

Executive Summary

Technical Assistance Document

for

DYSLEXIA

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INTRODUCTION

The Nebraska Department of Education recognizes the importance of learning to read for students throughout the state. Understanding the specific needs of all students is paramount to providing appropriate instruction for children to progress in reading development.

Dyslexia is a type of specific learning disability and students with dyslexia may have difficulty with several skills including oral language, reading, spelling and writing.

The purpose of the Nebraska Department of Education 2016 Technical Assistance Document for Dyslexia is to provide information, resources, guidance and support to schools, families and caregivers in understanding the specific learning disability of dyslexia. This technical assistance document is a starting point and includes additional resources for educators to access when they suspect a student may have dyslexia. Recognizing that Nebraska school districts have autonomy in selecting assessments, diagnostic tools and instructional programs, the Nebraska Department of Education does not endorse any specific assessments or programs.

For information on verifying students with a specific learning disability for the purpose of receiving specially designed instruction, please refer to the [Verification Guidelines for Children with Disabilities \(Disability Category: Specific Learning Disability, 2015\)](#) and [92 NAC 006.04K \(2014\)](#).

The following goals are embedded within the Nebraska Department of Education Technical Assistance Document for Dyslexia and this Executive Summary of that document.

1. Build an understanding of **dyslexia** as a specific learning disability that may have a significant impact on learning.
2. Dispel long-held misconceptions relating to **dyslexia**.
3. Identify evidence-based practices that guide effective instruction and supports for children verified with the specific learning disability of **dyslexia**.
4. Provide a list of resources for informed study that will guide instructional decision-making relating to **dyslexia**.

One thing we know for certain about dyslexia is that it is one small area of difficulty in a sea of strengths. Having trouble with reading does not mean that you'll have trouble with everything. In fact, most children with dyslexia are very good at a lot of other things.

Dr. Sally Shaywitz, M.D. - [Overcoming Dyslexia \(2003\)](#)

This document was developed by staff at the Nebraska Department of Education Special Education Office and a private contractor. Additionally, input was obtained from the Nebraska Dyslexia Association and from the Nebraska Association of Special Education Supervisors (NASES).

DYSLEXIA: A DEFINITION

The National Institutes of Health (NIH), the International Dyslexia Association (IDA), the Nebraska Dyslexia Association (NDA), and others have adopted and support the following definition:

Dyslexia is a specific learning disability that is neurological 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 the growth of vocabulary and background knowledge.

The following information is adapted from the Great Schools website:

www.greatschools.org/gk/articles/brain-research/

Perhaps the best-known scientists in the field of research relating to dyslexia are medical doctors, Sally and Bennet Shaywitz, co-directors of the National Institutes of Child Health and Human Development's Yale Center for the Study of Learning and Attention. They have been studying learning for more than twenty years and have a gift for translating brain science into information that is understandable and useful.

Their Connecticut Longitudinal Study has tracked the reading performance of more than 400 students with a broad range of backgrounds and abilities. The study determined that **reading problems occurred in 1 out of 5 children (e.g. 20%), and that the deficit in reading difficulties occurs at the linguistic and phonologic level.** This study also has determined that **dyslexia and reading problems occur equally among boys and girls, though boys are identified more often.**

Phonological deficits have been identified as the chief cause of reading disabilities. However, the Shaywitzes' work with functional magnetic resonance imaging (fMRI) has shown that dyslexia is neuro-biologically based.

Additionally, Dr. Sally Shaywitz's work relates to the importance of reading instruction that is:

- **Sequential**
- **Systematic**
- **Direct**
- **Explicit**
- **Multisensory**
- **Supportive**

CHARACTERISTICS OF DYSLEXIA

Some of the most common characteristics associated with dyslexia are listed below. Not all students with dyslexia will exhibit all characteristics.

- **Perception:** Students may have difficulties recognizing, discriminating, and interpreting visual and auditory stimuli (Mammarella & Pazzaglia, 2010; Mercer & Pullen, 2009).
- **Attention:** Students may have difficulty selecting and focusing attention on the most relevant stimuli essential for learning (Obrzut & Mahoney, 2011; Sinclair, et al., 1984; Smith, 2004).
- **Memory:** Students may have deficits in memory, especially working memory. Working memory is the ability to temporarily hold and manipulate information for tasks performed on a daily basis.
- **Processing Speed:** Some students do not process information effectively and efficiently.
- **Metacognition:** Metacognition is the ability to adjust behavioral and environmental functioning in response to changing academic demands (Zimmerman, 1986). Metacognition also includes knowledge of the relationship between a task and strategy and when, where, and why a specific strategy is used (Reid & Lienemann, 2007).
- **Language:** Language delay and inappropriate use of language are problems some students may exhibit. Students may have problems in **phonology** (sounds), semantics (vocabulary), syntax (grammar), **morphology** (prefixes and suffixes), and pragmatics (social language).
- **Academic:** Academic deficits for students with dyslexia are well-established by third or fourth grade due to the shift from “learning to read” to “reading to learn” (Bernstein & Waber, 1991). Beyond third grade, students are also expected to be able to incorporate cause/effect sequences, goal setting/planning, and conclusions that relate to final events of the reading (Westby & Watson, 2004).
- **Social Issues:** Some students with dyslexia have deficits in the area of social competence that are exhibited in a variety of social skill difficulties. They may misread social cues, be unaware of how their behaviors impact others, and may misinterpret the feelings of others.

ASSOCIATED CONDITIONS

In addition to the aforementioned characteristics, it is important to be aware of additional concerns or associated conditions that may occur concomitantly with the disability of dyslexia.

- **Attention Deficit Hyperactivity Disorder (ADHD):** ADHD is a problem with inattentiveness, over-activity, impulsivity, or a combination of these (Barkley, 2006; PubMed Health, 2012).
- **Emotional Disturbance:** Students with dyslexia may exhibit emotional and behavioral issues related to pronounced deficits in social skills, self-concept, academic achievement, management of emotions, and social information processing.
- **Speech and Language Impairment:** Students with dyslexia may have significant difficulties with syntax, phonological and morphological skills, as well as associated deficits in semantics and pragmatics. Often poor academic performance is the result of the interplay between language deficits (both oral and written) and academic deficits.
- **Dysgraphia:** Dysgraphia is primarily expressed through writing or typing, although in some cases it may also affect eye-hand coordination, direction-or sequence-oriented processes such as tying knots or carrying out a repetitive task. In dyslexia, dysgraphia is often multifactorial, due to impaired letter writing automaticity, finger motor sequencing challenges, organizational and elaborative difficulties, and impaired visual word form which makes it more difficult to retrieve the visual picture of words required for spelling (Nicolson & Fawcett, 2011).
- **Dyscalculia:** Children with dyscalculia have difficulty with math computation and application processes. Some signs of dyscalculia may be difficulty understanding math concepts; completing word problems; performing math operations; recognizing patterns and sequencing; organizing information; or simply number recognition. Research shows that 50-60% of students with dyslexia also have math difficulties.
- **Central Auditory Processing Disorder:** Auditory processing disorder affects the ability to process information taken in through hearing. It is often noted as a listening disability (Chermak & Musiek, 1992). Children with auditory processing disorder often have trouble recognizing the difference between letters like *b* and *d* and sounding out new words.
- **Visual Processing Disorder:** Visual processing disorder refers to a reduced ability to make sense of information taken in through the eyes. Difficulties with visual processing affect how visual information is interpreted or processed in the brain. A child with visual processing problems may have 20/20 vision but may have difficulties discriminating foreground from background, forms, size, movement, direction, and position in space. The child may be unable to synthesize and analyze visually presented information accurately or fast enough.

- **Executive Function Skill Deficit:** Executive function describes a set of cognitive abilities that control and regulate higher order thinking ability and behaviors. It is necessary for goal-directed behavior and includes the ability to initiate and stop actions; monitor and change behavior as needed; and plan future behavior when faced with novel tasks and situations. The ability to form concepts and think abstractly is often considered a component of executive function (Brosnan, et.al, 2002).

INDICATORS

Common Indicators Associated with Dyslexia

If the following behaviors are unexpected for an individual's age, educational level, or cognitive ability, they may be risk factors associated with dyslexia. A student with dyslexia exhibits several of these behaviors that persist over time and have significant impact on his/her learning. **A family history of dyslexia may be present; in fact, recent studies reveal that the whole spectrum of reading disabilities is strongly determined by genetic predispositions and inherited aptitudes (Olson, et.al, 2014).**

Preschool

At this stage, students are developing the oral language base necessary for learning to read. Signs that may indicate possible difficulties with reading skill acquisition include:

- Delays in learning to talk
- Difficulty in rhyming (i.e., "boo – moo – too," "cat – mat – pat," etc.)
- Poor auditory memory for nursery rhymes, chants, finger plays, songs, etc.
- Difficulty in adding/expanding vocabulary
- Inability to recall the right word (word retrieval) when speaking
- Persistent 'baby talk'
- Trouble learning the names of letters and numerals
- Difficulty remembering and ordering the letters in his/ her name
- Does not participate or enjoy following along when books are read aloud
- Difficulty following simple one-step directions

Parents are encouraged to contact the school district if several of these signs are noted in the early literacy development of their child.

Kindergarten and First Grade

At this stage, most children are developing basic word recognition skills through the use of word attack strategies and contextual cues. Students with dyslexia will show some of the following characteristics:

- Difficulty remembering the names and shape of letters
- Difficulty recalling their letters and their corresponding sound

- Difficulty identifying and manipulating sounds in syllables (i.e., “pal” sounded out as /p/ /a/ /l/; rearranging those letters to create another word, “lap” sounded out /l/ /a/ /p/; etc.)
- Difficulty breaking words into smaller parts called syllables (i.e., “bathroom” into “bath” – “room,” or “pumpkin” into “pump” - “kin,” etc.)
- Difficulty using the decoding process to sound out and read single words in isolation
- Difficulty spelling words phonetically (e.g., the way they sound) or remembering letter sequences in very common words seen often in print (i.e., “sed” for “said,” etc.)
- Mispronunciation of words (i.e., “pusgetti” for “spaghetti,” or “mawn lower” for “lawn mower,” etc.)
- Crayon and pencil grip tends to be awkward, tight, or fist-like
- Difficulty with spatial orientation (i.e., up/down, over/under; before/after; around/through, etc.)
- Difficulty acquiring new vocabulary and using age appropriate grammar.

Second and Third Grade

For a child with dyslexia, many of the previously described behaviors may continue to be problematic in addition to the following:

- Difficulty recognizing common sight words (i.e., “to,” “said,” “the,” “been,” etc.)
- Difficulty decoding one syllable words
- Difficulty recalling the correct sounds for letters and letter patterns in reading
- Confusion with visually similar letters/numerals (i.e., b/d/p; w/m; h/n; f/t; 6/9)
- Difficulty connecting speech sounds with appropriate letter or letter combinations and omitting letters in words for spelling (i.e., “after” spelled “eftr,” or “always” spelled “aways,” etc.)
- Confusion of auditorily similar letters (d/t; b/p; f/v)
- Reads slowly with many word inaccuracies (i.e., reads “saw” for “was,” reads “go” for “gone,” etc.)
- Reading and spelling errors that involve difficulties with sequencing and monitoring sound/symbol correspondence such as omissions (trip/tip), additions (sip/slip), substitutions (rib/fib) and transpositions (stop/spot)
- Tends to read without expression
- Does not observe punctuation when orally reading (i.e., a period at the end of a sentence means a brief stop; a comma in a sentence means a slight pause; etc.)
- Difficulty decoding unfamiliar words in sentences using knowledge of phonics
- Reliance on picture clues, story theme, and guessing at words
- Difficulty with skills in writing (i.e., correct formation of letters/numerals; spelling, handwriting, written expression, etc.)
- Difficulty putting ideas on paper

- Omission of grammatical endings in reading and/or writing (-s, -ed, -ing, etc.)
- Difficulty remembering spelling words over time and applying spelling rules.

Fourth through Sixth Grade

At this stage, children progressing in the normal range will have mastered basic reading skills and are expected to learn new information from their group and independent reading activities. Students with dyslexia will continue to have significant difficulties with developing word recognition skills and may experience difficulty coping with more advanced expectations for reading to succeed in the grade level curriculum. For the child with dyslexia, many of the previously described behaviors may continue to be problematic along with the following:

- Frequent misreading of common sight words (i.e., where, there, what, then, when, etc.)
- Difficulty reading aloud (e.g., fear of reading aloud in the presence of peers or others)
- Avoidance of reading for pleasure
- Acquisition of higher level vocabulary reduced due to reluctance to read independently for enjoyment
- Difficulty understanding concepts and relationships
- Difficulty reading and spelling multisyllabic words, often omitting entire syllables as well as making single sound errors
- Difficulty with reading comprehension and learning new information from text due to underlying word recognition problems
- Use of less complicated/descriptive words in writing because of the spelling challenge larger words present (i.e., uses "big" rather than "enormous," uses "bad" rather than "horrible," etc.)
- If oral language problems exist affecting vocabulary knowledge and grammar, difficulties in comprehension of text may be evident
- Comprehension relies more on listening ability than reading ability
- Spelling and punctuation are weak
- Difficulty organizing writing elements
- Lack of awareness of word structures (prefixes, roots, suffixes)
- In reading, when challenged by an unfamiliar work, chooses to skip it in context or takes so much time phonetically decoding the word that reading comprehension is sacrificed

Middle and High School

Students in this age range are expected to analyze and synthesize information in written form as well as acquire factual information. Although many individuals with dyslexia may have compensated for some of their difficulties with reading, others many continue to have problems with automaticity and word identification.

Many of the previously described behaviors continue to be problematic along with the following:

- Reads so slowly that meaning is lost
- Persistent phonological weakness
- Continued difficulty with word recognition which significantly affects acquisition of knowledge and ability to analyze written material
- Spelling and writing continue to be affected
- Difficulty keeping up with assignments due to increased expectations and volume of reading and written assignments
- Frustration with the amount of time required and energy expended for reading
- Difficulty with written assignments
- Continued avoidance of independent reading activities that expand knowledge, understanding, and vocabulary
- Extreme difficulty learning a foreign language
- Tends to procrastinate in tasks related to reading and/or writing
- Difficulty with note taking in class
- Exhibits difficulty outlining and/or summarizing

SCREENING, PROGRESS MONITORING AND EVALUATION

The U.S. Department of Education's Institute of Education Sciences convened a panel to look at the best available evidence and expertise, and formulated specific and coherent evidence-based practices to help primary grade students overcome reading difficulties. The first recommendation made by the panel was: **Screen all students for potential reading problems at the beginning of the year and again in the middle of the year** (Institute of Education Sciences, 2014).

Screening: A process using instruments designed to be relatively quick and accurate; time and cost efficient; objective and requiring no professional judgment; valid; and capable of categorizing students, particularly individuals at risk, with relative accuracy. Screening helps identify those students who may not be making expected grade level progress and who may need additional supports. **If screening is uniformly applied to all students, it is considered "universal" and parent consent is not necessary.**

Progress Monitoring: In addition to universal screening instruments, progress monitoring is another process for assessing student growth. **Progress monitoring is a scientifically-based practice used to assess students' academic performance and evaluate the effect of instruction on student progress.**

Evaluation: Evaluation is a multi-faceted process for determining whether a child meets the verification criteria for inclusion in special education and related services. Evaluation encompasses a variety of assessment activities including, but not limited to, observation and interview; screening and assessment; and formal testing by a

professional trained in administering and interpreting psychometric results. The culmination of the evaluation process is a written report that includes evidence of whether or not specific criteria are met for verification.

The criteria for verification of a specific learning disability are outlined in the *Nebraska Department of Education Verification Guidelines, Disability Category: Specific Learning Disability (2015)*

<http://www.education.ne.gov/sped/technicalassist.html>, and Rule 51 92 NAC 006.04K (2014) <http://www.education.ne.gov/sped/regulations.html>.

INSTRUCTION AND INTERVENTION

Instruction

“Evidence-based”-What does it mean?

“Evidence-based” means that a particular collection of instructional practices has a proven record of success. There is reliable, trustworthy, and valid evidence that when the practices are implemented with fidelity with a particular group of children, the children can be expected to make adequate gains in reading achievement.

There are few instructional tasks more important than teaching children to read. Effective reading instruction that leads to high achievement for ALL students is an attainable goal through the implementation of evidence-based instructional practices that promote quality learning (National Clearinghouse for Comprehensive School Reform, 2001).

Teachers are the key to implementation of *evidence-based practices* that lead to student learning. Research has confirmed that regardless of the quality of a program, resource, or strategy, it is the teacher and the learning environment he or she creates within the classroom that make the difference (Bond & Dykstra, 1997). This evidence underscores the need to join practices grounded in sound and rigorous research with highly trained and skillful teachers.

What are “Evidence-based Programs?”

U.S. funded investigations examined popular approaches to teaching beginning reading and included examinations of basal reading, phonics, language experience, and linguistics approaches. Results led the authors to conclude that “children learn to read by a variety of materials and methods...No one approach is so distinctly better in all situations than the others that it should be considered the *best* and the one to be used exclusively” (Bond & Dykstra, 1977, p. 416.)

The National Reading Panel (National Institute of Child Health and Human Development ([NICHD], 2000) also studied effective instruction of reading, examining evidence related to practices in phonemic awareness, phonics, fluency, vocabulary,

and comprehension instruction. Evidence strongly indicted relationships between particular practices and high student achievement. The research supported the conclusion that it is **evidence-based practices** and not specific reading programs that are effective (NICHD, 2000).

Comprehensive research studies indicate that the following ten instructional practices are representative of the current state of literacy knowledge and provide an effective template for understanding best **evidence-based practices** in reading instruction:

1. Provide **direct instruction** in decoding and comprehension. Balance direct instruction, guided instruction, and independent learning.
2. Integrate a comprehensive **word study/phonics program** into reading/writing instruction.
3. Structure **sufficient time for reading instruction** in the classroom.
4. Work with students in **small groups** while others read and write about what they have read.
5. Use **assessment techniques that inform instructional decision-making**.
6. Teach reading for authentic purposes - **literacy development**, reading for information, reading to perform a task or activity, reading for pleasure.
7. Incorporate **high-quality literature**.
8. Use multiple texts and programs that **link and expand instructional concepts**.
9. Balance **discussions on learning objectives** – teacher-led and student-led.
10. Build a **reading community** within the classroom that emphasizes important concepts and builds skills and background knowledge.

The Seminal Work of the National Reading Panel (1997-2000)

A national panel to assess the effectiveness of different approaches used to teach children to read was convened in 1997. The National Reading Panel's analysis of the research findings made it clear that the best approach to reading instruction was one that incorporated: **explicit instruction in phonemic awareness, systematic phonics instruction, methods to improve fluency and ways to enhance comprehension**. A summary of the National Reading Panel's findings follows:

Concept	Description	Finding
Phonemic awareness	Means knowing that spoken words are made up of smaller parts called phonemes. Teaching phonemic awareness gives children a basic foundation that helps them learn to read and spell.	The panel found that children who learned to read through specific instruction in phonemic awareness improved their reading skills more than those who learned without attention to phonemic awareness.
Phonics instruction	Phonics teaches students about the relationship between phonemes and printed letters and explains how to use this knowledge to read and spell.	The panel found that students show marked benefits from explicit phonics instruction, from kindergarten through sixth grade. (Although ideally most children will master phonics in the early grades, those still struggling in later grades may need explicit phonics instruction as intervention).
Fluency	Fluency means being able to read quickly and accurately and to express certain words properly—putting the right feeling, emotion, or emphasis on the right word or phrase. Teaching fluency includes (1) guided repeated oral reading, in which students read out loud to someone who corrects their mistakes and provides them with feedback, and (2) independent silent reading, in which students read silently to themselves.	The panel found that reading fluently improved the students' abilities to recognize new words; read with greater speed, accuracy, and expression; and better understand what they read. Evidence showed that repeated oral reading improved fluency and that reading practice also helped. However, the panel noted that independent silent reading should not be substituted for instruction.
Comprehension: Vocabulary instruction	Teaches students how to recognize words and understand them.	The panel found that vocabulary instruction and repeated contact with vocabulary words are important. Techniques such as pre-teaching vocabulary and learning to use the words in context are helpful in learning word meanings.
Comprehension: Text comprehension instruction	Teaches specific plans or strategies that students can use to help them understand what they are reading.	The panel identified seven ways of teaching text comprehension that helped improve reading strategies in children who didn't have learning disabilities. For instance, creating and answering questions and cooperative learning helped to improve reading outcomes.
Comprehension: Teacher preparation and comprehension strategies instruction	Refers to how well a teacher knows things such as the content of the text, comprehension strategies to teach the students, and how to keep students interested.	The panel found that teachers were better prepared to use and teach comprehension strategies if they themselves received formal instruction on reading comprehension strategies. They also found that teaching students to use strategies in combination was more beneficial than simply teaching individual strategies.
Teacher education in reading instruction	Involves how much teacher education influences how effective teachers are at teaching children to read.	In general, the panel found that studies related to teacher education were broader than the criteria used by the panel. Because the studies didn't focus on specific variables, the panel could not draw conclusions. Therefore, the panel recommended more research on this subject.
Computer technology in reading instruction	Examines how well computer technology can be used to deliver reading instruction.	Because few studies focused on the use of computers in reading education, the panel could draw few conclusions. However, the panel noted that all of the 21 studies on this topic reported positive results from using computers for reading instruction.

Intervention

Learning to read is shaped by a multitude of factors. Six interrelated factors provide insight into the specialized, additional supports called interventions that are key in teaching a child with dyslexia to read. Those factors include:

1. What is taught

The National Reading Panel addressed a series of positive conclusions on how and what to teach to ensure positive literacy growth in students: **Alphabetics, Fluency, Comprehension and Teacher Education and Reading Instruction**. The summary can be found at <http://www.nichd.nih.gov>

Alphabetics

Phonemic Awareness

Phonemic awareness refers to the ability to identify and manipulate phonemes in spoken words and must be explicitly and directly taught. Phonemes are the smallest sound units constituting spoken language. English consists of about 44 phonemes. Phonemes combine to form syllables and words. **Correlational studies have identified phonemic awareness and letter knowledge as the two best school-entry predictors of how well children will learn to read during their first 2 years in school.**

Phonics Instruction

Systematic phonics instruction contributes to the process of learning to read words by teaching readers the use of the alphabetic system. Alphabetic knowledge is needed to decode words, to retain sight words in memory, and to call on sight word memory to read words by analogy. Word prediction is made more accurate when readers can combine context clues with letter-sound cues in guessing unfamiliar words in text. **Students with dyslexia have difficulty remembering letter names and sounds and require direct, multisensory instruction of the sound-symbol system.**

Many mental processes are active when readers read and understand text. A central part of text processing involves reading the words. Four different ways are distinguished in the research:

1. **Decoding:** Readers convert letters into sounds and blend them to form recognizable words.
2. **Sight:** Readers retrieve words they have already learned to read from memory.
3. **Analogy:** Readers access words they have already learned and use parts of the spellings to read new words having the same spellings.
4. **Prediction:** Readers use context cues, their linguistic and background knowledge, and memory for the text to anticipate or guess the identities of unknown words.

The National Reading panel concluded that **systematic phonics instruction produced gains in reading and spelling not only in the early grades (kindergarten and 1st grades) but also in the later grades (2nd through 6th grades) and among children having difficulty learning to read and students with disabilities.** Findings provided converging evidence that **explicit, intensive, and systematic phonics instruction is a valuable and essential part of any successful classroom reading program.**

Fluency

Fluent readers can read text with speed, accuracy and proper expression. However, fluency represents a level of skill beyond word recognition and accuracy. There is common agreement that fluency develops from reading practice. One approach is to have students read passages orally with guidance and feedback. Programs in this category include ***repeated reading, paired reading, shared reading, and assisted reading.*** **Classroom reading practices that encourage repeated oral reading with feedback and guidance lead to meaningful improvements in reading expertise for students—for good readers as well as those who are experiencing difficulties.**

Comprehension

Comprehension is the “essence of reading,” essential not only to academic achievement but to life-long learning. As the National Reading Panel began its analysis of the research on reading comprehension, three predominant themes emerged: (1) vocabulary learning and instruction – key findings indicate a need for direct instruction of vocabulary required for specific texts. (2) text comprehension - defined as intentional thinking during which meaning is made through interaction between the reader and the text; and (3) teacher preparation that equips teachers to facilitate the complex processes tied to the development of reading comprehension. Additional information on comprehension is included in the Nebraska Department of Education Technical Assistance document for Dyslexia on pages 36-39.

School-wide Evidence-based Core Reading Program

“Teaching reading is rocket science” (Moats, 1999). It requires strategic planning, guided by a scientific knowledge base. An evidence-based core reading program is a valuable tool for teachers, as it provides a scope and sequence of skills to be taught and strategies to effectively teach reading skills in order to maximize student learning.

The core reading program calls for school-wide implementation with fidelity. Fidelity, an often misinterpreted term, means providing explicit instruction in all five elements of reading development: phonemic awareness, phonics, fluency, vocabulary, and comprehension being true to the scientific research results of the National Reading

Panel. **A research-based core program should enable at least 80% of students to meet grade level reading standards.**

Multi-Tiered System of Support/Response to Intervention (MTSS/RtI)

MTSS/RtI is an educational service delivery system designed to provide effective instruction for all students using a comprehensive and preventive problem solving approach. It employs a tiered method of instructional delivery, in which the core curriculum addresses and meets the needs of most students (Tier 1), additional instruction is provided for those needing supplementary intervention support (Tier 2), and intensive and individualized services are provided for the students who continue to demonstrate more intensive needs (Tier 3). At its foundation, MTSS/RtI includes measuring performance of all students, and basing educational decisions regarding curriculum, instruction, and intervention intensity on student data.

For additional information, please refer to the Nebraska Department of Education document on Multiple-Tiered System of Supports.

2. How reading is taught

For a list of approaches and strategies for effective reading instruction, please refer to pages 43-45 in the Nebraska Department of Education Technical Assistance Document for Dyslexia
https://www.education.ne.gov/sped/technicalassist/Dyslexia_1.20.16.pdf

These practices are known to be effective for emergent readers, but they are critical for children with dyslexia — and sometimes in higher doses and greater intensity than for other students. Moreover, the mix of these practices must be varied enough to meet each child wherever he or she stands on the continuum of reading development.

3. Implementation Fidelity

Implementation fidelity is defined as the degree to which a program or practices are implemented as intended by the developer, including the quality of the implementation. Consistency, accuracy, and integrity are factors that impact the degree of implementation fidelity.

In considering application of evidence-based practices in reading instruction, implementation fidelity becomes important because it: (1) ensures that reading instruction and practices are implemented as intended, (2) helps link student outcomes to delivery of instruction, (3) helps determine intervention effectiveness, and (4) helps in instructional decision-making.

4. Expertise of Teacher(s)

The transformative power of an effective teacher is one of the most important factors in achieving critical outcomes for children. Years of research on teacher quality support the fact that effective teachers not only create classroom environments conducive to learning but their work actually results in increased student achievement (Jordan, et.al, 1997).

5. Communication and Coordination

In April of 2011, The Council for Chief State School Officers (CCSSO) created teaching standards driven not only by new understanding of learners and learning, but also by the new imperative that every student can and must attain high standards of achievement. The practice to include students with disabilities in the general education classroom to the greatest extent possible has brought general education and special education teachers together to work collaboratively to share decision-making in setting student goals, informing instructional practice, assuming responsibility for students, assessing student learning, solving problems together, and aligning classroom management strategies.

6. Family Engagement

Barnard (2004) looked at the association between parental involvement in elementary school and student success in high school, and concluded that early parental involvement in a child's education promotes positive long-term effects. At the heart of parental involvement is the concept of authentic communication that is open and honest (Swick, 2003). Swick's research suggests that sharing information; empowering parents; dismantling barriers to understanding and cooperation; and recognizing parents' strengths, priorities, and perspectives are fundamental to building strong relationships between home and school.

Tucker (understood.org) provides the following tips for how to be an effective advocate for your child or school.

- Study
- Build relationships.
- Ask questions.
- Stay calm.
- No one knows your child as you do. You have important insights into your child's learning.
- Talk to your child about his/her disability.
- Get to know the educational jargon.
- Attend meetings regularly.

For additional information, please refer to the Nebraska Department of Education Technical Assistance Document for Dyslexia pages 48 and 49.

https://www.education.ne.gov/sped/technicalassist/Dyslexia_1.20.16.pdf

POSSIBLE ACCOMMODATIONS

At the time when most students are developing coordinated literacy skills of reading, writing, and spelling, a student with dyslexia may struggle with these areas of skill development. Effective accommodations are aligned with classroom instruction; classroom assessments; and district and/or state testing. However, some accommodations appropriate for classroom use may not be considered appropriate in certain testing situations. For NeSA testing accommodations for students with disabilities, refer to Nebraska State Department of Education guidance at: <http://www.education.ne.gov/sped/nesa.html>

The International Dyslexia Association (IDA) has suggested a framework to help guide decisions for appropriate instructional accommodations for students with dyslexia in the general education setting.

Materials

- Simplify and clarify directions – both oral and written.
- Chunk assignments into smaller, more manageable tasks
- Block extraneous stimuli
- Highlight essential information

Instruction

- Use multisensory instructional practices
- Use explicit and balanced teaching practices
- Repeat directions - Use step-by-step instruction
- Provide a copy of lecture notes
- Provide students with a graphic organizer
- Encourage use of mnemonic strategies
- Deepen learning through planned reviews

Student performance

- Altered response mode – oral or assignment substitutions
- Provide an outline
- Encourage use of assignment books or calendars
- Reduce note taking by providing handouts
- Encourage peer-mediated learning/note sharing
- Allow time
- Provide additional practice

Additional information on Accommodations is on pages 51-55 in the Dyslexia Technical Assistance document.

https://www.education.ne.gov/sped/technicalassist/Dyslexia_1.20.16.pdf

INFORMATION FOR PARENTS

Reading does not develop naturally like seeing, hearing, and speaking. Rather, it happens very intentionally when specific skills are taught, practiced, and learned in a highly prescribed sequence that focuses on principles of printed language. To master the reading process a child must learn about: a. the world of letters; b. letters that makes specific sounds; c. individual and discreet sounds (called phonemes) that are synthesized (blended) into words, both regular and irregular, and their word families; and d. words that have specific meanings (called vocabulary) that come together to express concepts.

Early identification is the key! If a child has trouble reading in the early grades, parents and teachers are more likely to detect the problem and initiate assessment, evaluation, and programming that provide the elements of effective teaching to ensure a greater level of reading success for students with dyslexia.

As a parent of a child with dyslexia, you may find the following suggestions helpful:

- Learn about dyslexia.
- Talk with your child about dyslexia.
- Embrace your child's natural intelligence.
- Provide positive feedback and encouragement.
- Collaborate with educators.
- Read aloud daily!
- Encourage reading and writing – independent reading time
- Assist with homework. Monitor Self-esteem.

For more information on specific suggestions for parents, please refer to pages 57-62 in Dyslexia Technical Assistance Document.

https://www.education.ne.gov/sped/technicalassist/Dyslexia_1.20.16.pdf

DEBUNKING THE MYTHS – With Fact

Myth #1: Writing letters and words backwards are the most prominent signs of dyslexia.

- **Fact:** *Writing letters and words backwards may occur in any child prior to 2nd grade or the age of eight or nine. Dyslexia does not cause children to see letters, numbers, and words backwards or inverted. However, some children with dyslexia may confuse letters, misread words, or have difficulty forming letters as a result of the lack of phonological skills (Moats, 1999).*

Myth #2: If given enough time, children will outgrow dyslexia.

- **Fact:** *Dyslexia is neurological in origin and is a lifelong learning disability. There is no evidence that indicates that dyslexia can be outgrown. There is, however,*

strong evidence that children with reading problems show a continued persistent deficit rather than merely learning to read later than their peers (Francis, et.al, 1996). Evidence indicates that without early effective intervention and reading instruction, children with dyslexia continue to experience reading problems into adolescence and adulthood (Shaywitz, 2003).

Myth #3: Dyslexia is more prevalent in boys than in girls.

- **Fact:** Longitudinal research shows that girls and boys are equally affected by dyslexia (Shaywitz, et. al, 1990). There are many possible reasons for over-identification of males by schools, including behavioral acting out and difficulty assimilating compensatory strategies (Shaywitz, 1996).

Myth #4: An individual with dyslexia will never learn to read.

- **Fact:** This is simply not true. The earlier children who struggle are identified and provided systematic, explicit, and intense instruction, the less severe their problems are likely to be (Torgesen, 2002). With provision of intensive instruction, even older children with dyslexia can become accurate, albeit slow readers (Torgesen, et. al, 2001).

Myth #5: Dyslexia is rare.

- **Fact:** The National Center for Learning Disabilities projects that one in five (or 15-20% of any given population) has a specific learning disability. Of students identified with specific learning disabilities, 70-80% have deficits in reading. The International Dyslexia Association (IDA) further notes that the most common type of reading, writing, and/or spelling disability is dyslexia. These numbers quickly dispel the myth that dyslexia is rare.

Myth #6: There is a test to determine if an individual has dyslexia.

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

Myth #7: Dyslexia is a medical condition and only medical professionals can diagnose dyslexia.

- **Fact:** Though dyslexia is a medical condition, it becomes an educational issue when it significantly impacts the student's achievement. The school multidisciplinary team determines what tests and assessments are necessary to complete a thorough evaluation. To be eligible for special education services under the Individuals with Disabilities Education Act (IDEA), multidisciplinary team findings must demonstrate that the disability of dyslexia has a significant impact on student performance.

Myth #8: Dyslexia cannot be diagnosed until 3rd grade.

- **Fact:** *Early intervention is critical to the success of a student with dyslexia. Assessments of phonemic awareness; letter knowledge and speed of naming; and sound-symbol association can be completed as early as kindergarten. Success or lack thereof, in these specific skill areas often predicts reading ability in the first and second grades.*

Myth #9: If students with dyslexia would just try harder, they would succeed.

- **Fact:** *Dyslexia is the result of a neurological difference beyond the control of the student. Motivation is not usually the primary problem associated with reading difficulties but may become a secondary problem due to repeated stress and failure in academic areas relating to reading.*

Myth #10: Dyslexia is caused by brain damage.

- **Fact:** *The exact causes of dyslexia are not completely clear. However, brain imaging studies show significant differences in the way the brain of the child with dyslexia develops and functions (Shaywitz, et.al, 2001). The neurological differences associated with dyslexia are genetic rather than the result of brain injury, damage, or disease.*

REFERENCES

“Dyslexia in the Classroom: What Every Teacher Needs to Know.” International Dyslexia Association, <https://dyslexiaida.org/dyslexia-in-the-classroom/>

Additional references for Dyslexia are listed in the Nebraska Department of Education Technical Assistance Document for Dyslexia, pages 63-74.

https://www.education.ne.gov/sped/technicalassist/Dyslexia_1.20.16.pdf