP

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	<ul style="list-style-type: none"> • OSEP guidance letter Oct 23, 2015
<p>Myth or Fact? Colored overlays and special fonts are helpful interventions for reading disabilities, including dyslexia</p>	<ul style="list-style-type: none"> • One cardinal intervention principle: training in motor, visual, neural or cognitive processes without academic content does not lead to better intervention outcomes. (Learning Disabilities from Identification to Intervention, p. 130) • No independent research evidence that using colored overlays or special lenses has any effect on the word reading or comprehension of children with dyslexia. (Lovino, Fletcher, Breitmeyer, & Foorman, 1998; Henderson, Tsogka, & Snowling, 2013) • “Because vision therapy is not evidence based, it cannot be advocated.” (Joint Technical Report, American Academy of Pediatrics, 2011) • No documentation to support a specialized font (Wery & Diliberto, 2016) • Ample evidence-based research supports structured language instruction for students with dyslexia (and for any student with word level reading difficulty).
<p>Expert Teaching is the Answer</p>	<p>Structured Literacy Instruction (International Dyslexia Association)</p> <p><u>Principles (how we teach):</u></p> <ol style="list-style-type: none"> 1. Systematic 2. Cumulative 3. Explicit 4. Multisensory 5. Diagnostic <p><u>Elements (what we teach):</u></p> <ol style="list-style-type: none"> 1. Phonology 2. Sound symbol 3. Syllables 4. Morphology 5. Syntax 6. Semantics
<p>Myth or Fact? Once a student reaches high school, it is too late to teach them to read</p>	<ul style="list-style-type: none"> • Early identification and effective instruction are critical to lessening severity • With effective instruction of appropriate intensity and duration, older readers can become accurate readers • Fluency and spelling difficulties will often persist
<p>Resources (books)</p>	<p>Kilpatrick, D. A. (2016) <i>Essentials of Assessing, Preventing and Overcoming Reading Disabilities</i>. Hoboken, NJ: Wiley and Sons.</p> <p>Lowell, S. C., Felton, R. H., & Hook, P. E. (2014). <i>Basic Facts About Assessment of Dyslexia Testing for Teaching</i>. Baltimore, MD: International Dyslexia</p>

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	<p>Association.</p> <p>Mather, N., & Wendling, B. (2012). <i>Essentials of Dyslexia Assessment and Intervention</i>. Hoboken, NJ: Wiley and Sons.</p> <p>Moats, L. C., & Dakin, K. E. (2008). <i>Basic Facts About Dyslexia and Other Reading Problems</i>. Baltimore: International Dyslexia Association.</p> <p>Shaywitz, S. (2003). <i>Overcoming Dyslexia: A New and Complete Science-Based Program for Reading Problems at any Level</i>. New York: Alfred A. Knopf.</p>
Web Resources	<ul style="list-style-type: none"> • http://eida.org/fact-sheets/ • https://www.understood.org/ • http://dyslexia.yale.edu/ • http://www.ldonline.org/ • http://ldaamerica.org/ • http://www.meadowscenter.org/ • National Center on Improving Literacy • AIM Institute. Teachable Moments: A Series of Brief Conversations with Experts in the Field
Videos	<ul style="list-style-type: none"> • Dyslexia and the Brain by Guinevere Eden Understood.org video • What is Dyslexia? By Kelli Sandman-Hurley
NC State Improvement Project	<ul style="list-style-type: none"> • www.ncsip.org
NC Department of Public Instruction	<ul style="list-style-type: none"> • Bit.ly/ECDdyslexia
Contact Information	<p>Lynne Loeser Specific Learning Disabilities and ADHD Statewide Consultant NC Department of Public Instruction Exceptional Children Division Lynne.loeser@dpi.nc.gov</p>