

Dyslexia Topic Brief



Public Schools of North Carolina
State Board of Education
Department of Public Instruction

Exceptional Children Division

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The intent of this document is to provide stakeholders accurate information regarding the evaluation, identification and education of students with dyslexia within North Carolina public schools.

What is dyslexia?

“Word level reading disability is synonymous with dyslexia,” (Fletcher, Lyon, Fuchs, & Barnes, 2007). Dyslexia literally means difficulty (dys) with words (lex) and is widely considered to be a reading disability at the word level involving the ability to map sounds onto letters in order to read and spell words accurately and automatically.

Definitions of dyslexia vary, but all propose that dyslexia is a learning disability that primarily impacts the areas of reading, spelling and writing. The International Dyslexia Association and the National Institutes of Child Health and Human Development define dyslexia as follows:

“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.”

Session Law 2017-127 (House Bill 149) requires that the State Board of Education include a definition of dyslexia in policy. In August 2017, this definition was added to the *North Carolina Policies Governing Services for Children with Disabilities*. The Individuals with Disabilities Act (IDEA 2004) as well as the *North Carolina Department of Public Instruction Policies Governing Services for Children with Disabilities*, includes dyslexia as one example of conditions under the definition of Specific Learning Disability.

What is the prevalence of learning disabilities and dyslexia?

An estimated 40% of the population is likely to have academic achievement problems related to inadequate reading skills. However, not all of these students have a learning disability or dyslexia requiring special education services. An estimated 5% of the population will have enduring, persistent reading difficulties that are very difficult to treat given our current knowledge (Moats & Dakin, 2008).

Nationally, 38% of all public-school students receiving special education services are identified as having a Specific Learning Disability (IDEA Part B Child Count, Ages 6-21 2017-18). Approximately 85% of students with LDs have a primary learning disability in reading and language processing (Moats & Dakin, 2012).

Dyslexia exists on a continuum from mild to severe and manifestations of dyslexia shift across grades and students. Estimates of the prevalence of dyslexia range from 5-20%. This variation in prevalence results from the different statistical cut-points established by researchers.

Do North Carolina Public Schools recognize dyslexia?

Myth: NC Public Schools do not recognize dyslexia as a disability.

Fact: Schools evaluate and identify children as eligible individuals within the disability areas defined by federal law, one of which is Specific Learning Disability. Dyslexia is recognized as a Specific Learning Disability (SLD); children with dyslexia may be found eligible as a child with a disability under the category of Specific Learning Disability.

A child's response to instruction is a critical indicator of the nature and severity of his or her reading difficulty (Moats & Dakin, 2008). In fact, Moats and Dakin state:

"We usually refer the term dyslexic for children whose reading, spelling and language difficulties persist even when they receive excellent instruction."

With the utilization of a multi-tiered system of support (MTSS), including universal screening, students with indicators of risk receive appropriate and timely interventions matched to student need. "Within an MTSS framework, schools identify students at risk for poor learning outcomes, including those who may have dyslexia, dyscalculia, or dysgraphia; monitor their progress; provide evidence-based interventions; and adjust the intensity and nature of those interventions depending on the student's responsiveness (Yudin, 2015)."

For those students whose difficulties persist, the IEP team makes a referral for a full and individual evaluation to determine if the child has a disability as defined under the Individuals with Disabilities Education Act (IDEA). At any time, a parent may also make a request for an evaluation under IDEA.

There is nothing within NC policies or guidance, or within IDEA, that prohibits the use of the term dyslexia in evaluations, eligibility determinations, or IEP documents (Yudin, 2015).

However, not all students who experience difficulty in learning to read will require special education. A diagnosis of dyslexia alone is insufficient to find a student eligible for special education services. The school team must establish all criteria required for eligibility determination to find the student eligible for special education under IDEA, including that the disability has an adverse effect on educational performance and there is an educational need for special education.

What are the indicators of dyslexia?

Myth: Students with dyslexia see words and letters backwards.

Fact: 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 do this too. Nor is it the only problem associated with dyslexia. People with dyslexia may have trouble with a number of skills, including writing, spelling, speaking and socializing (Lapkin, 2015).

This myth stems from early visual theories of dyslexia, but it has since become clear that difficulties in specific language skills, especially phonological awareness, form the basis of dyslexia. This myth can be difficult to dispel because some children with dyslexia do show letter reversals when they write. However, some typically developing children also make letter reversals, particularly when learning to read. (MacDonald, K., 2017)

These reversal errors may persist as a result of poorly formed phonological and orthographic representations. In other words, the connection between the visual form of the grapheme and the sound of the letter is not firm. The letter and sound pair must be “glued” together and stored accurately in phonological and orthographic memory.”

Myth: All students with dyslexia are intellectually gifted.

Fact: Dyslexia occurs in people of all backgrounds and intellectual levels. (Moats & Dakin, 2012). IQ is not a factor in diagnosing dyslexia. There is no truth to the assumption that persons of average or even limited intelligence can't also have dyslexia. Dyslexia is an equal-opportunity deficit. (Dickman, 2017)

General problems experienced by individuals with dyslexia include the following (Moats & Dakin, 2012):

- Learning to speak
- Learning letters and their sounds
- Organizing written and spoken language
- Memorizing number facts
- Reading quickly enough to comprehend
- Keeping up with and comprehending longer reading assignments
- Spelling
- Learning a foreign language
- Correctly doing math operations.

Specific signs for elementary aged children may include (International Dyslexia Association, 2013):

- Difficulty with remembering simple sequences such as counting to 20, naming the days of the week, or reciting the alphabet
- Difficulty understanding the rhyming of words, such as knowing that fat rhymes with cat
- Trouble recognizing words that begin with the same sound (for example, that bird, baby, and big all start with b)
- Pronunciation difficulties
- Trouble easily clapping hands to the rhythm of a song
- Difficulty with word retrieval (frequently uses words like “stuff” and “that thing” rather than specific words to name objects)
- Trouble remembering names of places and people
- Difficulty remembering spoken directions.

For further information regarding indicators of dyslexia, please see the resources at the end of this document.

Do North Carolina public schools screen students for risk of reading difficulty or dyslexia?

Myth: North Carolina public schools do not screen students for risk of reading difficulty or dyslexia.

Fact: NC Public Schools are required through the Excellent Public Schools Act (HB 950/ S.L. 2102-142) to assess all kindergarten, first, second and third grade students with valid, reliable, formative and diagnostic reading assessments. Further, HB 149/ [S.L. 2017-127](#) requires that "local boards of education shall review the diagnostic tools and screening instruments used for dyslexia, dyscalculia, or other specific learning disabilities to ensure they are age-appropriate and effective and shall determine if additional diagnostic and screening tools are needed."

Screening tools can provide early warning indicators of students who are at risk of reading failure. These include (Moats & Dakin, 2008):

- Timed tests of letter naming or letter sound associations. These are the most accurate and powerful single predictors of later reading achievement in kindergarten and first grade.
- Phonemic awareness assessments at kindergarten and first grade.
- After first grade, direct measures of decoding simple real and nonsense words and word recognition.
- Once students can read sentences and paragraphs, oral reading fluency (ORF) that combines accuracy and fluency is a powerful *predictor*. ORF can help educators find the students who read accurately, but very slowly and whose fluency difficulties will predict later problems in reading.

The [National Center for Intensive Intervention](#) provides an [Academic Screening Tools Chart](#). The tools on this chart can be used to identify students at risk for poor academic outcomes, including students who require intensive intervention. The chart is intended to assist educators and families in becoming informed consumers who can select academic screening tools that address their specific needs.

What is the obligation of NC Public Schools to evaluate and determine eligibility for special education services for students who may have a Specific Learning Disability (SLD) in the area of reading (dyslexia)?

Myth: North Carolina public schools do not evaluate students for dyslexia.

Fact: As part of Child Find obligations under federal law, the NC Public Schools are required to locate and identify children with disabilities. Schools evaluate and identify children as eligible individuals within the disability areas defined by federal law, one of which is Specific Learning Disability (SLD).

Dyslexia is recognized as an SLD. Dyslexia is considered a term for reading difficulty at the word level involving the ability to map sounds onto letters in order to read and spell words accurately and automatically. North Carolina Public Schools **do** assess students for word level reading difficulties and other characteristics typical of students with dyslexia.

For a student who is suspected of having a disability, the IEP team determines the assessments that are needed as a part of a full and individual evaluation in order to determine eligibility through the criteria defined within the IDEA and *North Carolina Department of Public Instruction Policies Governing Services for Children with Disabilities*. The assessment results guide the team's determination of eligibility and the design of appropriate instruction and intervention for the individual student.

An assessment for a student who displays characteristics consistent with dyslexia would include the following areas: phonological awareness, including advanced phonemic awareness tasks; decoding and word identification; spelling; fluency; comprehension; oral language skills (including listening comprehension); and written expression.

When evaluating for dyslexia, it is important to be aware of the strong heritability of literacy problems. Dyslexia runs in families and is common among siblings.

The data obtained from these assessments can help determine the instructional focus that will increase overall academic or behavioral competency and achieve the greatest student learning gains. Questions that should be answered when the assessment is complete include:

- Does the student recognize and name letters?
- Does the student have phonological awareness skills at the word, syllable, and sound (phoneme) level? Can they isolate, segment, blend, substitute, add, delete, and manipulate sounds in words?
- Does the student have sound-symbol correspondence for both reading and spelling?
- Does the student know the six syllable types and can he/she apply them to decoding unknown and multisyllabic words?
- Does the student recognize and use morphological patterns?
- Is the student able to read fluently with accuracy and automaticity?

Who may conduct the assessments and evaluations for a student having characteristics of dyslexia when a disability is suspected?

Myth: Dyslexia requires a medical diagnosis.

Fact: The identification of characteristics of dyslexia does not require a medical diagnosis within the public school setting. Dyslexia is best assessed using appropriate educational assessments in the areas detailed in the previous section and in the context of effective evidence-based instruction. Dyslexia requires educational intervention and treatment. There are no known evidence-based medical interventions for students with dyslexia.

North Carolina Department of Public Instruction Policies Governing Services for Children with Disabilities and IDEA 2004 requires that professionals who administer assessments and conduct evaluations be trained and knowledgeable regarding such assessments.

School psychologists licensed in North Carolina have the skills necessary to evaluate students for word level reading difficulties and other reading related disabilities. Often, special educators, speech-language therapists and reading specialists also have the necessary skills to administer and interpret diagnostic assessments that lead educators to determining areas that require intervention. Neither the *North Carolina Department of Public Instruction Policies Governing Services for Children with Disabilities* or IDEA indicates that there is one type of professional who is uniquely qualified to provide such identification.

If the IEP team has been provided a medical or mental health diagnosis of dyslexia by a private service provider, the team must consider this diagnosis in their eligibility determination and educational programming and include this information within the PLAAFP, but the diagnosis does not dictate specific instructional services or eligibility determinations.

Myth: If a diagnosis of dyslexia is obtained from a professional independent of the public school system, the IEP team will be required to provide special education services to my child.

Fact: Eligibility determinations are made by a group of qualified professionals, including the parent of the child. "Following a review of existing data and the administration of any additional assessments determined necessary, a group of qualified professionals and the parent of the child determines whether the child is a child with a disability and the educational needs of the child." NC 1503-2.7(a)(1)

A medical diagnosis and an educational diagnosis are two different things. In order to be determined eligible to receive special education and related services, the student must meet the criteria for one or more of the qualifying disability areas specified in the IDEA. In addition to having a disability, the student must require special education and related services in order to be eligible. Some students, even those with a medical diagnosis of a disability, may not meet the eligibility requirements for special education under the IDEA, if they do not have unique educational needs as a result of the disability that requires special education.

Can the term dyslexia be included in a student's IEP?

Myth: The use of the term dyslexia is prohibited from use within a student's IEP.

Fact: There are no legal restrictions to the use of the term dyslexia within the Present Levels of Academic Achievement and Functional Performance (PLAAFP) or elsewhere within a student's IEP. However, use of the term dyslexia is not sufficient; the term alone does not provide specific, measurable and objective information which describes the student's needs so that appropriate specially designed instruction can be designed and delivered. Information included in the PLAAFP must include data-based student specific information describing the student's strengths and needs resulting from the disability.

There is nothing in the IDEA or NC Policies that would prohibit the inclusion of the condition (i.e. dyslexia) that is the basis for the child's disability. If dyslexia is the basis for the determination that a child has an SLD, there could be situations where an IEP team would determine that personnel responsible for IEP implementation would need to know about the condition (i.e. dyslexia) that underlies the child's disability (Yudin, 2015). One of the primary functions of an evaluation is to determine the instructional needs of a student so appropriate instruction can be designed and delivered that will close achievement gaps.

Do North Carolina Public Schools provide instruction to meet the needs of students with dyslexia (word level reading difficulties)?

Myth: North Carolina public school educators do not teach students with dyslexia (word reading difficulties).

Fact: Students with persistent reading disabilities, learning disabilities and dyslexia, need informed expert instruction in using evidence-based practices with the developmentally appropriate amount of instructional time. The NC Department of Public Instruction Exceptional Children Division offers professional development in reading, math, learning disabilities and dyslexia, at no cost, to teachers within the state. It is the responsibility of Public School Units to build internal capacity to provide access to these professional development offerings.

The characteristics of effective reading instruction for all students has been well established by the 2009 National Early Literacy Panel and the 2000 Report of the National Reading Panel. The provision of evidence-based reading instruction to all students, within a multi-tiered system of support, is critical for reading success.

Best practice instruction for students with dyslexia should be based on the results of diagnostic assessments. Explicit, systematic instruction is critical for these students. They should receive direct instruction for both reading and spelling in the areas of phonological awareness, systematic phonics instruction (including syllable types), and fluency building. The use of decodable books is critical for the intense practice these students will require in using their acquired skills. Intensity and fidelity of instruction will be a primary factor in the level of success the students reach.

There is ample evidence-based research supporting structured literacy instruction as an approach for students with word level reading and spelling difficulties characteristic of dyslexia. For further information regarding structured literacy instruction, see the resources at the end of this document.

The NC Department of Public Instruction Exceptional Children Division offers professional development in reading, math, learning disabilities, dyslexia, dysgraphia and dyscalculia at no cost, to educators within the state.

The NC State Improvement Project (NCSIP) aims to improve the quality of instruction for students with disabilities, including dyslexia, through research supported personnel development and on-site technical assistance for public schools and university teacher education programs. NCSIP has five key goals which include (Public Schools of North Carolina, 2016):

1. NC SIP staff will increase their capacity to provide leadership, professional development, coaching, and supports to participating districts, teachers, and families on leadership and effective reading, math, and content literacy instruction.
2. District and building administrators will have the skills to develop, implement, and evaluate district plans that support the improvement of core content instruction and achievement of students with disabilities in their districts.
3. Teachers and administrators will have the skills to effectively implement research-based reading, math, adolescent literacy and co-teaching instructional practices for SWD in the K- 12 classroom, which will lead to increased student engagement, student generalization of skills, academic achievement, and family engagement.
4. Pre-service teachers and in-service administrators enrolled in partnering IHEs, will have the capacity to effectively implement and support research-based reading, math, adolescent literacy, and co-teaching for students with disabilities.

Teachers would best be served by successfully completing the *Reading Research to Classroom Practice* five day 30-hour course.

Reading Research to Classroom Practice (RRtCP) addresses the following:

- informal assessment, progress monitoring and diagnostic assessment for students with persistent reading difficulties, and
- evidence-based instructional principles and strategies for students with persistent reading difficulties, including multisensory structured language.

In addition, educators and administrators would benefit from participating in the one-day professional development, *A Deep Dive into Dyslexia: The Science of Reading and Expert Teaching*. Teachers who complete these two courses should feel secure in their knowledge of how to instruct students with dyslexia.

Myth: Dyslexia can be cured or helped by special balancing exercises, fish-oils, dyslexia fonts, color overlays, vision therapy, or sensory integration therapy.

Fact: None of these remedies have been found to be effective based on scientific evidence. The best intervention for dyslexia is instruction in reading and spelling using evidence-based practices.

It is important to know what research supports as effective instructional approaches for students with dyslexia. In addition to the International Dyslexia Association, the following research organizations actively work to help us understand dyslexia and how to help students who struggle to read (<https://www.nichd.nih.gov/research/supported/Pages/ldrc.aspx>):

- [Florida Learning Disabilities Research Center](#)
- [Colorado Learning Disabilities Research Center](#)
- [Texas Center for Learning Disabilities](#)

For further information regarding NCSIP and the RRtCP course, contact Paula Crawford, Project Director, at paula.crawford@dpi.nc.gov. Contact information for regional literacy consultants and additional information about NCSIP may be found at www.ncsip.org.

For further information regarding Specific Learning Disabilities, including dyslexia, contact any of the Regional Literacy Consultants found at <http://ec.ncpublicschools.gov/directory/staff-members>.

Additional resources may be found below and on the NCDPI Exceptional Children website at <http://ec.ncpublicschools.gov/disability-resources/specific-learning-disabilities>.

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