In 1986, the first Texas State Dyslexia Law was passed after great efforts from parents, educators, and law makers. One of the most devoted advocates for educating children with dyslexia has been Geraldine Miller, long time member of the State Board of Education. This presentation was developed with the hope that district and campus administrators or dyslexia coordinators and campus dyslexia contacts will be able to educate teachers about the need for early intervention, assessment, identification, and educational treatment according to State Laws and Guidelines as they are presented in The Blue Book –revised 2007, The Texas State Dyslexia Handbook.
Each school district shall administer, at the K, First and Second grade levels, a reading assessment from a list approved by the Commissioner or by the district-level committee.

Each school district shall notify the parent/guardian of each student in K, 1, 2 who is determined on the basis of the reading instrument results, to be at risk for dyslexia or other reading difficulties.

Dyslexia Handbook page 45
Dyslexia Handbook page 45
The SSI is the aka Texas Reading Initiative. “The 76th Tx. Legislature amended the TEC, Sec 28.006 and approved the implementation of the SSI. 2 programs comprise the SSI:
The Teacher Reading Academies
The Accelerated Reading Instruction Program

   The Initiative is to provide support for professional development of teachers and the implementation of scientific, research-based reading programs to support students in their reading development in the early grades of school.”

From TEA web page
WHAT ELSE IS INCLUDED IN THE SSI?
Early Reading Assessment K,1,2, (HB 107) to be used to identify students in need of acceleration.
Parents must be notified of the results.
The district or charter school must also implement an accelerated (intensive) reading program that appropriately addresses the students' reading difficulties and enables them to “catch up” with their typically performing peers.

TEA, *The Dyslexia Handbook-Revised 2007*

(Additional information pertaining to initiative that support the reading achievement of Texas students is available on the Texas Education Agency Web page: www.tea.state.tx.us)
At any time that a student continues to struggle with one or more components of reading, districts and Charter schools must collect additional information about the student. Districts and charter schools will use this information to evaluate the student’s academic progress and determine what actions are needed to ensure the student’s improved academic performance. Some of the information that the district or charter school collects is in the student’s cumulative folder; other information is available from teachers and parents. Information to be considered includes the results from some or all of the following:

Teachers would be well advised to begin maintaining data on each of their students.

Within the Region XIII Deluxe Dyslexia Handbook is a sample form for Data Gathering. District Dyslexia Contacts have been provided with an electronic copy of this Handbook with sample forms.
Additional Info to Gather

- The student’s reading performance including the State student assessment program as described in TEC Sec. 39.022
- Response to additional reading instruction (if placed in additional reading instruction)
- Teacher’s input
- Parent’s input and Family History
Screening and Treatment for Dyslexia and Related Disorders:

- (a) Student enrolling in public schools in this state **shall** be tested for dyslexia and related disorders at appropriate times in accordance with a program approved by the SBOE.

Students enrolling in public schools in Texas shall be assessed for dyslexia and related disorders at appropriate times (TEC 38.003 (a)). The appropriate time depends upon multiple factors including the results of data gathered and reviewed by a committee of knowledgeable persons. Notice that the decision to assess for dyslexia is not based strictly on one factor such as whether the student passed or failed the TAKS assessment or on the basis of one teacher or parent report.
“When is it time to refer a student for formal assessment?”

According to the State Education Code and the Dyslexia Blue Handbook:

- The appropriate time for assessing is early in a student’s school career (19 TAC 74.28), the earlier the better.

- Students should be recommended for assessment for dyslexia even if the reading difficulties appear later in a student’s school career.

Additional guidance on when the appropriate time to assess includes:
An appropriate time could be:

- When poor performance in one or more areas of reading and/or the related areas of writing and spelling are unexpected for the student’s age/grade.
- Some or all of the characteristics of dyslexia.
- When a student fails the reading or writing portion of TAKS (but is not necessary)
Before dyslexia assessment takes place, a review of the data gathered regarding the student’s performance should be reviewed by a problem solving committee such as a GIST or LST.
“What do we need to know about dyslexia to both instruct and identify those students who need the components of a dyslexia reading program?”
Dyslexia is the most common, most highly researched, and best understood form of learning disabilities.

Dyslexia occurs primarily at the level of the single word and involves the ability to decode printed words.

Florida Center for Reading Research, Barbara Foorman
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 growth of vocabulary and background knowledge.

The definition of dyslexia continues to evolve since it was first defined some 60+ years ago. It has changed from a definition of "word blindness" based on observation of symptoms to the above definition which is based on both brain and educational research using advanced technology. In fact, single word reading deficiencies is the most highly researched form of any type of learning disability.

Let's take a moment to read through it.

As I have told my students many times, this passage is not nearly as boring as it may seem upon first reading.

(Supplemental note: presenter may want to refer to additional research discussing deficient rapid automatized naming and it's impact on single word identification and reading fluency. Excellent sources for this information include: )
Specific Learning Disability or Specific Developmental Dyslexia

- Developmental
  - Disorder of suspected congenital or hereditary origin, in contrast to acquired dyslexia
  - Does not mean that the disorder will disappear with maturity
1. neurobiological in origin:
   • dyslexia results from differences in how the brain functions – not differences in structure.
   • Dyslexics are born with the condition
   • it tends to run in families – there is a genetic component

Converging evidence using functional brain imaging in adult dyslexic readers show a failure of left hemisphere posterior brain systems to function properly during reading.
Imaging studies have identified at least two neural pathways for reading:
- one for beginning reading, for slowly sounding out words
- another that is a speedier pathway for skilled reading.

**Good readers** activate highly interconnected neural systems that encompass regions in the back and front of the left side of the brain. The reading circuitry includes brain regions dedicated to the processing the visual features, that is the lines and curves that make up letters, and to transforming the letters into the sounds of language and to getting the meaning of words.

Most of the reading part of the brain is in the back (posterior reading system)

- **Parieto-temporal system** – novice reader: Sound-Symbol connection
  - Slow and analytic
  - Function seems to be in early stages…initially analyzing a word, pulling it apart, and linking its letters to their sounds

- **Occipito-temporal** – hub where information from different sensory systems comes together and where, for example, all the information about a word – how it looks, how it sounds, and what it means is tightly bound together and stored.
  - Express pathway used by skilled readers

**Word form system: Orthographic processing**

After a child has analyzed and correctly read a word several times, he forms an exact neural model of that specific word; the model reflecting the word’s spelling, its pronunciation, and its meaning, is now permanently stored in the occipito-temporal system. Subsequently, just seeing the word in print immediately activates the word form and all the relevant information about that word. It all happens automatically, without conscious thought or effort.

Third reading pathway – **Broca’s area**: Phonological processing
Helps in slowly analyzing the word. Used by beginning readers
Because they underactivate neural pathways in the back of the brain, dyslexic readers have initial trouble analyzing words and transforming letters into sounds, and even as they mature, they remain slow and not fluent readers.

**Older dyslexic children:**

Show increased activation in frontal regions so that by adolescence they are demonstrating a pattern of overactivation in Broca’s region – that is, they are increasingly using these frontal regions for reading:

* A means of compensating is to subvocalize as you read: this process utilizes Broca’s area which is responsible for articulating spoken words.
* This helps the reader develop an awareness of the sound structure of a word by physically forming the word with his lips, tongue, and vocal cords – it allows them to read, but more slowly and less efficiently then if the occipitotemporal word identification system were functioning.

This pattern of underactivation in the back of the brain provides a neural signature for the phonologic difficulties characterizing dyslexia. It is universal – true of dyslexics in all languages and all ages.
As dyslexic readers try to sound out words - the posterior system in the left side of the brain is not working; instead these slow but accurate readers are relying on alternate secondary pathways, not a repair, but a different route to reading. In addition to the greater reliance on Broca’s area, dyslexics are also using other auxiliary systems for reading, ones located on the right side (right occipitotemporal area) as well as in the front of the brain which may be used by the dyslexic reader to facilitate visual pattern recognition, compensating for the impaired word analysis systems in the left posterior regions. The shift to ancillary neural systems in dyslexic readers may support accurate, but not fluent and automatic, word reading.
One year following an effective reading intervention, dyslexic children have developed left-side reading systems in both the front and back of the brain.

These findings provide powerful evidence that early intervention with an effective reading program leads to the development of primary, automatic reading systems and allows a child to catch up to his classmates.
The Reading/Spelling Characteristics are the Result of Difficulty With:

- The development of phonological awareness, including segmenting, blending, and manipulating sounds in words;
- Learning the names of letters and their associated sounds;
- Phonological memory (holding information about sounds and words in memory); and/or
- Rapid naming of numbers or letters of the alphabet. (colors and familiar objects for non-readers)
Think of language as a ladder:
Upper levels – components involved with semantics (vocabulary or word meanings), syntax (grammatical structure), and discourse (connected sentences).

Lower level – phonologic module dedicated to processing the distinctive sound elements of language.
Phoneme: defined as the smallest unit of speech that distinguishes one word from another

it is the fundamental element of the language system, the essential building block of all spoken and written words
different combinations of just 44 phonemes produce all of the words in the English language

Before words can be identified, understood, stored in memory, or retrieved from it, they must first be broken down into phonemes by the neural machinery of the brain.

Language is a code, and the only code that can be recognized by the language system and activate its machinery is the phonologic code.
Two major components of reading: decoding & comprehension

A phonologic weakness interferes with decoding; higher abilities necessary for comprehension are intact.

A phonologic weakness blocks decoding, which in turn interferes with word identification. This prevents a dyslexic reader from applying his higher-level skills to get at a word’s meaning. But even if he can’t identify the word specifically, he can apply these higher-level skills to the context around the unknown word to guess at its meaning.

Example: WIAT-II reading comprehension sentence about the avalanche covering the road with debris. The student was unable to read the word, however, when asked to define it didn’t have any trouble.
Known as the Matthew Effect: "The rich get richer and the poor get poorer." Over time, poor readers will not be able to achieve the advances in both vocabulary and language comprehension. This chart included in Sally Shaywitz's book, "Overcoming Dyslexia", indicates the correlation of reading test scores relative to the number of words readers become exposed to on a daily basis. The gap keeps growing with each year of limited exposure to reading.
....that is often *unexpected* in relation to other cognitive abilities and the provision of effective classroom instruction.

**Unexpected:**
- Oral language skills
- Ability to learn in the absence of print
- CogAT scores
- Intellectual functioning
- Strong math skills in comparison to reading skills

**Effective classroom instruction:**
- If a student enters school without some of the foundational skills for learning to read – did the child receive instruction in those skills?

**Effective early interventions** have the capability of reducing the expected incidence of reading failure from 18% of the school-age population to 1.4 – 5.4%.

**Second group of poor readers:** developed into poor readers as a result of experience. It may be the result of a combination of poor reading instruction in school and a disadvantaged language environment at home. In this group the wiring for the posterior reading system may have been laid down early on but never activated appropriately; the system is there, but it is not functioning properly.
Unexpected in relation to other cognitive abilities – Examples

Reasoning
Critical thinking
Decoding
Concept formation
Comprehension
General Knowledge
Vocabulary
Problem Solving

Sea of Strengths Model of Dyslexia
Shaywitz, Overcoming Dyslexia, 2003
Unexpected in relation to other cognitive abilities –

Examples

- Ability to learn orally in class: Science, Social Studies, etc.
- Able to learn and express meanings of words (vocabulary)
- Average or above reading comprehension
- Understanding of math word problems
- CogAT scores or scores from other group administered ability assessment
The information for “Common Signs of Dyslexia” compiled from the following sources:

Common Signs, Retrieved July 10, 2006, from The International Dyslexia Association web site.

Pre-School:

- May talk later than most children
- May have difficulty with rhyming
- May have difficulty pronouncing words, i.e., “busgetti” for spaghetti”, “mawn lower” for “lawn mower”
- Poor auditory memory for nursery rhymes and chants
- May be slow to add new vocabulary words
- May be unable to recall the right word
- May have trouble learning numbers, days of the week, colors, shapes, and how to spell and write his/her name
Kindergarten through Third Grade:

- Fails to understand that words come apart; for example, that snowman can be pulled apart into snow and man, and later on, that the word man can be broken down still further and sounded out as /m/ /a/ /n/;
- Has difficulty learning the letter names and their corresponding sounds;
- Has difficulty decoding single words (reading single words in isolation); lack of a strategy;
- Has difficulty spelling phonetically;
- Reads dysfluently (choppy and labored);
- Relies on context to recognize a word
Fourth Grade Through High School:

- Has a history of reading and spelling difficulties
- Avoids reading aloud
- Reads most materials slowly; oral reading is labored, not fluent
- Avoids reading for pleasure
- May have an inadequate vocabulary
- Has difficulty spelling; may resort to using less complicated words in writing that are easier to spell

The information for “Common Signs of Dyslexia’ was compiled from the following sources:

http://www.interdys.org/servlet/compose?section_id
Shaywitz, s. (2003). Overcoming dyslexia: A new and completed Science-Based Program for Reading Problems at any Level.
Common Myths

1. Individuals with dyslexia see letters and words backwards.

2. Colored lenses or overlays can correct the reading difficulty.

3. More boys than girls have dyslexia.

4. Dyslexia can not be identified until the third grade.

1. Reversals are developmentally normal through second grade and common within many learning disabilities. A diagnosis of dyslexia cannot be made based on any single characteristic. Reasons for seeing reversals may include:
   - they have not made a reliable association between the letter name and letter form.
   - When they read felt as flet, they demonstrate insufficient knowledge of common orthographic patterns (frequently occurring letter sequences).

2. While colored lenses or overlays may improve visual processing of print and delay reading fatigue, they do not correct single word reading deficits. Research on this topic is very controversial and does not substitute as an identification for dyslexia.

3. The gender ratio is no different than in the general population.

4. Early intervention is critical to the success of students with dyslexia. Educators need to assess kindergartners’ phonemic awareness, letter knowledge, speed of naming, and sound-symbol matching because these skills predict reading success in first and second grade. Dyslexia can be identified with certainty by mid-point of first grade after students have been exposed to effective reading instruction.
5. Dyslexia is a processing difference resulting in how the brain is organized. Many who receive appropriate remediation do learn to read, but they remain dyslexic. Even when they do learn to read, their processing differences often affect automaticity and efficiency.

6. Dyslexia is not a developmental lag; rather it reflects a persistent deficit indicating that more time or a slower approach will not remediate the problem.

7. It is true that dyslexic students may have great difficulty with phonics development. Often it is due to poor development of the necessary foundation skills in phonological awareness. Research supports and substantiates the need for multisensory phonics in this population of learners, along with a need for development and/or remediation of the phonological processing gaps.
8. Dyslexia is a medical or clinical problem, so only medical doctors or psychologists can diagnose dyslexia.

9. Dyslexia is a general, catch-all term for any student having difficulty with reading.

10. Students outgrow dyslexia.

8. Dyslexia is a learning disability which should be identified by educators. Professionals who identify dyslexia should be knowledgeable in how students process language and learn to read, and why some students have difficulty learning to read.

9. Dyslexia is a specific learning disability that is neurobiological in origin. The research-based definition of dyslexia adopted by the International Dyslexia Association and supported by the National Institutes of Health provides clear delineation of the characteristics of dyslexia.

10. Dyslexia is neurobiological in origin and, as such, is a lifelong learning disability. Students with dyslexia can overcome their academic difficulties with early identification and intervention, but they will always have dyslexia.
If the data provides evidence of reading difficulty after adequate instruction, then 504 procedures to initiate a formal assessment begin.

Parents must be notified of their rights under Section 504 of the American with Disabilities Act and the ADA Amendments of 2008.

Parents must sign a consent approving formal assessment to identify a disability (dyslexia).
Formal Assessment

The following are domains to assess:
Reading Achievement:
- Reading of real and nonsense words in isolation (decoding)
- Letter knowledge (name and associated sounds)
- Reading Fluency (rate and accuracy)
- Reading Comprehension
- Written spelling

Underlying Causes: Phonological Awareness, Phonological Memory, and Rapid Naming

Additional areas that can be assessed include oral language or comprehension, vocabulary, written expression, handwriting, and mathematics.

Diagnostics or teachers trained in the standardized administration of selected assessments may administer the formal assessment. Note that IQ testing is not a domain to assess; however, identification of dyslexia (as stated in the TEC Sec. 38.003 definition) includes the words “adequate intelligence”. There is no state defined cutoff score for IQ in the identification of dyslexia, but student’s need to be able to demonstrate an ability to learn within the context of other academic subjects.
Severe lack of achievement...

Severe underlying causes...

Co-occurring learning disabilities...

...will likely warrant referral for comprehensive individual evaluation to determine Special Education eligibility.
English Language Learners

Much diversity exists among English Language Learners.
The identification and service delivery process for dyslexia must be in step with the student’s linguistic environment and educational background. Involvement of the Language Proficiency Assessment Committee (LPAC) is recommended and is necessary for those students identified as LEP (Limited English Proficient).

If a student with dyslexia is referred for Special Education, districts and charter schools follow IDEIA. In IDEIA, dyslexia is considered one of the variety of etiological foundations for “specific learning disability”.

Page 10 of The Dyslexia Handbook – Revised 2007 states:

At any time during the assessment for dyslexia, identification process, or instruction related to dyslexia, students may be referred for evaluation for special education. At times, students will display additional factors/areas complicating their dyslexia and requiring more support than what is available through dyslexia instruction. At other times, students with severe dyslexia or related disorders will be unable to make adequate academic progress within any of the programs described in the procedures related to dyslexia. In such cases, a referral to special education for evaluation and possible identification as a child with a disability within the meaning of the Individuals with Disabilities Education Act of 2004 (IDEA) (20 U.S.C. section 1400 et seq.) should be made as needed.
All students, whether disabled or non-disabled are regular education students. Students identified as having dyslexia within the guidelines of Texas state laws may be served through regular education, regular education and protected by Section 504 of ADA, or through IDEA special education services in combination with any of the above.
Special Education

- When a student with dyslexia is eligible for Special Education service, the ARD committee MUST include appropriate reading instruction in the IEP as required for dyslexia service in the State Dyslexia Handbook.

See page 10 of The Dyslexia Handbook – Revised 2007
After a student is identified for dyslexia, a more intensive intervention in a dyslexia reading program begins with a “highly qualified” teacher.
(b) in accordance with the program approved by the SBOE, the board of trustees of each school district shall provide for the treatment of any student determined to have dyslexia or a related disorder.

See page 11 of The Dyslexia Handbook for more complete procedures for how the board of trustees of school districts are instructed to provide an appropriate instructional program for the student.
“The most powerful interventions that have been identified for reading disabilities to date consist of a combination of explicit instruction in sound-symbol relationships (phonics) and direct and integrated instruction in text reading and comprehension. This balanced approach appears to be necessary for adults, as well as children with reading disabilities.”

Dr. Reid Lyon – NICHD/NIH Report on Research (www.nih.gov)
Descriptors for an Effective Dyslexia Reading Program

Phonemic awareness – enables students to detect, segment, blend, and manipulate sounds in spoken language

And

Letter Recognition

Reading programs must include the foundational stages for reading acquisition if criterion referenced assessments administered to the student indicate the need for instruction, no matter the age of the student.
Components of Effective Instruction
(continued)

Graphophonemic knowledge – more than the sounds of the alphabet. The student learns to blend and segment sounds within orthographic patterns so that they can both attack unknown words phonetically, and store and retrieve whole words from memory so that word recognition can become automatic.

The new TEKS objectives for ELA in K-2 have been changed to reflect needed objectives to insure that students are presented with this foundational knowledge. Many courses of higher education teacher training have not yet incorporated pre-service teacher training into their teacher education programs. Professional development offerings often must be provided to enable in-service teachers acquisition of this depth of knowledge of the structure of the English language.

Due to the national percentage of students with reading difficulties who struggle with single word reading deficits, this component of dyslexia reading programs is now being incorporated into core curriculum programs of reading instruction, but should not take the place of literature based instruction. While all students will not need the same degree of instruction with this component of reading instruction, classroom reading and language arts teachers may better teach and support students with increased graphophonemic knowledge than has historically been offered in pre-service teacher education programs.
Components of Effective Instruction (continued)

Language structure that encompasses:
- Morphology – the study of meaningful units of language such as prefixes, suffixes, and roots
- Semantics – ways that language conveys meaning
- Syntax – sentence structure
- Pragmatics – how to use language in a particular context
Components of Effective Instruction (continued)

Linguistic instruction including fluency with the patterns of language so that words and sentences are the carriers of meaning.
Components of Effective Instruction (continued)

Strategy-oriented instruction in the strategies students use for decoding, encoding, word recognition, fluency, and comprehension and that students need to become independent readers.
INSTRUCTIONAL APPROACHES

- Explicit, direct instruction
- Systematic, structured, sequential and cumulative
- No assumption of prior skills
- Individualized
- Maximizes student engagement in a small group
- Intensive – recommended 3-5x per week for 50-60 min.
- Meaning based directed toward purposeful reading and writing with an emphasis on comprehension and composition
- Multisensory instruction that incorporates the simultaneous use of two or more sensory pathways during teacher presentation and student practice.
“One of the most common errors in teaching a student with dyslexia to read is to withdraw prematurely the instruction that seems to be working. A child who is reading accurately but not fluently at grade level still requires intensive reading instruction.”


Reading coaches, volunteers, and parents can be trained to provide the additional time and practice for students to develop great automaticity and fluency with letter recognition, single word reading, and connected text fluency.
“A smile or gesture of encouragement at the right moment may act like sunlight on a closed-up flower; it may be the turning point for a struggling life.”

Author Unknown