

Dyslexia Informational Paper

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This purpose of this document is to provide parents, educators, administrators, and others with a resource that may assist in learning more about dyslexia. Additional resources that may aid in understanding dyslexia are listed at the end of this document.

What is Dyslexia?

The North Dakota Department of Public Instruction *Guidelines for Serving Students with Specific Learning Disabilities in the Education Setting* recognizes that dyslexia is associated with a specific learning disability in the area of basic reading skills. Students with dyslexia may have difficulty not only with reading, but also with spelling and performing other skills related to the use of printed language (*National Center for Learning Disabilities*). Many students with dyslexia have difficulties identifying separate speech sounds within a word and learning how individual letters represent sounds. A student with dyslexia does not lack intelligence or the desire to learn. (Adapted from *IDA: Dyslexia Basics*)

The International Dyslexia Association (IDA), along with the National Institute of Child Health, define dyslexia as:

“...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.”

-International Dyslexia Association Board of Directors, November 12, 2002.

The exact causes of dyslexia are not completely clear. However, brain-imaging studies show significant differences in the way the brain of a child with dyslexia develops and functions (Shaywitz, et. Al, 2001). The neurologic differences that are evident in a student with dyslexia are usually genetic, and because they are neurological in nature, a person with dyslexia will probably experience difficulties his/her entire life.

The National Center for Learning Disabilities (NCLD) projects that one in five, or 15-20% of the population, has a specific learning disability. Of those students, 70-80% have deficits in reading, with symptoms ranging from mild to severe. According to *Dyslexia Help at the University of Michigan*, the prevalence rate of dyslexia is comparable between boys and girls. The difference exists in the frequency of testing, which is higher for males.

Characteristics of Students with Dyslexia

Dyslexia along with other reading disabilities seem to be strongly determined by genetic predispositions. Chances are that if a student is exhibiting characteristics of dyslexia, he/she may have a family member that has some of the same difficulties.

Students with dyslexia may possess common areas of strength, which may include, but are not limited to:

- May have strong visual abilities
- May have talents in the areas of mechanical skills, music, art, drama, sports, and creative writing
- May be curious with great imaginations
- May have the ability to “figure things out”
- May seem more mature than their same age peers

Many students have one or even two of the following characteristics associated with dyslexia, but a student with dyslexia typically has many of the characteristics that present themselves over time and significantly impact learning in the academic environment. Some of the more common characteristics of dyslexia include:

- Difficulty learning to speak
- Difficulty learning letters and sounds (phonemic awareness)
- Difficulty remembering letters and sounds (phonological memory)
- Difficulty organizing written and spoken language
- Difficulty memorizing number facts
- Difficulty reading at a rate that enables comprehension
- Difficulty rapidly recalling the names of objects, colors, or letters
- Difficulty in keeping up with and understanding what was read when longer assignments are given
- Difficulty with spelling
- Difficulty with handwriting
- Difficulty learning foreign languages
- Difficulty completing math operations correctly
- Difficulty in understanding the difference between “left” and “right”
- Difficulty making friends or learning social skills

(Adapted from International Dyslexia Association, *Dyslexia in the Classroom What Every Teacher Needs to Know*)

Possible Indicators of Dyslexia at Different Ages:

There are various indicators exhibited by students at different ages that may suggest a possible reading Specific Learning Disability (SLD) like dyslexia. (Information adapted from the University of Michigan's *Clues to Dyslexia* and the Yale Center for Dyslexia & Creativity's *Signs of Dyslexia*.)

Preschool

- Delay in talking
- Speech may be difficult to understand and may sound like "baby talk"
- May not have a favorite book
- May not sit alone and look at books, may not turn the page one at a time, and may not know how to open and hold books
- Difficulty recalling the right word (word retrieval)
- Difficulty recognizing letters in own name
- Difficulty learning and remembering names of letters
- Difficulty learning common nursery rhymes (auditory memory)
- Difficulty understanding words are read from left to right
- Difficulty listening to someone else read for extended periods of time
- Difficulty with remembering and following directions

Kindergarten and First Grade

- Relies on pictures when reading
- Reading errors show no connection to the word written on the page (may substitute "kitten for the written word "cat")
- May state he/she does not like to read and complains about how difficult reading is
- Avoids reading
- Difficulty associating letters with sounds
- Difficulty remembering basic sight words
- Difficulty sounding out simple words
- Difficulty separating words into parts (butterfly is butter and fly)

Second and Third Grade

- May omit endings of words
- May have illegible handwriting
- Extra time needed when speaking to others
- Difficulty remembering spelling words and rules
- Difficulty remembering words; may submit words like "things" for the proper term
- Difficulty sounding out words
- Difficulty with pronouncing long, complicated words
- Difficulty telling a story in sequential order

Fourth through Eighth Grade

- Pauses, hesitates, or may frequently use words like “um” when speaking
- Confuses words that sound alike when speaking (tornado for volcano)
- May need extra time to answer when asked a question
- May incorrectly read common sight words
- May have difficulties with comprehension due to difficulty with sounding out words
- May not be fluent when reading aloud and may avoid reading out loud
- May not like to read for enjoyment
- May perform better on oral tests
- When reading out loud, reading may be monotone with no attention paid to punctuation
- Difficulty remembering things like dates, names, telephone numbers
- Difficulty with spelling and learning new vocabulary
- Difficulty organizing ideas for writing
- Difficulty reading words with multi-syllables
- Difficulty understanding word structure (prefix, root, suffix)

High School

- Reading rate may be slower than same age peers (may not keep up with reading demands of multiple courses)
- Difficulty with automatic word recognition, which in turn, impacts the acquisition of knowledge through reading
- Difficulty with spelling and writing
- Difficulty with vocabulary, both written and verbal
- Difficulty taking notes in class
- Difficulty remembering mathematical or scientific formulas
- Difficulty organizing projects and may struggle with completion of assignments on time
- Difficulty learning a foreign language

Referral and Evaluation Planning

The provision of interventions begins within the student's general education classroom. If the student is successful and making adequate progress after the interventions are provided, no additional changes may be needed. If the student is not successful, more intensive interventions may be suggested and/or implemented by the school team.

When individual student data collected shows that a student is unable to make satisfactory progress, in spite of individualized, evidence-based classroom interventions implemented with fidelity, the school team may propose conducting an evaluation to determine whether or not the student may have a learning disability like dyslexia. In addition to the school making a proposal for testing, parents of the student may request an evaluation at any time.

During the evaluation, additional data/information is collected and used to determine if the student has a specific learning disability and whether the student needs specially designed instruction. The data collected must support both the presence of a disability and the need for specially designed instruction in order for the student to be eligible for special education services.

Sometimes a student has been evaluated outside of the school setting which led to a diagnosis of dyslexia. Information from an outside evaluation(s) should be considered by the school team as part of the evaluation conducted through the assessment process within the school setting. Again, in order for the student to qualify as a student with a specific learning disability, he/she must need specially designed instruction. If the student has been diagnosed with dyslexia but the need for specially designed instruction is not there, the student will not qualify for special education services under the category of SLD.

*Additional information for Determining SLD and Eligibility for Special Education is available in the *Guidelines for Serving Students with Specific Learning Disabilities in Educational Settings* on the NDDPI website.

Examples of Interventions and Accommodations

Early intervention for students with learning challenges, including dyslexia, can establish a foundation for learning and increase the probability of later academic success. For students who may be at risk of having a specific learning disability, like dyslexia, proactive and preventative practices can alter the course of their academic careers.

The National Reading Panel (NRP) in its report, *Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction*, identified a list of interventions under four major areas central to reading: Alphabetics, Fluency, Comprehension, and Teacher Education and Reading Instruction. Interventions and/or accommodations under each area may include:

Alphabetics:

- Phonemic Awareness – the ability to identify and manipulate phonemes (the smallest sound units that make up language) in spoken words. Phonemes are combined to form syllables and words.
- Phonics Instruction – contributes to learning to read by teaching readers to use the alphabet system, which is needed to decode words, to retain sight words in memory, and to call on sight word memory to read words by analogy (accessing words that have been learned and using parts of the spelling to read new words with similar spelling). Word prediction becomes more accurate when readers can combine context clues with letter-sound cues when figuring out unfamiliar words in text.

Fluency - reading with speed, accuracy, and proper expression:

- Students benefit by reading passages aloud with guidance and feedback.
- May include repeated reading, paired reading, shared reading, and assisted reading.

Comprehension – “essence of reading,” not only to academic learning, but lifelong living:

- Vocabulary learning and instruction - direct instruction of vocabulary required for specific texts.
- Text comprehension – intentional thinking of the reader engaged in the text through which meaning is made.
- Teacher preparation - assists in facilitating in the development of reading comprehension.

Teacher Education and Reading Instruction:

- Evidence based core reading program – provides a scope and sequence of skills to be taught and strategies to effectively teach reading skills to maximize student learning.
- School wide implementation with a common understanding and consistency in practice – providing explicit instruction in phonemic awareness, phonics, fluency, vocabulary, and comprehension.

- MTSS – framework to provide all students with the best opportunities to succeed, which focuses on high quality instruction and interventions matched to student need, progress is monitored frequently to make decisions about changes in instruction or goals, and data is used to allocate resources to improve student learning and to support staff implementation of effective practices.

*Additional information on evidence based reading programs and MTSS is available in the *Guidelines for Serving Students with Specific Learning Disabilities in Educational Settings* on the NDDPI website.

School teams may choose accommodations to help students with learning difficulties in both the general education and special education classrooms. The list of examples is not exhaustive, nor is every accommodation listed intended to be effective or appropriate for every student. Accommodations chosen should be based upon the needs of the individual student and determined by the school team. Accommodations may include:

- **Sample Accommodations Involving Materials:**

- Clarify or simplify written directions
- Present a small amount of work at a time
- Block out extraneous stimuli
- Highlight essential information
- Provide additional practice activities
- Provide a glossary in content areas
- Utilize audio recording devices
- Utilize assistive technology (tablets, electronic readers/dictionaries/spellers, text to speech programs, audio books, etc.)

- **Sample Accommodations Involving Interactive Instruction:**

- Repeat directions
- Maintain daily routines
- Provide a copy of lesson notes
- Use step-by-step instruction
- Combine verbal and visual information together
- Write key points on whiteboard
- Pair oral presentations with visual information and participatory activities
- Review daily
- Utilize explicit teaching procedures (advanced organizers, guided practice, demonstrate the skill, offer corrective feedback, monitor practice, review, set up independent practice)
- Utilize mnemonic devices

- **Sample Accommodations Involving Student Performance:**
 - Change the student's response mode
 - Priority seating
 - Design worksheets from easiest to hardest (hierarchical)
 - Allow extra time
 - Provide an outline of the lesson
 - Provide work samples
 - Provide additional practice
 - Utilize graphic organizers
 - Utilize assignment books or calendars
 - Utilize cues to denote important items
 - Utilize peer mediated learning

* Information was adapted from The International Dyslexia Association document entitled *Dyslexia in the Classroom What Every Teacher Needs to Know* (2017).

Misconceptions of Dyslexia

The University of Michigan, Dyslexia Help website lists common myths relating to dyslexia. Some of the misconceptions regarding dyslexia are listed below.

- **Dyslexia can be outgrown.**
Dyslexia is a lifelong learning disability. Yearly monitoring of phonological skills from first through twelfth grade shows that the disability persists into adulthood. Although many students with dyslexia learn to read accurately, they may continue to read slowly and not automatically.
- **Dyslexia is innate, incurable, and permanent.**
While dyslexia is a lifelong learning disability, early, intensive, and systematic intervention can help a student keep up and retain his/her grade level in school, as well as minimize the negative effects dyslexia can have, such as low self-esteem and poor self-concept as a learner.
- **Dyslexia cannot be diagnosed until third grade.**
Professionals can make a definitive diagnosis as soon as the child begins to struggle with learning to read, spell, and write. The sooner a diagnosis is made, the quicker the child can get help. A combination of a family history of dyslexia and symptoms of difficulties in spoken language can help identify a child with a specific disability that includes dyslexia.
- **People with dyslexia cannot read.**
Most children and adults with dyslexia are able to read, even if it is at a basic level. Spelling is one of the classic red flags alerting parents and teachers of a serious underlying problem. The student may be unable to understand the basic code of the English language and cannot break down or reconstruct (with spelling) words using codes (letters).
- **Children with dyslexia will never read well, so it's best to teach them to compensate.**
Individuals with dyslexia can become terrific readers with the appropriate intervention. It is important to test a student early in order to identify any problems and attempt to prevent major reading difficulties before they even start.
- **Only children with an IEP or 504 plan can receive classroom accommodations.**
General education teachers can provide classroom accommodations to any student, regardless of whether or not that student has an IEP or a 504 plan.

- **If a child with dyslexia reads aloud for 20 minutes per day, it will improve his/her reading.**
 Reading aloud will not help a child sound-out an unknown word. Instead, instruction that centers on understanding sounds of individual letters and how they blend to create words will assist the student to improve his/her reading abilities. When the student is expected to read unknown words, he/she may try to memorize the shape of a word and use pictures and context clues to guess the word, which may lead to frustration.
- **Students with dyslexia see things backwards.**
 Students with dyslexia do not see things backwards because dyslexia is not a problem with the eyes. While new research has demonstrated that letter reversals of kindergarten children predicted spelling at 2nd grade, typical learners may reverse letters when initially learning.
- **Children with dyslexia are just lazy; they should try harder.**
 Research has shown, with the technology of functional magnetic resonance imaging (MRI), that students with dyslexia use a different part of their brain when reading and working with language. Students with dyslexia show a different pattern of brain function when reading; underactivity in some regions, over activity in others which, according to research, accounts for the difficulty students have in extracting meaning from the printed word. If students with dyslexia do not receive the right type of intervention and/or classroom accommodations, they often struggle in school, despite being bright, motivated, and spending hours on homework assignments.
- **Gifted children cannot have dyslexia or a learning disability.**
 Many people with dyslexia are also considered gifted or talented and have gone on to accomplish outstanding things in their lives. Many famous authors, researchers, actors and actresses, politicians, athletes, and others from different professions have dyslexia.
- **Retaining a child will improve his/her academic struggles.**
 According to several institutions (U.S. Department of Education, American Federation of Teachers, National Association of School Psychologists), there is no benefit to retention because it may not improve a student's academic struggles. These students do not need another year of the same instruction - they need differentiated intervention that is research-based, systematic, and explicit.
- **If a child is not eligible for special education services, that child doesn't have dyslexia.**
 Dyslexia comes in many degrees from mild to severe. Most children with dyslexia will not receive special education services unless they score very poorly (10 percentile or below) when comparing their level of performance to their peers or to the expected level of performance on grade level standards.

- **There is a test to determine if an individual has dyslexia.**

There is no single test for dyslexia. A comprehensive evaluation must be administered to support the conclusion of a SLD that can include dyslexia. Areas of assessment, determined by the multidisciplinary team, may include phonological processing and oral language, alphabet knowledge, decoding, word recognition, reading fluency, reading comprehension, spelling, written expression, and cognitive functioning.

- **Dyslexia is a condition that only medical professionals can diagnose.**

Even though dyslexia may be diagnosed by a physician, it becomes an educational issue when it significantly affects the student's performance in the school setting. Even when diagnosed with dyslexia by someone outside the school system, the school district is required to conduct a comprehensive evaluation to determine if the child is eligible for special education and related services.

A comprehensive evaluation may include the information obtained from sources outside the school setting as part of the process; however, the majority of assessments and tests are administered by educators who are trained in, and knowledgeable of, the instruments and procedures to successfully identify SLD in the area of reading, which may include dyslexia. To be eligible for special education services under the Individuals with Disabilities Education Act (IDEA), assessment results must demonstrate that the disability has a significant impact on the child's learning and the student needs specially designed instruction.

Resources

- Center for Parent Information and Resources (CPIR)
- Council for Exception Children (CEC), Division for Learning Disabilities
- International Dyslexia Association (IDA)
- Institute of Education Sciences (IES)
- LD Online
- North Dakota Department of Public Instruction (NDDPI)
- University of Michigan, Dyslexia Help
- Learning Disabilities Association of America (LDAA)
- National Center for Learning Disabilities (NCLD)
- Teaching LD
- Understood for Learning and Attention Issues
- What Works Clearinghouse (WWC)
- The Yale Center for Dyslexia and Creativity

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