

# Challenges in Assessing Dyslexia

Nancy Mather, PhD

Professor Emerita, University of Arizona

WPS Dyslexia Webinars

December 7, 2022

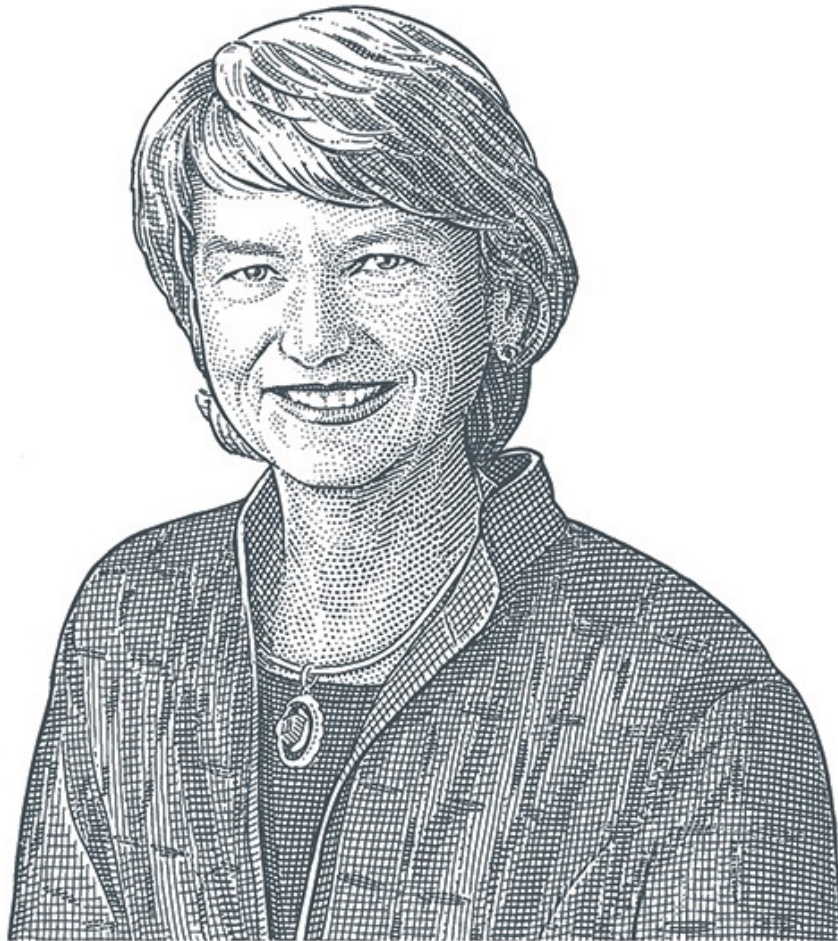


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Dr. Nancy Mather is Professor Emerita at the University of Arizona. Dr. Mather's career has focused on assessment and intervention for individuals with dyslexia and learning disabilities, and she has published numerous articles and books and conducts workshops on both assessment and instruction for students with dyslexia. Dr. Mather is also the coauthor of several widely used standardized tests.

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# Test Disclosures

- I am a coauthor of the
  - Tests of Dyslexia (TOD™; in press), which I will briefly describe.
  - Woodcock-Johnson IV (WJ IV), which I will use in a few case examples.



# Major Challenges

- Use of terminology
- Specific learning disability identification procedures
- Going beyond phonological awareness
- Twice-exceptional students
- Confounding factors
- Comorbidity
- Early identification



# Major Challenges *(cont.)*

- Late or no diagnosis
- Implementation of recommendations
- Lack of cooperation or motivation
- Malingering
- Use of multiple tests to make a diagnosis
- Examiner's understanding of dyslexia

# Dyslexia and Alternate Terms

- Specific reading disability
- Specific learning disability in basic reading skills
- Specific learning disability in fluency
- Developmental learning disorder with impairment in reading (ICD-11 6A03.0)
- Specific learning disorder with an impairment in reading (DSM-5 315.00)



# Three Procedures That Can Contribute Information for SLD Identification in the U.S.

- Ability–achievement discrepancy
- Response to intervention (RTI)
- Alternative research-based methods, such as a pattern of strengths and weaknesses (PSW) approach

**Source:** IDEA, 2004.

“The problems in using a formula to identify students who have learning disabilities are many, serious, and too often disregarded” (p. 32).

**Source:** Bateman, B. (1992). Learning disabilities: The changing landscape. *Journal of Learning Disabilities*, 25, 29–36.

# Problems With Ability–Achievement Discrepancy Procedure for Identifying Dyslexia

- Limited time spent reading reduces scores on knowledge and vocabulary tests, thus reducing the size of the discrepancy.
- Effective intervention reduces the size of the discrepancy, so the student does not qualify anymore.
- Young children aren't yet far enough behind; prevents early identification (wait to fail model).

“I gave up on her school. I was literally banging my head on a brick wall. Everyone knew she couldn’t read to save her life and that’s what was causing all her other problems, especially at home, it was a nightmare.”

**Don’t give up!**



**Source:** Parent quoted in Rose, J. (2009). *Identifying and teaching children and young people with dyslexia and literacy difficulties*. DCSF, DCSF-00659-2009.

# What Response to Intervention (RTI) Can Do

- Monitor the progress of all students in the school
- Reduce the number of referrals to special education
- Provide adequate, timely interventions to all students

How do you  
determine when  
the response is  
inadequate?



# Response to Intervention

- Inadequate response to intervention
- Limited response to intervention
- When provided with good instruction aimed at their needs, students with dyslexia do respond. . . .



RTI does not tell us WHY a student does not RTI. RTI doesn't classify, individualize, or diagnose.



# RTI: The Right to Intervention



# Going Beyond Phonological Awareness

- A single deficit model suggests that difficulties with reading stem primarily from poor phonological awareness (PA).
- IDA definition emphasizes PA.
- State definitions and handbooks emphasize PA.

# Going Beyond Phonological Awareness *(cont.)*



The phonological deficit view that has dominated the field for years is inadequate for explaining all cases of reading disorder (Peterson & Pennington, 2012; Snowling & Hulme, 2012) and its importance has been overstated (Swanson et al., 2003).

**Source:** Peterson, R. L., & Pennington, B. F. (2012). Developmental dyslexia. *The Lancet*, 379(9830), 1997–2007.

Snowling, M. J., & Hulme, C. (2012). Annual research review: The nature and classification of reading disorders—A commentary for proposals on DSM-5. *Journal of Child Psychology and Psychiatry*, 53, 593–607.

Swanson, H. L., Trainin, G., Necochea, D. M., & Hammill, D. D. (2003). Rapid naming, phonological awareness, and reading. A meta-analysis of the correlational evidence. *Review of Educational Research*, 73, 407–444.

# Going Beyond Phonological Awareness *(cont.)*



Adherence to a single deficit profile has limited utility; using only poor phonological awareness as a criterion for dyslexia would result in missing about one half of the cases.

**Source:** Pennington, B. F., Santerre-Lemmon, L., Rosenberg, J., MacDonald, B., Boada, R., Friend, A., Leopold, D. R., Samuelsson, S., Byrne, B., Willcutt, E. G., & Olson, R. K. (2012). Individual prediction of dyslexia by single versus multiple deficit models. *Journal of Abnormal Psychology, 121*(1), 212–224. <http://doi.org/10.1037/a0025823>

# Twice-Exceptional Students

*(cont.)*



Twice-exceptional students can have reading scores in the average range and still have dyslexia.

One has to consider:

- Level of intelligence
- Educational history
- Educational opportunities
- How the student functions on a daily basis

“There is no one single test score that ensures a diagnosis of dyslexia. It is the overall picture that matters. An extremely bright child who has a reading score in the average range but who struggles and cannot learn to read fluently ... has dyslexia” (p. 166).

**Source:** Shaywitz, S., & Shaywitz, J. (2020). *Overcoming dyslexia* (2nd ed.). Alfred A. Knopf.

“The children of superior mental capacity who fail to learn to read are, of course, spectacular examples of specific reading difficulty since they have such obvious abilities in other fields” (p. 23).

**Source:** Monroe, M. (1932). *Children who cannot read*. University of Chicago Press.

# Twice-Exceptional Students

## *(cont.)*



## Case of Betty

Betty represents a case of reading retardation in a very bright little girl. She was completing the second year in school without having been able to learn to read. When examined she was seven years and four months of age, with a mental age of ten years, I.Q. 135. Arithmetic measured high second grade. Reading and spelling measured very low first grade....



# Twice-Exceptional Students

## (*cont.*)



She had a very engaging manner and had learned many ways of diverting attention from the fact that she could not read. When the reading tests were presented she pushed them aside and said, “Let’s don’t do any reading. I know some arithmetic games that are lots of fun....” When finally persuaded to attempt the tests she showed considerable emotional tension, clearing her voice, saying “ah” several times before attempting each word, and flushing over her obvious errors. (p. 10)

**Source:** Monroe, M. (1932). *Children who cannot read*. University of Chicago Press.

“Individuals identified as intellectually gifted may also have LD. Although twice-exceptional individuals may appear to be functioning adequately in the classroom, their performance may be far below what they are capable of, given their intellectual ability.... Educators often overlook these students until late in their academic careers” (p. 238).

**Source:** Learning disabilities: Implications for policy regarding research and practice: A report by the National Joint Committee on Learning Disabilities March 2011. *Learning Disability Quarterly*, 34, 237–241.

# Confounding Factors

- English language learners
- COVID-19
- Self-esteem, motivation, and well-being
- Quality of the home environment



# English Language Learners

Languages differ in regard to their orthography.

- Shallow (transparent) orthographies have higher regularity between the speech sounds and letters (e.g., Spanish, German, Finnish).
- Deep (opaque) orthographies have more complex relationships between the phonemes and graphemes (e.g., English, French).

# English Language Learners

*(cont.)*



At the start of literacy instruction, these three variables appear to be good predictors of reading skill in most languages:

- Phoneme awareness
- Letter knowledge
- Rapid automatized naming (RAN)

As reading develops, RAN seems to be the strongest predictor of reading in languages with a shallow orthography.

# COVID-19

- The COVID-19 pandemic kept many children out of school for an entire school year.
- The effects on the growth in oral reading fluency of students in Grades 2 and 3 were profound for the 2020 school year.
- Students in lower-achieving school districts developed reading skills at a slower rate than those who were in higher-achieving ones.

**Source:** Domingue, B. W., Hough, H. J., Lang, D., & Yeatman, J. (2021, March). *Changing patterns in the growth in oral reading fluency during the COVID-19 pandemic* [Working paper]. Policy Analysis for California Education.

# PALS Report

## Phonological Awareness Literacy Screening (PALS) K–2 Assessment

- Administered in 132 Virginia school divisions
- Elevated percentage of at-risk students

**Source:** Phonological Awareness Literacy Screening (PALS). (2021). Examining the impact of COVID-19 on the identification of at-risk students: Fall 2021 literacy screening findings. University of Virginia. [https://literacy.virginia.edu/sites/g/files/jsddwu1006/files/legacy-pdfs/PALS\\_StateReport\\_Fall\\_2021.pdf](https://literacy.virginia.edu/sites/g/files/jsddwu1006/files/legacy-pdfs/PALS_StateReport_Fall_2021.pdf)

# PALS Report *(cont.)*

- “Disproportionately higher rates of below-benchmark scores among students who are Black, Hispanic, economically disadvantaged, English learners, or have disabilities.”
- “The data underscore that students’ literacy development continues to be negatively impacted by disrupted learning opportunities resulting from the pandemic.”



# 2022 NAEP Reading Assessment

Highlighted results at grades 4 and 8 for the nation, states, and districts.

- In 2022, the average reading score at both fourth and eighth grade decreased by 3 points compared to 2019. At fourth grade, the average reading score was lower than all previous assessment years going back to 2005 and was not significantly different in comparison to 1992. At eighth grade, the average reading score was lower compared to all previous assessment years going back to 1998 and was not significantly different compared to 1992. In 2022, fourth- and eighth-grade reading scores declined for most states/jurisdictions compared to 2019. Average scores are reported on NAEP reading scales at grades 4 and 8 that range from 0 to 500.

# 2022 NAEP Reading Assessment (cont.)

FIGURE | Trend in fourth- and eighth-grade reading average scores



**Source:** U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. (2022). *National Assessment of Educational Progress (NAEP), 2022 reading assessment*. <https://www.nationsreportcard.gov/highlights/reading/2022/>

# Comorbidity

- Mathematics
- ADHD
- Language impairments
- Dysgraphia



# Mathematics

- Working memory
- Storing and retrieving facts
- Processing speed
- Rapid number naming
- ADHD



# ADHD and Reading Disability

- 25%–40% of individuals with ADHD also meet the criteria for RD
- 15%–35% of individuals with RD also meet the criteria for ADHD

**Source:** Willcutt, E. G., Pennington, B. F., & DeFries, J. C. (2000). Twin study of the etiology of comorbidity between reading disability and attention-deficit/hyperactivity disorder. *American Journal of Medical Genetics (Neuropsychiatric Genetics)*, *96*, 293–301.

# Reading Comprehension

“Individuals with problems in reading comprehension that are not attributable to poor word recognition have comprehension problems that are general to language comprehension rather than specific to reading” (p. 3).

**Source:** Spencer, M., Quinn, J. M., & Wagner, R. K. (2014). Specific reading comprehension disability: Major problem, myth, or misnomer? *Learning Disabilities Research & Practice, 29*, 3–9.

# Reading Comprehension (*cont.*)

“These findings confirm that children with dyslexia or DLD [developmental language disorder] are at-risk for reading comprehension difficulties but for different reasons, because of weak decoding in the case of dyslexia or weak oral language skills in the case of DLD. Different forms of intervention are required for these groups of children, targeted to their particular area(s) of weakness” (p. 672).

**Source:** Snowling, M. J., Hayiou-Thomas, M. E., Nash, H. M., & Hulme, C. (2020). Dyslexia and developmental language disorder: Comorbid disorders with distinct effects on reading comprehension. *Journal of Child Psychology and Psychiatry*, *61*, 672–680.

# Reading Comprehension (*cont.*)

- Language is a critical foundation for learning to decode and comprehend.
- Children with language difficulties at school entry are at high risk of reading disorders.
- The etiology of reading disorders is multifactorial.
- Reading disorders are highly comorbid with disorders of mathematics, language, and attention (p. 648).

**Source:** Snowling, M. J., & Hulme, C. (2020). Annual Research Review: Reading disorders revisited—The critical importance of oral language. *Journal of Child Psychology & Psychiatry*, 62(5), 635–653.



# Is it dysgraphia or dyslexia or both? *(cont.)*

- Dan, Grade 6.8

<u>TABLE OF SCORES</u>					
<i>Woodcock-Johnson IV Tests of Achievement Form A and Extended (Norms based on grade 6.8)</i>					
CLUSTER/Test	GE	RPI	Proficiency	SS (68% Band)	PR (68% Band)
Spelling	3.9	34/90	Limited	81 (77–84)	10 (6–15)
Oral Reading	6.4	89/90	Average	99 (95–103)	47 (36–58)

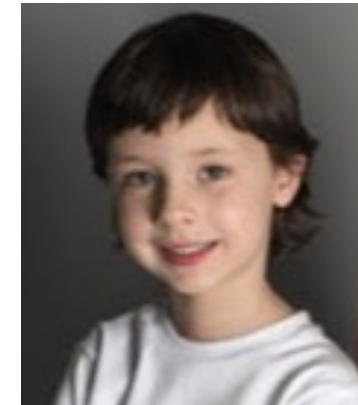
# Early Identification

- Kai, Age 6-8

**Age:** 6 years, 8 months

**Sex:** Male

**Grade:** 1.4



## **TESTS ADMINISTERED**

*Woodcock-Johnson IV Tests of Achievement Form A and Extended (Norms based on age 6-8)*

## **TABLE OF SCORES**

*Woodcock-Johnson IV Tests of Achievement Form A and Extended (Norms based on age 6-8)*

<b><u>CLUSTER/Test</u></b>	<b><u>GE</u></b>	<b><u>RPI</u></b>	<b><u>Proficiency</u></b>	<b><u>SS (68% Band)</u></b>	<b><u>PR (68% Band)</u></b>
READING	K.8	60/90	Limited	92 (91-94)	31 (27-35)
BASIC READING SKILLS	1.1	84/90	Average	97 (96-99)	43 (38-48)
MATHEMATICS	1.9	98/90	Advanced	112 (109-116)	80 (72-86)
WRITTEN LANGUAGE	K.6	47/90	Limited	89 (85-94)	24 (16-33)
ACADEMIC SKILLS	1.1	85/90	Average	98 (96-99)	44 (39-49)
ACADEMIC APPLICATIONS	K.9	73/90	Limited to Average	94 (90-97)	34 (26-42)
ACADEMIC KNOWLEDGE	2.3	97/90	Average to Advanced	112 (108-115)	78 (70-85)
BRIEF ACHIEVEMENT	1.1	84/90	Average	97 (95-99)	42 (36-48)

# Early Identification *(cont.)*

- Additional Considerations
  - Had speech–language therapy from age 3-6 to age 5.
  - Has been writing his name since he was 3 and still makes a backward K.
  - Father is a heart surgeon; mother is a psychiatrist.

## Early Identification *(cont.)*

- Kai's father had similar symptoms—flunked handwriting, and school “was torture” until college. He was in the gifted program. Teachers told his parents he was an underachiever.
- Kai's older sister, age 10, is in the gifted program.
- Kai is in an enriched environment with lots of reading and books.

# Sometimes everything is low!

(cont.)


Woodcock-Johnson IV Tests of Achievement Form B and Extended (Norms based on age 8-8)


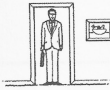
<b>CLUSTER/Test</b>	<b>GE</b>	<b>RPI</b>	<b>Proficiency</b>	<b>SS (68% Band)</b>	<b>PR (68% Band)</b>
<b>READING</b>	K.6	0/90	Extremely Limited	55 (53-58)	<1 (<1-<1)
Letter-Word Identification	K.8	1/90	Extremely Limited	65 (62-67)	<1 (<1-1)
Passage Comprehension	K.4	0/90	Extremely Limited	50 (46-55)	<1 (<1-<1)
<b>BASIC READING SKILLS</b>	K.8	3/90	Extremely Limited	66 (63-69)	1 (<1-2)
Letter-Word Identification	K.8	1/90	Extremely Limited	65 (62-67)	<1 (<1-1)
Word Attack	K.7	12/90	Very Limited	67 (61-73)	1 (<1-4)
<b>MATHEMATICS</b>	K.4	1/90	Extremely Limited	58 (54-61)	<1 (<1-<1)
Applied Problems	K.3	4/90	Very Limited	59 (54-65)	<1 (<1-<1)
Calculation	K.4	1/90	Extremely Limited	53 (48-57)	<1 (<1-<1)
<b>WRITTEN LANGUAGE</b>	K.7	3/90	Extremely Limited	64 (60-69)	<1 (<1-2)
Spelling	K.6	3/90	Extremely Limited	64 (59-69)	<1 (<1-2)
Writing Samples	K.8	3/90	Extremely Limited	70 (63-76)	2 (<1-6)
<b>ACADEMIC SKILLS</b>	K.7	1/90	Extremely Limited	58 (55-60)	<1 (<1-<1)
Letter-Word Identification	K.8	1/90	Extremely Limited	65 (62-67)	<1 (<1-1)
Spelling	K.6	3/90	Extremely Limited	64 (59-69)	<1 (<1-2)
Calculation	K.4	1/90	Extremely Limited	53 (48-57)	<1 (<1-<1)
<b>ACADEMIC APPLICATIONS</b>	K.5	2/90	Extremely Limited	54 (50-58)	<1 (<1-<1)
Applied Problems	K.3	4/90	Very Limited	59 (54-65)	<1 (<1-<1)
Passage Comprehension	K.4	0/90	Extremely Limited	50 (46-55)	<1 (<1-<1)
Writing Samples	K.8	3/90	Extremely Limited	70 (63-76)	2 (<1-6)
<b>ACADEMIC KNOWLEDGE</b>	1.4	56/90	Limited	82 (78-85)	11 (7-16)
Science	2.2	78/90	Limited to Average	92 (87-98)	30 (19-44)
Social Studies	1.1	39/90	Limited	78 (73-84)	7 (4-14)
Humanities	K.7	48/90	Limited	81 (76-86)	10 (5-18)
<b>BRIEF ACHIEVEMENT</b>	K.7	2/90	Extremely Limited	62 (60-65)	<1 (<1-1)
Letter-Word Identification	K.8	1/90	Extremely Limited	65 (62-67)	<1 (<1-1)
Applied Problems	K.3	4/90	Very Limited	59 (54-65)	<1 (<1-<1)
Spelling	K.6	3/90	Extremely Limited	64 (59-69)	<1 (<1-2)
Oral Reading	<K.0	0/90	Extremely Limited	<40 (<40-44)	<1 (<1-<1)


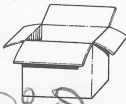
# Sometimes everything is low! (cont.)



Test 6 Writing Samples



1. My name is HUG

2.  This is a HAT

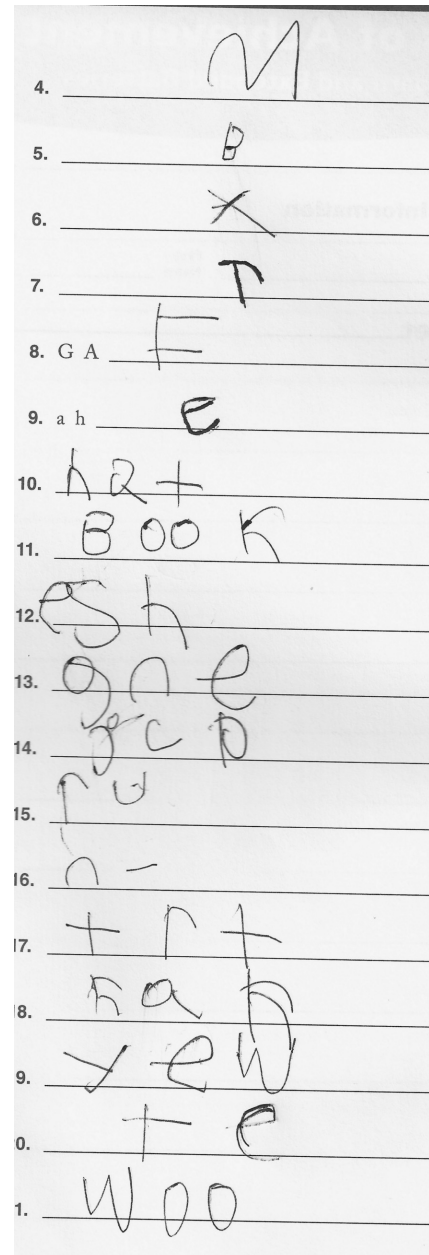
3.  This man is short.  This man is TOL

4.  This is a little box.  This is a BIG

5.  This is a new shoe.  This is an et

6.   COW  
FIS

# Sometimes everything is low! (cont.)



# Sometimes everything is low! (cont.)

Test 5 Calculation		Test Items	
Sample Items			
A. $\boxed{1}$	B. $\boxed{3}$	1. $\begin{array}{r} 2 \\ +2 \\ \hline 4 \end{array}$	2. $\begin{array}{r} 2 \\ +1 \\ \hline 7 \end{array}$
3. $\begin{array}{r} 1 \\ +3 \\ \hline 0 \end{array}$	4. $\begin{array}{r} 5 \\ +5 \\ \hline 10 \end{array}$	5. $\begin{array}{r} 6 \\ +1 \\ \hline 3 \end{array}$	6. $\begin{array}{r} 3 \\ +3 \\ \hline 4 \end{array}$
7. $\begin{array}{r} 6 \\ +0 \\ \hline 6 \end{array}$	8. $9$ $\begin{array}{r} 8 \\ +2 \\ \hline \end{array}$	9. $\begin{array}{r} 1 \\ -0 \\ \hline 1 \end{array}$	10. $\begin{array}{r} 1 \\ +9 \\ \hline 10 \end{array}$
11. $\begin{array}{r} 8 \\ -0 \\ \hline 8 \end{array}$	12. $\begin{array}{r} 3 \\ -2 \\ \hline 8 \end{array}$	13. $\begin{array}{r} 5 \\ +9 \\ \hline 12 \end{array}$	14. $\begin{array}{r} 4 \\ -1 \\ \hline \end{array}$
15. $\begin{array}{r} 9 \\ -7 \\ \hline 10 \end{array}$	16. $\begin{array}{r} 8 \\ -2 \\ \hline 10 \end{array}$	17. $\begin{array}{r} 612 \\ +250 \\ \hline 500 \end{array}$	18. $\begin{array}{r} 9 \\ -4 \\ \hline 8 \end{array}$

Go to the next



# Veronica: Late Diagnosis

*(cont.)*



- A history of intense instruction outside of school in order to minimize the stigma of being in special education
- Teachers in small, private, or charter schools with no special education teacher provide accommodations to the student informally
- Limited understanding of dyslexia; teachers and parents may believe that the student is capable but is just not trying hard enough

“A definition is relatively worthless unless it results in action” (p. 25).



**Source:** Cruickshank, W. M. (1983). Learning disabilities: A neurophysiological dysfunction. *Journal of Learning Disabilities, 1*, 24–26.

# Adequate Training in Reading Instruction



# Challenges With Implementing Recommendations

1. Getting people to carry out your recommendations.
2. Getting testing agencies to approve your recommended accommodations.
  - First grade:
    - Justin requires a systematic, explicit phonics approach to learn to read and spell.
  - Third grade:
    - No improvement in reading or spelling.

What happened to that first-grade recommendation?

# Melanie: Medical Student

- She is in her 3<sup>rd</sup> year of medical school.
- Throughout her educational history, Melanie has been regarded as having an impairment.
- She also has records that clearly document the existence of her impairment.



# Melanie: Medical Student

*(cont.)*



- Over the years she has had four neuropsychological evaluations from highly qualified professionals that recommend extended time.
- In high school, Melanie had a 504 Plan that provided for extended time on exams.
- Melanie was approved for the accommodation of extended time on all high-stakes exams, including the SAT, ACT, and MCAT.

# Melanie: Medical Student

*(cont.)*



- Melanie has received extended time for 3 years in medical school.
- When just applying for accommodations on the COMLEX-USA Level 1 examination administered through the National Board of Osteopathic Medical Examiners (NBOME), her request for extended time was DENIED!

Extra time does not  
bring extra  
knowledge! It allows  
individuals with  
disabilities a chance  
to demonstrate what  
they know.





# Requests for Accommodations

- A clear rationale is presented that documents the need for and the justification of the accommodation.
- Evidence for need of the accommodation is found in educational history (e.g., teacher reports and comments, retentions, tutoring, special education services in school).
- The request for the accommodation is supported by the assessment results, as well as educational history.

# Sandy: Malingering

- Sandy, Age 20
  - Reports that she has dyslexia and needs extra time to pass her college exams.



# Use of Multiple Tests

- Different norm samples
- Different age and grade ranges
- Access to various tests
- Different types of test scores

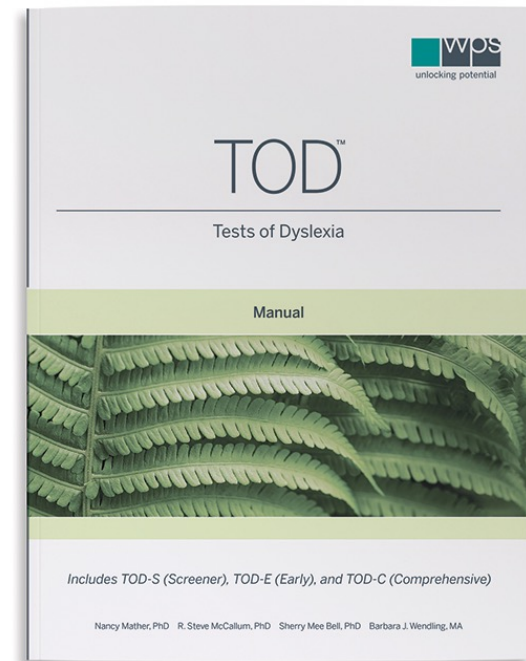
# Tests of Dyslexia (TOD™)

Nancy Mather, PhD  
Sherry Mee Bell, PhD

R. Steve McCallum, PhD  
Barbara Wendling, MA

# Tests of Dyslexia (TOD)

- TOD-Screener
- TOD-Early
- TOD-Comprehensive



# TOD-Early Tests (Grades K–2)

1. Picture Vocabulary+
2. **Letter and Word Choice**
3. **Word Reading Fluency (K–1) or Question Reading Fluency**  
(Grade 2 and up)

Dyslexia Risk Index (DRI)  
= **Bold Tests**

+Picture Vocabulary is useful in the DRI and EDDI interpretation.

1. Picture Vocabulary+
2. **Letter and Word Choice**
3. **Word Reading Fluency**
4. **Sounds and Pseudowords**
5. **Rhyming**
6. **Early Rapid Number and Letter Naming**
7. **Letter and Sight Word Recognition**
8. **Early Segmenting**
9. **Letter and Sound Knowledge**

Early Dyslexia Diagnostic  
Index (EDDI) = **Bold Tests**

# TOD-Early

- TOD-Early Indexes

Early Dyslexia  
Diagnostic Index  
(EDDI)

=

Early Linguistic  
Processing Index

+

Early Reading  
and Spelling  
Index

# TOD-Early *(cont.)*

- TOD-Early Composites
  - Early Sight Word Acquisition
  - Early Phonics Knowledge
  - Early Basic Reading Skills
  - Early Phonological Awareness



# TOD-Comprehensive Tests (Grade 1 and Up)

1. Picture Vocabulary
2. **Letter and Word Choice**
3. **Word or Question Reading Fluency**
4. **Phonological Manipulation**
5. **Irregular Word Spelling**
6. **Rapid Letter Naming**
7. **Pseudoword Reading**
8. **Word Pattern Choice**
9. **Word Memory**
10. Picture Analogies
11. Irregular Word Reading
12. Oral Reading Efficiency
13. Blending
14. Segmenting
15. Regular Word Spelling
16. Silent Reading Efficiency
17. Rapid Number and Letter Naming
18. Letter Memory
19. Rapid Pseudoword Reading
20. Rapid Irregular Word Reading
21. Symbol to Sound Learning
22. Listening Vocabulary
23. Geometric Analogies



Dyslexia Diagnostic Index (DDI)  
= **Bold Tests**

# TOD-Comprehensive

- TOD-Comprehensive Indexes



# TOD-Comprehensive *(cont.)*

- TOD-Comprehensive Composites

Reading and Spelling	Linguistic Processing	Vocabulary and Reasoning
Sight Word Acquisition	Phonological Awareness	Vocabulary and Reasoning-2
Phonics Knowledge	Rapid Automated Naming	Vocabulary and Reasoning-4
Basic Reading Skills	Auditory Working Memory	Vocabulary
Decoding Efficiency	Orthographic Processing	Reasoning
Spelling	Visual-Verbal Paired-Associate Learning (Symbol to Sound Test)	
Reading Fluency		
Reading Comprehension Efficiency		

# Dyslexia Interventions and Recommendations

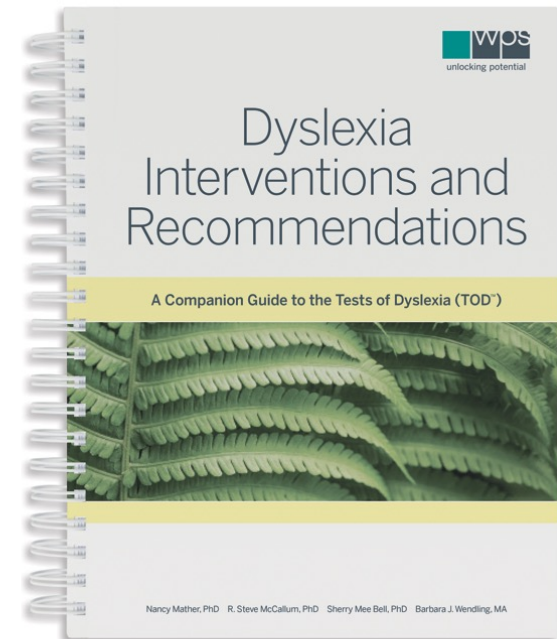
**Section 1.** Structured Literacy: An Approach to Intervention

**Section 2.** Phonological/Phonemic Awareness

**Section 3.** Moving from Speech to Print/Orthographic Mapping

**Section 4.** Sight Word Acquisition

**Section 5.** Phonics and Structural Analysis



# Dyslexia Interventions and Recommendations *(cont.)*

**Section 6.** Spelling

**Section 7.** Reading Fluency

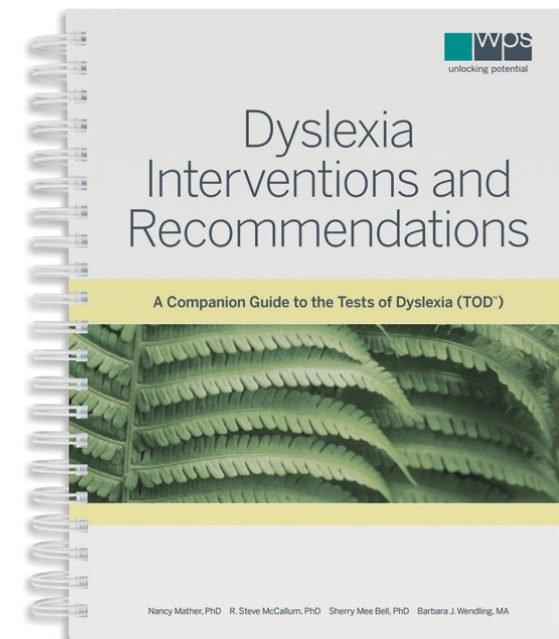
**Section 8.** Vocabulary

**Section 9.** Reading Comprehension

**Section 10.** Accommodations

**Section 11.** Self-Advocacy/Strengths/  
Transitions

**Appendix:** Teaching Students with  
Dyslexia



“One of the most important conclusions from research is that for children with learning problems, learning is hard work. A corollary to this finding is that for their teachers, instruction is very hard work and requires an enormous amount of training and support.”

**Source:** Semrud-Clikeman, M. (2005). Neuropsychological aspects for evaluating learning disabilities. *Journal of Learning Disabilities*, 38, 563–568.

Thank you for all that you do!



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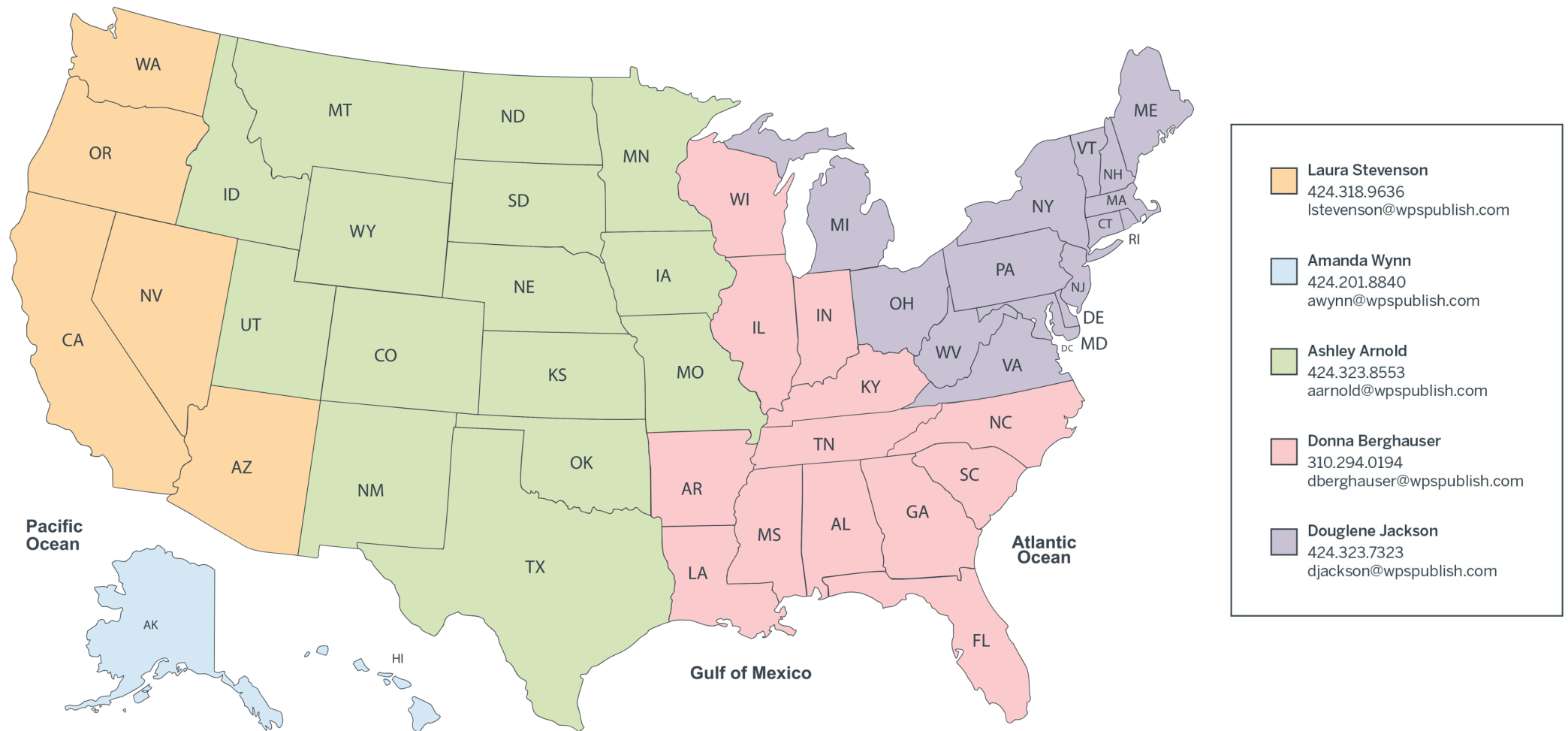
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# WPS Regional Map



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# Questions?

