



GREAT
IDEAS
2017

January 17-19
JW Marriott Austin

DYSLEXIA OR LD IN READING: WHAT IS THE DIFFERENCE?

Anise Flowers & Donna Black, Pearson





Dyslexia or LD in Reading: What is the Difference?

Presented by
Anise Flowers, Ph.D.
Donna Black, LSSP

TCASE
January 2017

Images by Photographer's Name (Credit in black type) or Image by Photographer's Name (Credit in white type)

Presentation Title Area Bold 7 pt 11

International Dyslexia Association

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.



Dyslexia Identification and Services in Texas

Texas Education Code (TEC)§38.003 defines dyslexia and mandates testing and the provision of instruction

State Board of Education (SBOE) adopts rules and standards for administering testing and instruction

TEC §7.028(b) relegates responsibility for school compliance to the local school board

19 (TAC)§74.28 outlines responsibilities of districts and charter schools in the delivery of services to students with dyslexia

The Rehabilitation Act of 1973, §504, establishes assessment and evaluation standards and procedures for students (34 C.F.R. Part 104)



Dyslexia Definition (in Texas)

Texas Education Code (TEC)§38.003 definition:

1. "Dyslexia" means a disorder of constitutional origin manifested by a difficulty in learning to read, write, or spell, despite conventional instruction, adequate intelligence, and sociocultural opportunity.
2. "Related disorders" include disorders similar to or related to dyslexia such as developmental auditory imperceptions, dysphasia, specific developmental dyslexia, developmental dysgraphia, and developmental spelling disability.



Dyslexia Guidelines (in Texas)

THE DYSLEXIA HANDBOOK

REVISED 2014

Procedures Concerning Dyslexia and Related Disorders

TEXAS EDUCATION AGENCY • AUSTIN, TEXAS
JULY 2014



TX Handbook: Dyslexia Difficulties

- Students identified as having dyslexia typically experience primary difficulties in phonological awareness, including phonemic awareness and manipulation, single-word reading, reading fluency, and spelling.
- Consequences may include difficulties in reading comprehension and/or written expression.
- These difficulties in phonological awareness are unexpected for the student's age and educational level and are not primarily the result of language difference factors.
- Additionally, there is often a family history of similar difficulties.



TX Handbook: Primary Dyslexia Characteristics

- Difficulty reading words in isolation
- Difficulty accurately decoding unfamiliar words
- Difficulty with oral reading (slow, inaccurate, or labored)
- Difficulty spelling

TX Handbook: Associated Academic Difficulties

- May also have problems in written expression, reading comprehension, and mathematics
- Most common co-occurring disorders are ADHD & specific developmental language disorders
- May also experience symptoms such as anxiety, anger, depression, lack of motivation, or low self-esteem

TX Handbook: Common Risk Factors Associated with Dyslexia

- ❖ Difficulty pronouncing words (e.g., "pusgetti" for "spaghetti," "mawn lower" for "lawn mower")
- ❖ Trouble learning and naming letters and numbers and remembering the letters in his/her name
- ❖ Aversion to print (e.g., doesn't enjoy following along if book is read aloud)
- ❖ Difficulty remembering the names of letters and recalling their corresponding sounds
- ❖ Difficulty decoding single words (reading single words in isolation)
- ❖ Difficulty spelling words the way they sound (phonetically) or remembering letter sequences in very common words seen often in print (e.g., "sed" for "said")
- ❖ Difficulty with written expression
- ❖ AND MORE...

Assessing Common Risk Factors



Shaywitz DyslexiaScreen offers two teacher questionnaire forms:

- Form 1
 - Ages 5:0 through 6:11 in Kindergarten
 - 10 items
- Form 2
 - Ages 6:0 through 7:11 in Grade 1
 - 12 items
- Results: At Risk for Dyslexia or Not At Risk for Dyslexia

TX Dyslexia Handbook

Areas for Assessment

Academic Skills

- ✓ Letter knowledge (name and associated sound)
- ✓ Reading words in isolation
- ✓ Decoding unfamiliar words accurately
- ✓ Reading fluency (both rate and accuracy are assessed)
- ✓ Reading comprehension
- ✓ Spelling

Cognitive Processes

- ✓ Phonological/phonemic awareness
- ✓ Rapid naming of symbols or objects

TX Dyslexia Handbook

Areas for Assessment

Possible Additional Areas

- ✓ Vocabulary
- ✓ Listening comprehension
- ✓ Verbal expression
- ✓ Written expression
- ✓ Handwriting
- ✓ Memory for letter or symbol sequences (orthographic processing)
- ✓ Mathematical calculation/reasoning
- ✓ Phonological memory
- ✓ Verbal working memory
- ✓ Processing speed

TX Dyslexia Handbook: Special Ed?

Special education and the assessment through IDEA 2004 may occur when dyslexia is associated with factors complicating dyslexia, thus requiring more support than what is available through the general education dyslexia program.



13

Depends upon

- Where you live
- How the terms are defined



14

Despite claims to the contrary, it is incontrovertible that there are many people who struggle to learn to read (decode) for reasons other than poor teaching. While this condition is widely known as dyslexia, achieving a clear, scientific, and consensual understanding of this term has proven elusive.

The Dyslexia Debate
Elliot & Grigorenko, 2014



15

History of Dyslexia

- Dates back to 19th century as “word blindness”
- “Dyslexia” first used in 1887 by an ophthalmologist
- Professionals now see dyslexia as Language-based
 - But public still defines as a Visual problem



16

Dyslexia and Reversals in Writing

- **Myth: Dyslexia is a visual problem – dyslexics see words backwards and letters reversed.**
Fact: This was proven inaccurate by a study by Vellutino. He asked dyslexic and non-dyslexic students to reproduce a series of Hebrew letters that none of them had ever seen before. The dyslexic students were able to perform the task just as accurately as the non-dyslexic students, showing that their dyslexia did not affect their eyesight.
- **Myth: Any child who reverses letters or numbers has dyslexia.**
Fact: Up to a certain point, it is considered normal for children to reverse their letters and numbers, and is actually quite common. However, if this does not stop after two years of handwriting instruction, it becomes a red flag for dyslexia

ALWAYS LEARNING



PROBLEMS

- Wide ranging incidence rates from 3% to 20%
- Researchers don't agree on the nature and features of “dyslexia.”
 - Definitions for research different from defining for educational resources
- Research is not clear on the cause of early reading difficulties
 - Deficits are Phonological? Visual & auditory? Rapid naming? Working memory?



18

PROBLEMS

- Dyslexia is supposed to be brain based (not environment/poor teaching) but difficult to tease out the difference
- Lack of agreement about role of IQ
- Label of dyslexia doesn't suggest intervention different from those for other poor decoders

 19

Dyslexia Symptoms

- Difficulty with decoding single words
 - All poor decoders or just a subset??
- May also have problems with comprehension, fluency, motivation
 - Fletcher calls this "Decoding bottleneck"
- Symptoms have included poor phonological awareness, working verbal memory, weak spelling, slow processing, impaired verbal fluency, frequent letter reversals, and more...

 20

UNEXPECTED?

- Definitions often include "unexpected poor performance"
 - Difficult to define unexpected
 - Based on intelligence testing? Or failure to respond to intervention?
- Shaywitz says within a "sea of strengths"
 - But some poor readers have flat cognitive profiles
 - Certainly not everyone with dyslexia is gifted...
- IQ does not appear to predict which poor readers will be successfully remediated

 21

Only Smart Kids ??

Special difficulties processing the phonological features of language, that can co-exist with above average, average, or below average general intellectual ability.

Arkansas Dyslexia Resource Guide 2014

ALWAYS LEARNING 

The belief that those with dyslexia are high-functioning poor readers, rather than those who represent the full continuum of intellectual ability, has continued to persist despite all evidence to the contrary.

The Dyslexia Debate
Elliot & Grigorenko, 2014

 22

Who has Dyslexia?

- Struggles with accurate single-word decoding
- Struggles with accurate and/or fluent decoding
- Scores at lower end on a test of reading accuracy or fluency
- Decoding difficulties cannot be explained in alternative ways
- Significant discrepancy between decoding performance & IQ
- Decoding difficulty is unexpected
- Decoding skills contrast with strengths in other domains
- Decoding problems are biologically determined
- Decoding problems marked by associated cognitive difficulties (phonological, rapid naming, working memory deficits)
- History of very poor spelling
- Discrepancy between decoding and listening comprehension
- Fail to make progress in decoding with high-quality, evidence-based intervention

 23

General Agreement on

- Importance of phonological awareness, especially in the early years
- Importance of early intervention for reading difficulties
- Instruction should be structured, comprehensive, and individualized
 - Lack of evidence for visual/auditory training, visual-motor activities, vision therapy, tinted lenses, biofeedback, fatty acids

 25

Cognitive Deficits in Dyslexia

- **Primary: Phonological deficit**
- Also have been researched:
 - Rapid Naming
 - Working Memory
 - Auditory processing
 - Visual processing

 26

Although the phonological deficit theory continues to dominate, the notion of a single homogeneous deficit is now recognized as inadequate. Phonological weakness, seemingly the most influential cognitive component, cannot account for the difficulties of all those with reading disability.

The Dyslexia Debate
Elliot & Grigorenko, 2014

 27

Dyslexia is often synonymous with

- Reading Disability
- Reading Disorder
- Learning Disability in Reading
- Specific Reading Disability
- Specific Reading Difficulty

*Sometimes used to refer to a more specific group of **poor decoders***

 28

US DOE Oct 2015

<https://www2.ed.gov/policy/speced/guid/idea/memosdc/trs/guidance-on-dyslexia-10-2015.pdf>

The purpose of this letter is to clarify that there is ***nothing in the IDEA that would prohibit the use of the terms dyslexia***, dyscalculia, and dysgraphia in IDEA evaluation, eligibility determinations, or IEP documents.

 129

US DOE Oct 2015

Under the IDEA and its implementing regulations “specific learning disability” is defined, in part, as “a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, ***including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.***” See 20 U.S.C. §1401(30) and 34 CFR §300.8(c)(10) (emphasis added).

 130

8 Areas of Specific Learning Disability (SLD) in IDEIA:

- Basic Reading Skills (BRS)
- Reading Comprehension (RC)
- Reading Fluency (RF)
- Math Calculation (MC)
- Math Problem Solving (MPS)
- Written Expression (WE)
- Oral Expression (OE)
- Listening Comprehension (LC)

 131

Specific Learning Disorder (with specifiers; DSM-5)

1. Specific learning disorder *with impairment in reading* includes possible deficits in:

Word reading accuracy (*BRS*)
 Reading rate or fluency (*RF*)
 Reading comprehension (*RC*)
DSM-5 diagnostic code 315.00.

Note: *Dyslexia* is an alternative term used to refer to a pattern of learning difficulties characterized by problems with accurate or fluent word recognition, poor decoding and poor spelling abilities.

 132

Other Diagnostic Labels for Specific Learning Disabilities 

Learning Disability Association of America (LDA)

LD Categories:

- Auditory Processing Disorder (*LC*)
- Dyscalculia (*MC, MPS*)
- Dysgraphia (*WE*)
- Dyslexia (*BRS, RF, RC*)*
- Language Processing Disorder (*OE, WE, LC*)
- Nonverbal Learning Disabilities (*MC, MPS*)
- Visual Perceptual/Visual Motor Deficit (*WE*)

 133

Mascolo says.....

“Overall, it can be useful to adopt a “shared language” when speaking of SLD - - a group of terms that we can filter other diagnostic labels through so that we can readily understand what is being talked about”

Mascolo, J. (2015). Learning disability identification: Linking assessment to intervention. Webinar series: Cause and effect: Why your students are struggling and what to do about it. Downloaded March 12, 2015 from <http://www.pearsonclinical.com/events/webinars/topicalisting/cause-and-effect.html>

The importance of a shared language...

 1

Why is it more desirable to have dyslexia than a reading disability?

- Dyslexia is a meme
 - Unit of cultural transmission
 - Meme survives because it's easy to understand, communicate & remember
 - Not because it is true, useful, or potentially harmful

» *The Dyslexia Debate*

 135

National Reading Panel, 2000

Of the 100,000 articles on reading published since 1966, 98% were discarded by the panel

Five “pillars” to reading success:

1. Phonemic Awareness
2. Phonics
3. Vocabulary
4. Fluency
5. Comprehension

 1

Not all Reading Problems are Dyslexia
(Berninger, 2006)

Dyslexia:
A specific type of reading disability affecting accuracy and rate of reading real words, phonological decoding, oral reading of passages, and written spelling.

Phonological core deficit in storage, phonological loop, and executive functions.

Except for phonological processing, oral language skills are spared and comprehension is good.

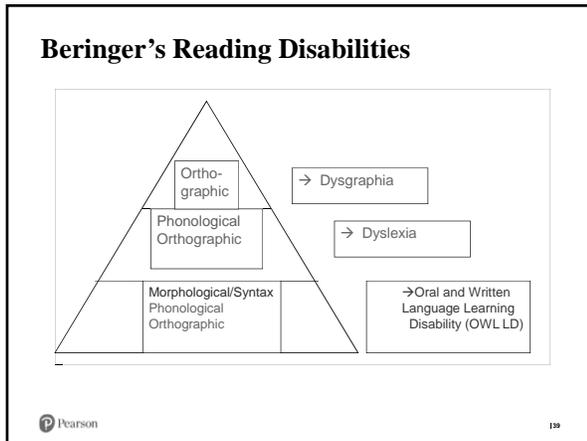
 1

Not all Reading Problems are Dyslexia
(Berninger, 2006)

OWL LD:
In oral and written language learning disability, oral language skills, including comprehension, are impaired in addition to the same skills that are impaired in dyslexia.

Dysgraphia:
A specific learning disability that impairs legibility and automaticity of handwriting and/or written spelling.

 1



Why define subtypes?

- Purpose is not diagnostic but to link to the appropriate interventions

 40

LD Reading Subtypes

1. Phonological
2. Orthographic
3. Mixed Phonological-Orthographic
4. Language
5. Comprehension deficit
6. Fluency subtype
7. Global

Dysgraphia (often a co-occurring condition with one of the other listed subtypes)

 141

1. LD Reading Subtype: Phonological

- Phonological is the core deficit
- Have difficulty mentally representing the sound patterns of the words in their language
 - Causes great difficulty in using the phonological route to reading and spelling
- Over-rely on visual and orthographic cues while reading
- May memorize whole words as a strategy for word recognition
- Sometimes referred to as dysphonetic or phonological dyslexia.

 42

LD Reading Subtype: Phonological

These students

- Rarely use letter-to-sound conversion
- Have marked difficulty reading nonsense words
- Typically show a relative strength in reading exception (irregular) words, which they have memorized

A phonological core deficit may be accompanied by deficits in cognitive processing and may impact functioning in other academic skills such as writing and spelling.

2. LD Reading Subtype: Orthographic

- Strong phonemic processing skills
- Strong listening comprehension skills
 - They know the answer to teachers' questions.
 - They glean a lot of information from the classroom experience.
- Weak word recognition skills
- Weak orthographic coding
 - ability to hold word in memory and access the whole word pattern

LD Reading Subtype: Orthographic

- Have difficulty in using the visual-lexical route to reading and writing words.
- Instead, the phonological route to lexicon is used
- Tend to sound words out letter by letter, over relying on sound-symbol relationships.
- Pseudoword reading is typically better than real word or exception word reading because non-words are usually phonetically decodable

LD Reading Subtype: Orthographic

- Depend on sounding out words, but rarely hold the words in their sight word list (lexicon).
- Struggle with spelling new words.
- Generally writing is also a deficit for these children.
- Sometimes referred to as *surface dyslexia*, *visual form dyslexia* or *dyseidetic dyslexia*.
- Impacts learning to read and decode words, thus, impacting overall reading fluency

3. LD Reading Subtype: Mixed Phonological and Orthographic

- Strong in Listening Comprehension
 - Learn better with direct instruction and experiential learning
- Mixed LD reading is manifested in weaknesses in:
 - Phonological Processing
 - Decoding
 - Word Reading
 - Reading Fluency, and
 - Spelling

LD Reading Subtype: Mixed Phonological and Orthographic

- More frequently occurring than either Phonological or Orthographic
- Causes great difficulty in using the phonological route to reading and spelling, as well as difficulty in using the visual-lexical route to reading and writing words
- Causes severe impairment in learning to read
 - They have no usable key to the reading and spelling code, and seemingly arbitrary error patterns are often observed.
- Difficulty mentally representing sound patterns of words in language

4. LD Reading Subtype: Language

- Students with a language impairment, sometimes referred to as Oral and Written Language Learning Disability (OWL-LD), (Grammatical) Specific Language Impairment (SLI or G-SLI), or Language Learning Disability (LLD), have problems in both oral and written language
- Students with OWL-LD show particular difficulty processing grammar and syntax.
- Adequate *nonverbal* cognitive ability is observed.

LD Reading Subtype: Language

- Weaknesses
 - Reading comprehension
 - Listening comprehension
 - Orthographic coding, and
 - Oral grammar
- Strengths
 - Word recognition
 - Decoding/ nonsense word reading

LD Reading Subtype: Language

- Some children respond well to a multisensory or VAKT (verbal-auditory-kinesthetic-tactile) approach
 - Need input from more than one modality to help them perceive or retain information.
- Other children are overloaded by multisensory inputs and become confused by having to assimilate information through multiple systems at the same time

5. LD Reading Subtype: Comprehension

- A specific comprehension deficit is sometimes referred to as hyperlexia.
- Hyperlexia can refer to
 - Students who exhibit poor language comprehension skills and exceptional word recognition and decoding skills OR
 - Students with poor language comprehension and relatively good basic reading skills
- Have difficulty with listening comprehension and reading comprehension
 - Read accurately and fluently, but fail to grasp the meaning of what they have read

LD Reading Subtype: Comprehension

- Specific comprehension difficulties include
 - making inferences
 - monitoring understanding
 - using strategies to resolve ambiguity
 - inhibiting irrelevant information
- Relative strengths
 - phonological processing
 - naming speed

6. LD Reading Subtype: Reading Fluency

- Students with poor reading fluency due to a *naming speed deficit* typically have *adequate phonological processing* skills
- Able to read and decode words accurately, but they read connected text very slowly
- Reading fluency deficits cannot be identified until word-reading skills are acquired; however, naming speed deficits may be identified earlier.
- Specific deficits in naming speed have been shown to impede reading fluency.

LD Reading Subtype: Reading Fluency

- According to the Double-Deficit Hypothesis, most students with reading disorders can be classified as one of two single-deficit subtypes that are relatively independent of each other (phonological or rate deficit) or as one combined double-deficit subtype.
- Weaknesses in reading fluency due to a **naming speed deficit** is sometimes referred to as a *rate deficit* or *specific reading fluency deficit*.
- Reading fluency is considered the bridge to comprehension; hence, slow reading fluency typically impedes comprehension.

P Pearson 55

7. LD Reading Subtype: Global

- A global reading impairment is sometimes associated with the term nonspecific language impairment or, as a group, “garden variety poor readers”
- Students with global reading impairment are remarkably similar to younger children reading at the same grade level.
- Probably the most common profile of reading difficulty but not SLD (they don’t qualify).

P Pearson 56

LD Reading Subtype: Global

- Difficulty with all reading-related skills, including: word recognition, decoding, reading fluency, reading comprehension, and listening comprehension.
- A subset of students with a global reading impairment also show phonological processing deficits due to difficulty mentally representing the sound patterns of the words in their language.
- These students have low average verbal and nonverbal cognitive processing abilities (IQ standard scores between 70 and 90), but they do not exhibit deficits in adaptive functioning.

P Pearson 57

LD Reading Subtype: Global

- Given that these students have learning problems that are consistent with estimates of their cognitive ability (in other words, their learning difficulties are not unexpected), this subtype does not meet contemporary operational definitions of a specific learning disability.
- Research suggests that students with global reading impairment can benefit from intervention in a comparable manner to students with higher IQs and more specific areas of weakness

P Pearson 58

Intervention Guide for LD Subtypes on Q-Global



- Evaluates patterns of performance that are consistent with research-supported LD subtypes
- Summarizes how a child fits each subtype
- Provides a description of intervention characteristics & recommendations of research-supported instructional programs

P Pearson 1

Intervention Guide for LD Subtypes

10 hallmark indicators: skills/abilities that define or differentiate between subtypes

Cognitive ability	Phonological processing
RAN	Non-word reading
Orthographic coding	Word recognition
Spelling	Reading comprehension
Listening comprehension	Reading fluency

P Pearson **Areas for Assessment in Texas Dyslexia Handbook 1

Intervention Guide for LD Subtypes

5 ancillary indicators: skills/abilities that are used to tailor recommendations.

- | | |
|--|--|
| Handwriting legibility & speed {dysgraphia} | Auditory verbal WM Processing speed |
| Verbal comprehension & reasoning | Perceptual reasoning |

****Areas for Assessment in Texas Dyslexia Handbook**

When to Refer to Special Education? Texas Dyslexia Handbook

- If a student exhibits evidence of severe difficulties with academic skills and a disability is suspected, further assessment should be considered.
- If, while in dyslexia intervention, the student is not making sufficient progress, further assessment should be considered.
- If a student is not enrolled in public school (i.e., private school or a home-school setting) and a learning disability is suspected, further assessment should be considered under Child Find.

When to Refer to Special Education? Guidance from the Trenches

1. Parent request or suggestion by Doctor brought forward by Parent
2. Follow RtI process established by District
 - Rate of skill acquisition or the level of understanding is lower than expected
 - Child is not making a sufficient rate of progress

When to Refer to Special Education? Guidance from the Trenches

3. Student has been tested for dyslexia, determined to have dyslexia, but it is evident to the committee that the student is going to need more support than the kind of support that is available under general education dyslexia intervention.
 - There are more cognitive factors contributing to the reading delays (more than just phonological processing)
 - Factors may include attention difficulties, short-term and or long-term memory issues, processing speed significantly below their peers, poor language and/or reasoning impacting.

QUESTIONS?

Anise Flowers, Ph.D.
 Assessment Consultant
 936-321-7663
anise.flowers@pearson.com
 South Texas

Donna Black, LSSP
 Assessment Consultant
Donna.black@pearson.com
 North Texas

