

# Dyslexia/Reading Disability: Best Practices for Assessment and Intervention

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**SBCSELPA Website: [www.sbcsepa.org](http://www.sbcsepa.org)**

# Agenda

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## **Introduction to Reading Disabilities/Dyslexia**

### **Section 1**

- Assessment of Reading Disabilities/Dyslexia**
- Scenario Activity**

### **Section 2**

- Reading Error Analysis & How Assessment Informs Intervention**
- Scenario Activity**

# Participants will gain knowledge of:

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- The laws related to Dyslexia including the Code of Federal Regulations, California Education Code, and Assembly Bill 1369
- Reading intervention research and the definition of intensive intervention.
- General assessment considerations, including considerations for English Learners
- Available resources for the assessment of reading disabilities/dyslexia
- Assessment tools both informal and formal for the following areas:
  - Primary & Secondary Reading and Writing Difficulties
  - Cognitive Abilities: Contributing Factors Areas of Processing that Impact Reading
- Conducting an error analysis based on assessment
- Recommendations for remediation and Intervention

# Introduction to Reading Disabilities/ Dyslexia

What is dyslexia in  
the context of a  
reading disability?

Overview of the  
regulations

By Jarice Butterfield

## Why is the Word **“Dyslexia”** the Elephant in the Room???



# What We Know about Struggling Readers?

Why should we care about struggling readers?

12.5 million children struggle with some aspect of reading, nearly 20% of all school age children (NCES, 2011).

With regular instruction, children do not outgrow reading difficulties

A child who is a poor reader at the end of first grade has an almost 90% chance of remaining a poor reader at the end of Grade 4 (Juel, 2008) and at least a 75% chance of being a poor reader as long as they are in school (Francis et al., 1995).

# Early Intervention is Important!

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- According to NICHD it **takes 4 times as long** to intervene and remediate a reading disability in 4<sup>th</sup> grade versus in kindergarten! (Fletcher, Lyon, et al., 2007)
  
- **Intensive, explicit and systematic evidence-based program (EPB)** of instruction is needed to remediate children identified as “at risk” for a reading disability / dyslexia

# Neuroscience of Dyslexia

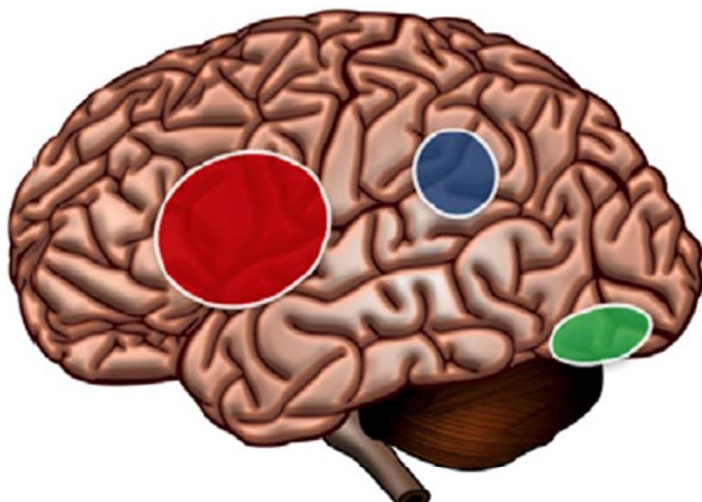
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Dyslexia is a neurobiological disorder with brain patterns that reflect poor phonological and orthographic processing (Shaywitz et al. 1998)

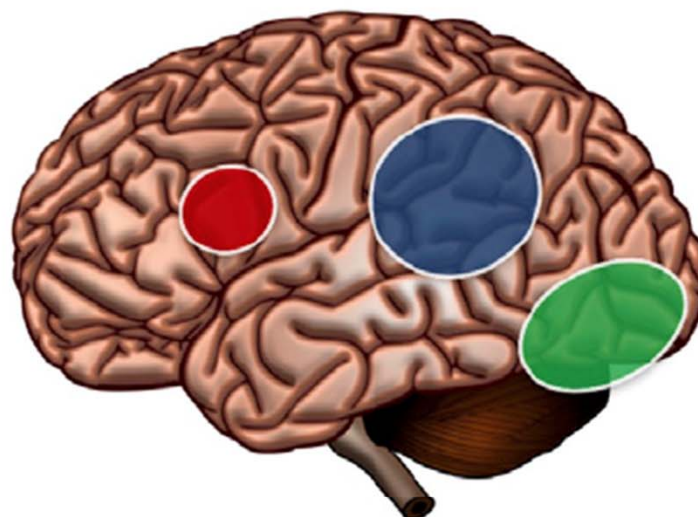
These patterns include, but are not limited to, function and structure of the **left-hemisphere language regions such as the left temporo-parietal region related to phonological processing, and the left occipitotemporal region related to orthographic processing** (Linkersdörfer et al. 2012)

# Neuroscience of Dyslexia Continued

## BRAIN PATTERNS THAT DYSLEXIC STUDENTS MAY SHOW



## BRAIN PATTERNS THAT NON-DYSLEXIC STUDENTS MAY SHOW



- LEFT FRONTAL REGION:** Important for compensation
- LEFT TEMPORO-PARIETAL REGION:** Important for phonological processing and grapheme-phoneme association
- LEFT OCCIPITO-TEMPORAL REGION:** Important for orthographic processing



# What We Know About Dyslexia

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- Is neurobiological in origin
- Is characterized by accurate or fluent word recognition; poor spelling and decoding
- Is frequently caused by or associated with a deficit on phonological processing and/or orthographic processing
- Is unexpected in relations to cognitive levels of functioning

# Characteristics of Dyslexia

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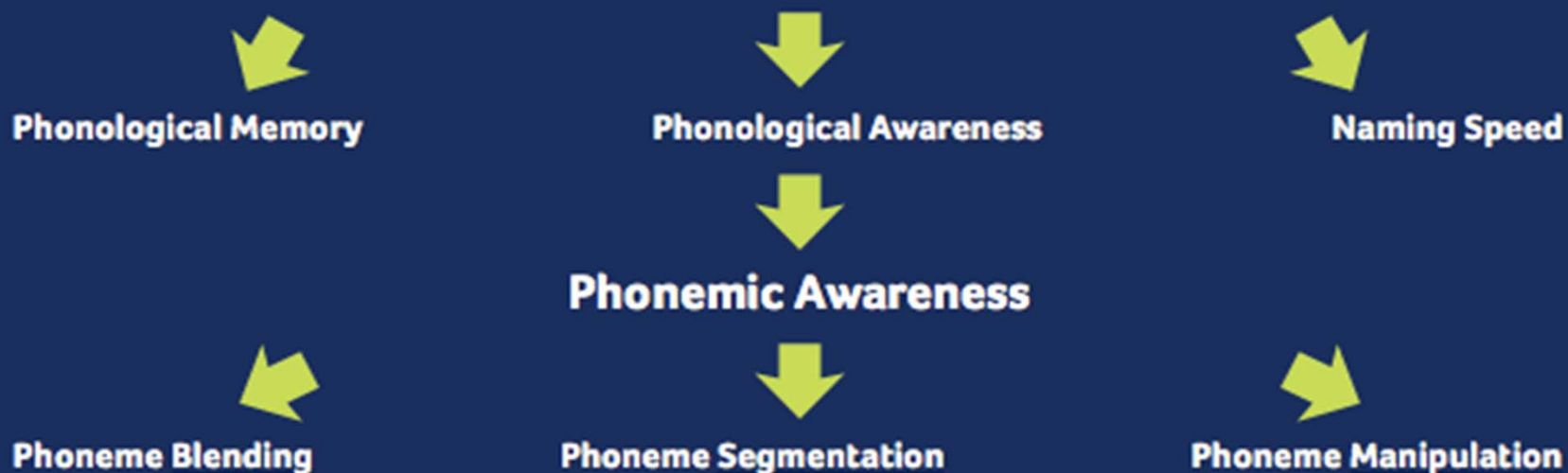
- Inability to sound out words
- Limited sight-word vocabulary
- Listening comprehension exceeds reading Comprehension
- Limited response to instruction and intervention

## AUDITORY PROCESSING

# PHONOLOGICAL PROCESSING

[Wagner Torgesen Rashotte 1999]

## PHONOLOGICAL PROCESSING



©2000 Nancy Cushen White

**Figure 3.1.** A representation of Bloom and Lahey's taxonomy of language. Developed by Nancy Cushen White and used with permission.

# Code of Federal Regulations (CFR §300.8 (10)(i))

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“(i) General. Specific learning disability means 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.”

# California Education Code 56025.5

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"Dyslexia" means a specific learning disability that **is neurological in origin and characterized by difficulties with accurate 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. Other characteristics include, but are not limited to, difficulty in acquiring language skills;

# California Education Code 56025.5

*(Continued)*

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inability to comprehend oral or written language; difficulty in rhyming words; difficulty in **naming letters, recognizing letters, matching letters to sounds, and blending sounds when speaking and reading words; difficulty recognizing and remembering sight words; consistent transposition of number sequences, and letter reversals, inversions, and substitutions;** and difficulty in replication of content.

# California Education Code 56031.5

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"Specific learning disability" includes dyslexia, dyscalculia, dysgraphia, auditory and visual processing disabilities, and related disorders.

# California AB 1369

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California Department of Education (CDE) to develop ***Program Guidelines*** by 2017-18 for dyslexia to be used to assist regular education and special education teachers and parents *to identify and assess pupils with dyslexia and to plan, provide, and evaluate and improve educational services, as defined with pupils with dyslexia*

Include *“phonological processing”* in the description of basic psychological processes.

The Guidelines are now available at:

<http://www.cde.ca.gov/sp/se/ac/documents/cadyslexiaguidelines.pdf>



# California Education Code 56049

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- (a) On or before January 1, 2017, the Superintendent shall develop program guidelines for dyslexia or other reading and writing dysfunctions to be used to assist regular education teachers, special education teachers, and parents to identify, assess, plan, provide, evaluate, and improve educational services to pupils.
- (b) The program guidelines shall include characteristics typical of pupils with dyslexia or other reading and writing dysfunctions, and evidence-based strategies for their remediation.

# California Education Code 56049

*(Continued)*

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- (c) The Superintendent shall consult with teachers, administrators, school psychologists, and other educational professionals involved in the identification and treatment of dyslexia or other reading and writing dysfunctions.
  
- (d) The Superintendent shall disseminate the program guidelines and provide technical assistance regarding their use and implementation to parents, teachers, administrators, other education professionals, and faculty members in teacher training programs of institutions of higher education.

# California 5 CCR § 3030 (b) (10) Eligibility Criteria

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“Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may have manifested itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, **dyslexia**, and developmental aphasia. The basic psychological processes include attention, visual processing, auditory processing, phonological processing, sensory-motor skills, cognitive abilities including association, conceptualization and expression.”

# California Education Code 56337.5

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- a) A pupil who is assessed as being **dyslexic** and meets eligibility criteria specified in Section 56337 and subdivision (j) of Section 3030 of Title 5 of the California Code of Regulations for the federal Individuals with Disabilities Education Act (20 U.S.C. Sec. 1400 and following) category of specific learning disabilities is entitled to special education and related services.
  
- b) If a pupil who exhibits the characteristics of **dyslexia** or another related reading dysfunction is not found to be eligible for special education and related services pursuant to subdivision (a), the pupil's instructional program shall be provided in the regular education program.

# Taken From CDE Dyslexia Guidelines




**TOM TORLAKSON**  
State Superintendent  
of Public Instruction

## International Dyslexia Association

Dyslexia is a

- Specific learning disability that is **neurobiological** in origin.
- It is characterized by difficulties with: accurate and/or fluent word recognition and by poor spelling and decoding abilities.
- These difficulties typically result from a deficit in the **phonological component** of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction.
- Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.

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# Diagnostic and Statistical Manual of Mental Health Disorders (DSM-V)

## *Specific Learning Disorder*

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The symptoms of specific LD must have persisted for at least **6 months**, even though interventions that target those difficulties were provided. Furthermore, the affected academic skills must be substantially and quantifiably below levels expected for the person's age (**SS 78 greatest diagnostic certainty**) and cause interference with academic or occupational performance or with activities of daily living (based on a clinical synthesis of the individual's history, school reports, and psychoeducational assessment).

# Diagnostic and Statistical Manual of Mental Health Disorders (DSM V) *Specific Learning Disorder (Continued)*

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The learning difficulties are **not accounted for by intellectual disabilities**, by uncorrected problems with visual or auditory acuity, or by lack of language proficiency, inadequate educational instruction, or psychosocial adversity. The academic domains and subskills that are impaired are specified within each of the following domains: reading (**word reading accuracy, reading rate or fluency, reading comprehension**), written expression (**spelling accuracy, grammar and punctuation accuracy, clarity or organization of written expression**), and mathematics (number sense, memorization of arithmetic facts, calculation fluency or accuracy, accurate math reasoning). Finally, the severity of the LD is identified.

# Diagnostic and Statistical Manual of Mental Health Disorders (DSM-V) *Specific Learning Disorder (Continued)*

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**DSM-5 further requires that the learning difficulties "manifest as a range of observable description behaviors or symptoms (Criterion A1-A6). At least one symptom must persist for a period of 6 months despite interventions targeting the symptom. A synopsis of the qualifying symptoms is presented below:**

1. Inaccurate or slow and effortful word reading, frequently guesses words, or has difficulties sounding out words.
2. Difficulty understanding what is read.
3. Difficulties with spelling.
4. Difficulties with written expression (such as multiple grammatical and punctuation errors, poor paragraph organization, written expression lacks clarity).....



# Diagnostic and Statistical Manual of Mental Health Disorders (DSM V) *Specific Learning Disorder (Continued)*

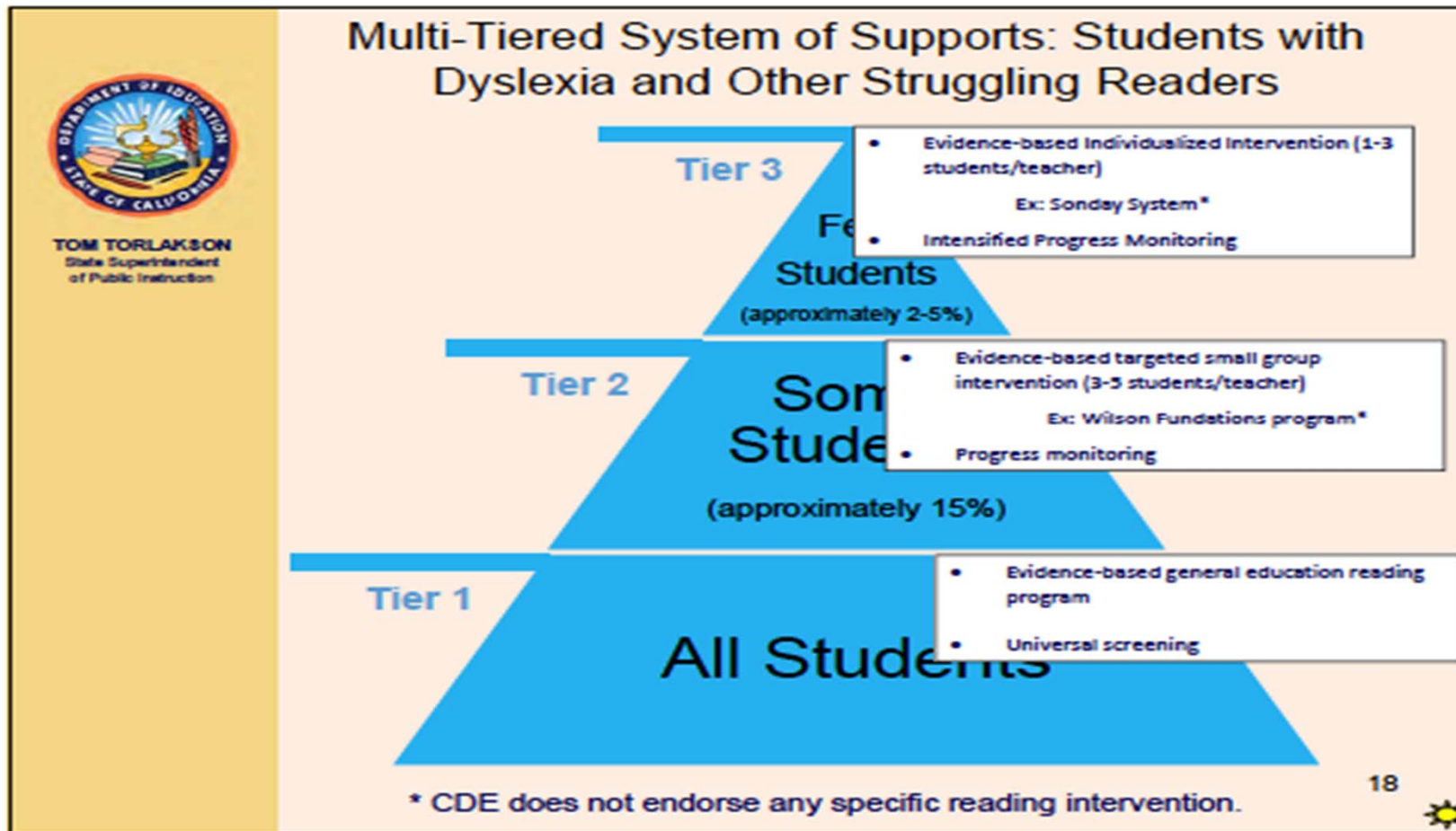
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**Mild:** Some difficulty in one or two academic domains, but mild enough that the individual may be able compensate or function well when provided appropriate accommodations or support services.

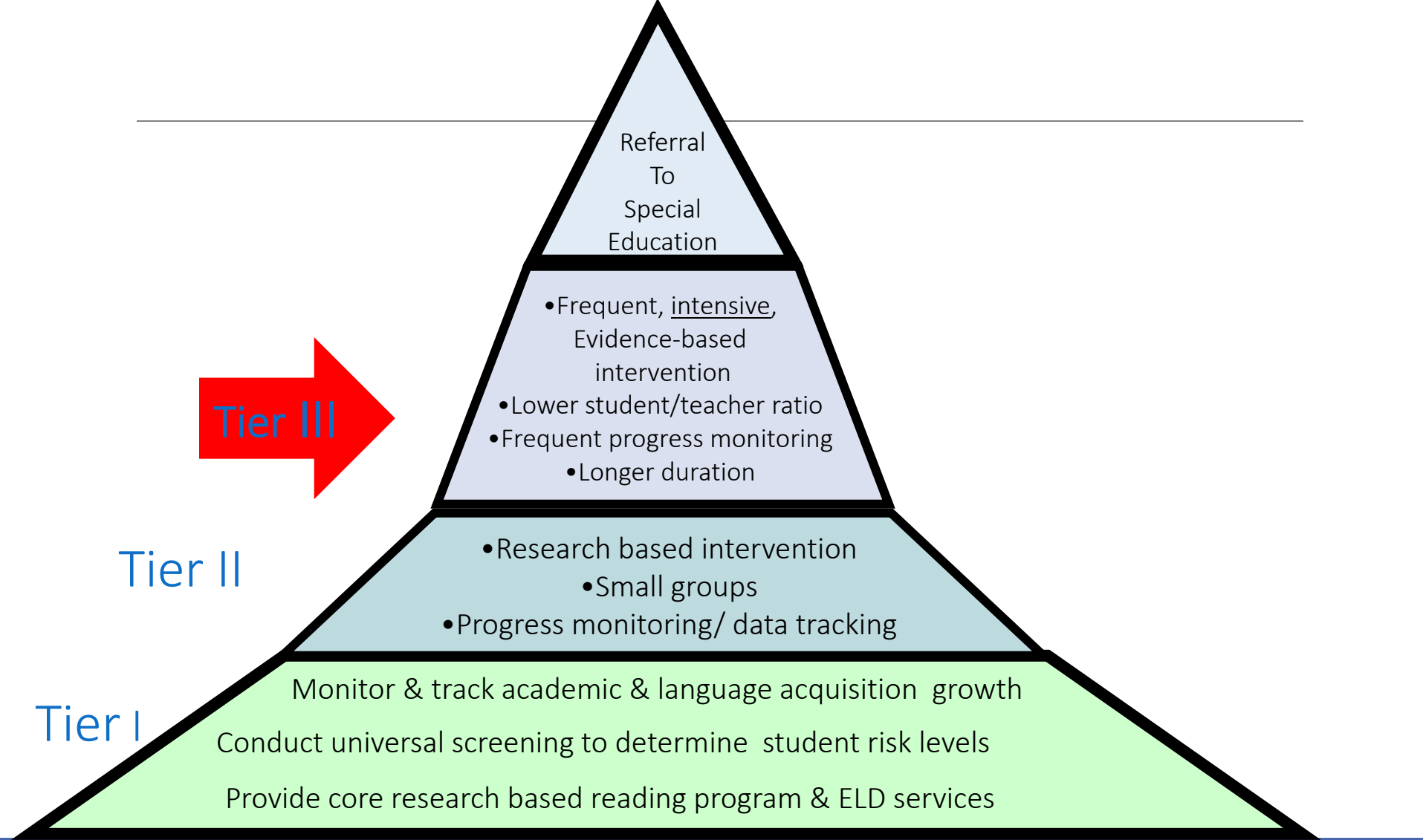
**Moderate:** "Marked" difficulties in one or more academic domains so that the individual is unlikely to become proficient without intervals of specialized and intensive teaching during the school years. Some accommodations for at least part of the day may be needed at school, home or work to complete activities accurately and efficiently.

**Severe:** Severe difficulties in learning skills affecting several academic domains, so that the individual is unlikely to learn those skills without ongoing individualized and specialized teaching for most of the school years. Even with appropriate accommodations and/or services the individual may still not be able to complete activities efficiently.

# Dyslexia in the Context of Gen Ed per California Department of Education



# Reading Intervention Research



# How is “INTENSIVE” Defined?

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## Intensive Defined by:

- Frequency of intervention -Daily
- Duration (45-90 minutes depending on length of time intervention is provided)
- Adult to pupil ratio – 1:3 or 4 in elementary

Vaughn, et. al., 2010 “Why Intensive Interventions are Necessary For Students With Severe Reading Difficulties”

**#1 factor found to impact successful Rtl outcomes was EXPERIENCE OF TEACHER**

Tilly & Van Der Heyden; LRP 2011

# Distinguishing a Disability from a Language Difference

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- Are linguistic error patterns typical of the student's native language
- Compare patterns of errors to “like peers”
- Compare patterns of linguistic errors to other students with learning disabilities
- Compare rate of progress in targeted intervention to that of “like peers”

# Examples of Common Reading and Spelling Mistakes **Not Due to Dyslexia** in English Learners (ELs)

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## Spanish L1

- Pronunciation error example not due to “dyslexia”: “drogstore” for “drugstore”
- Spelling error example not due to “dyslexia”: “rack” for “rock”, “mekin” for “making”
- Errors due to limited English knowledge: “botle” for “bottle”

# SECTION 1

## Assessment of Reading Disabilities/ Dyslexia

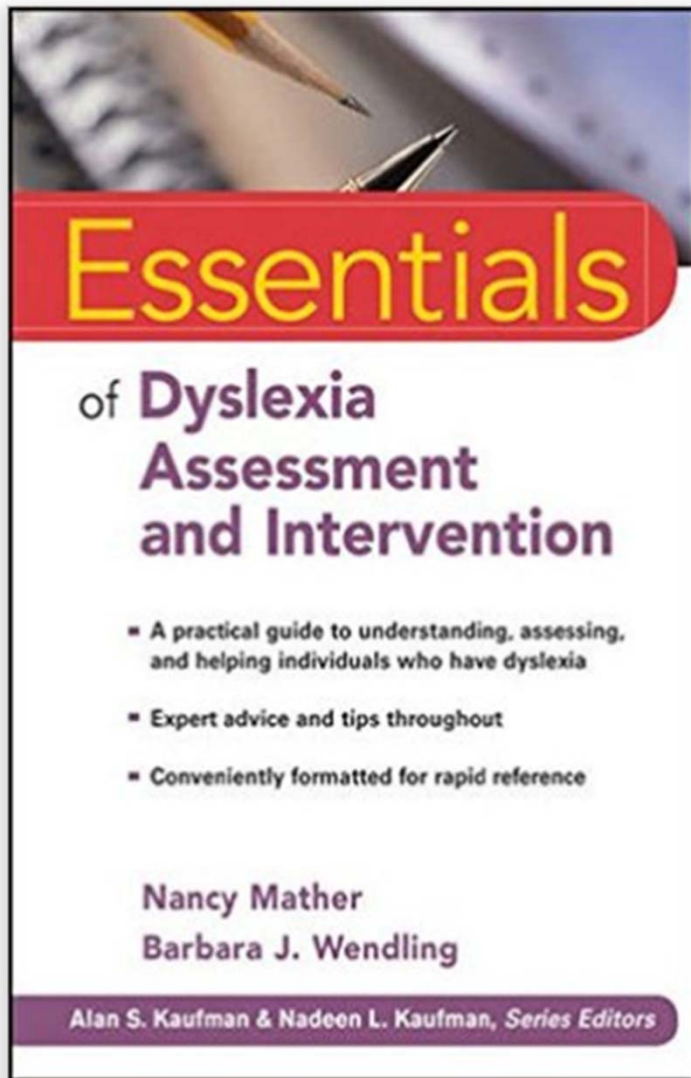
By Stacy Tolkin



# Purposes for Reading/Dyslexia Assessment

Purpose of Assessment	Type of Assessment
Universal screening to determine if student needs intervention	Informal
Targeted screening to determine intervention needs	Informal
Ongoing Progress Monitoring	Informal
Eligibility for special education	Formal and Informal
Ongoing IEP goal development and monitoring	Formal and / or informal





# Essentials of Dyslexia Assessment and Intervention

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By Nancy Mather and  
Barbara J. Wendling

# Commonly Used Standardized Measures

*Rapid Reference 5.4*

**Commonly Used Standardized Measures of Phonological Awareness**

Test Name	Age Range	Abilities	Publisher
Comprehensive Test of Phonological Processing (CTOPP)	5-0 to 24-0	Phonological awareness (blending words, sound matching), phonological memory (memory for digits, nonword repetition), and rapid naming	PRO-ED
Kaufman Test of Educational Achievement (KTEA-II)	4-6 to 90+	Phonological awareness, associational fluency, naming facility	Pearson
Lindamood Auditory Conceptualization Test, 3rd ed. (LAC-3; 2004)	5-0 to 18-11	Isolated phoneme patterns, tracking phonemes, counting syllables, tracking syllables, tracking syllables and phonemes	PRO-ED

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# Informal Assessment

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*≡ Rapid Reference 5.5*

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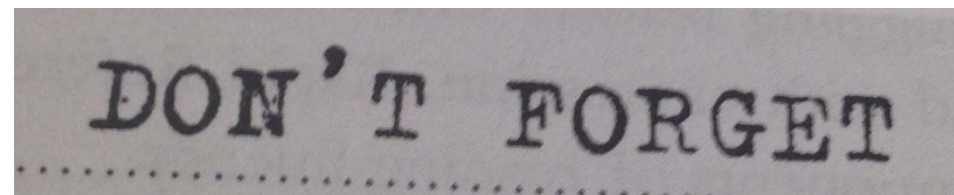
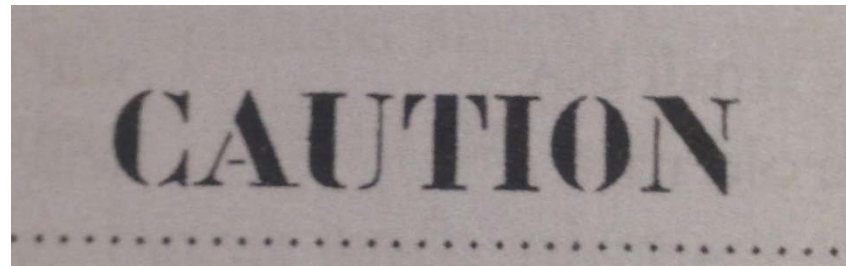
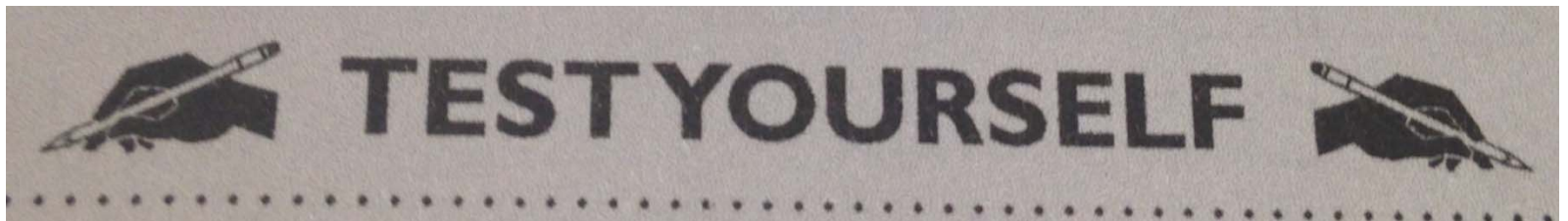
**Informal Assessment of Phonological Awareness**

1. **Word Discrimination**  
I'm going to say two words, and I want you to tell me whether they are the same or different. For example, if I say "star, star," you would say "same." If I say "horse, rock," you would say "different." Now you try one: dog-tree.  
Additional words: sheep-sheep, bird-couch, hi-hai
2. **Rhyme Recognition**  
I am going to say three words and I want you to tell me the two words that end the same or rhyme. If I say: What rhymes with cat ... hat or sun? You would say hat because cat and hat end the same or rhyme. Now you do one: What rhymes with fun: hat or sun?  
Additional words: bed—red or blue; meat—milk or seat; house—horse or mouse?
3. **Rhyme Production**  
I'm going to say two words that rhyme: tree rhymes with see, and dog rhymes with fog. Now you do one. Tell me a word that rhymes with tree?  
Additional words: hop, tan, back
4. **Syllable Blending**  
I am going to say the parts of a word and then say the parts together fast. (Pause about 1/2 second between parts.) If I say cup ... cake fast, it would be cup-cake. Sun ... shine would be sunshine. Now you do one. What is bus ... ball?  
Additional words: play-ground, book-end, sun-set, down-town

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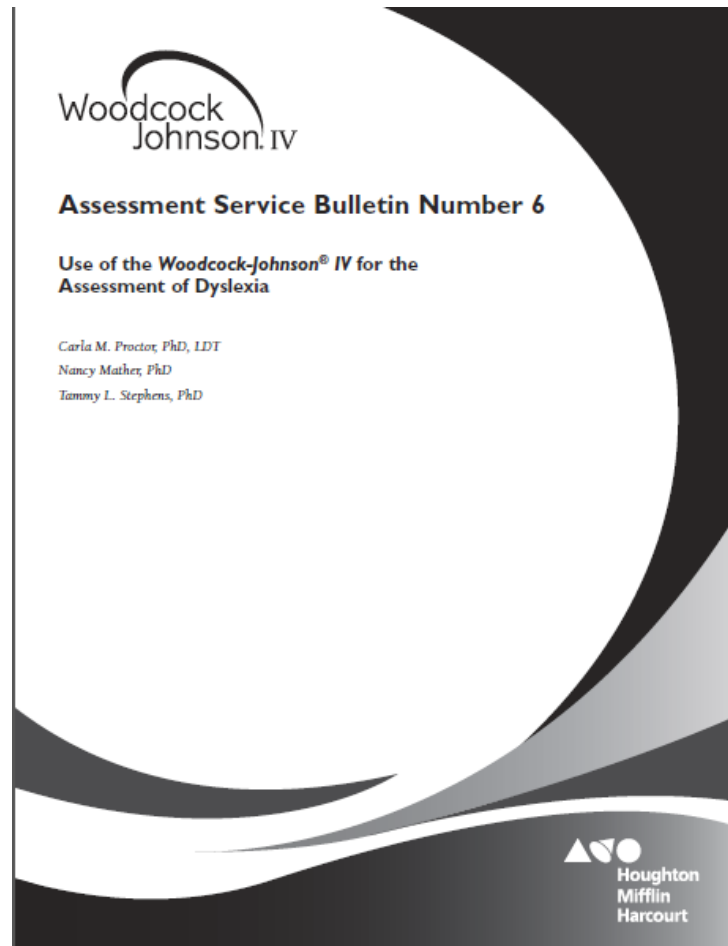
# Helpful Hints and Self Tests

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# WJ IV Assessment Services Bulletin Number 6

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# WJ-IV Dyslexia Profile

**WOODCOCK-JOHNSON IV DYSLEXIA PROFILE**

Name \_\_\_\_\_ Date of Birth \_\_\_\_\_ ID \_\_\_\_\_  
 School \_\_\_\_\_ Grade \_\_\_\_\_ Date \_\_\_\_\_

The [name of state] Education Code [§ statute number] [or country] defines dyslexia in the following way:

**International Dyslexia Association Definition (2002)**  
 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.

**Authors' note:** Dyslexia affects reading at the single word level, reading fluency and rate, and spelling. In turn, these deficits cause difficulties with reading comprehension and written expression. According to research, the major cognitive correlates of dyslexia include weaknesses in one or more of the following abilities: phonological awareness, orthographic awareness, memory, rapid naming, and processing speed. Other abilities, such as general intelligence, reasoning, oral language, mathematics, and knowledge, that do not require reading, are often unimpaired. In other words, the reading and spelling difficulties are often unexpected in relation to the student's other abilities.

**Section I: Summary**

**A. Primary and Secondary Reading, Spelling, and Writing Difficulties**  
 Check the areas of concern.

Primary Reading and Spelling Difficulties	Secondary Reading and Writing Difficulties
<input type="checkbox"/> Letter-sound associations <input type="checkbox"/> Letter names <input type="checkbox"/> Letter sounds <input type="checkbox"/> Basic reading skills <input type="checkbox"/> Sight word identification <input type="checkbox"/> Phonics (spelling/word decoding) <input type="checkbox"/> Reading fluency and rate <input type="checkbox"/> Spelling <input type="checkbox"/> in isolation <input type="checkbox"/> in context	<input type="checkbox"/> Reading comprehension <input type="checkbox"/> Written expression

**B. Cognitive and Linguistic Abilities: Possible Contributing Factors**  
 Check the areas that are possible contributing factors.

<input type="checkbox"/> Phonological awareness <sup>1</sup> <input type="checkbox"/> Auditory processing <input type="checkbox"/> Phonetic coding	<input type="checkbox"/> Orthographic awareness <sup>2</sup>	<input type="checkbox"/> Memory <input type="checkbox"/> Auditory memory span <input type="checkbox"/> Short-term working memory <input type="checkbox"/> Associative memory	<input type="checkbox"/> Rapid naming <input type="checkbox"/> Processing speed
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**C. Ability to Learn When Reading is Not Required**  
 Check the areas that are significantly higher than the individual's reading and spelling skills.

Cognitive Abilities	Oral Language	Mathematics	Knowledge
<input type="checkbox"/> General intelligence <input type="checkbox"/> Reasoning	<input type="checkbox"/> Oral expression <input type="checkbox"/> Listening comprehension <input type="checkbox"/> Vocabulary <sup>3</sup>	<input type="checkbox"/> Math calculation skills <input type="checkbox"/> Math problem solving	<input type="checkbox"/> General information <sup>4</sup> <input type="checkbox"/> Academic knowledge <sup>4</sup>

**D. At-Risk Indicators**  
 Check the areas below that are additional at-risk factors.  
 Family history     Early speech-language issues

**Committee Consideration**  
 Data demonstrate characteristics of dyslexia.     Data demonstrate characteristics of dyslexia; however, these characteristics would not be consistent with [State] guidelines for the identification of dyslexia.  
 Data do not demonstrate characteristics of dyslexia.

Evaluator(s) \_\_\_\_\_ Date: \_\_\_\_\_

**Section II: Scores**

Area Tested	Battery	Test Date	Cluster/Test	Low/Below Average SS <40-89 PR <1-24	Average SS 90-110 PR 25-75	High/Above Average SS 111+ PR 76+	RPI <sup>5</sup>	
<b>Primary Reading and Spelling Difficulties</b>	Letter-Sound Associations	Informal	Letter names: <input type="checkbox"/> Poor <input type="checkbox"/> Typical <input type="checkbox"/> Advanced					
			Case: Lower ___/26 Upper ___/26					
	Basic Reading Skills	WJ IV ACH	Test 1: Letter-Word Identification					___/90
			Test 7: Word Attack					___/90
	Reading Fluency/Rate	WJ IV ACH	Reading Fluency					___/90
			Test 8: Oral Reading					___/90
			Test 9: Sentence Reading Fluency					___/90
			Reading Rate					___/90
			Test 9: Sentence Reading Fluency					___/90
	Spelling	WJ IV ACH	Test 15: Word Reading Fluency					___/90
Test 3: Spelling							___/90	
Test 16: Spelling of Sounds							___/90	
Phoneme - Grapheme Knowledge	WJ IV ACH	Spelling in Context: <input type="checkbox"/> Poor <input type="checkbox"/> Typical <input type="checkbox"/> Adv. (Test 6: Writing Samples)					___/90	
		Phoneme-Grapheme Knowledge					___/90	
		Test 7: Word Attack					___/90	
<b>Secondary Reading and Writing Difficulties</b>	Reading Comprehension	WJ IV ACH	Test 16: Spelling of Sounds				___/90	
			Reading Comprehension				___/90	
			Test 4: Passage Comprehension				___/90	
	Written Expression	WJ IV ACH	Test 12: Reading Recall				___/90	
			Test 17: Reading Vocabulary (Ext.)				___/90	
			Written Expression				___/90	
			Test 6: Writing Samples				___/90	
			Test 11: Sentence Writing Fluency				___/90	

**Primary and Secondary Reading and Writing Difficulties/Comments**

Assessment Tools Used for the Assessment of Reading Disability/Dyslexia

Tested	WJ-IV Cluster/Test	WIAT-III Cluster/Test	KTEA-3 Cluster/Test		
Primary Reading and Writing Difficulties	Letter-Sound (Informal)	Letter Identification: Case: Lower ___/26	Letter Identification: Case: Lower ___/26	Letter Identification: Case: Lower ___/26	
		Upper ___/26	Upper ___/26	Upper ___/26	
	Basic Reading Skills	Letter Sounds: C ___/21	Letter Sounds: C ___/21	Letter Sounds: C ___/21	
		V ___/5 (short)	V ___/5 (short)	V ___/5 (short)	
	Reading Fluency (rate & accuracy)	Test 1: Letter-Word Identification	Word Reading (Grades 1-12)	Letter & Word Recognition	
		Test 7: Word Attack	Pseudoword Decoding (Grades 1-12)	Letter Naming Facility	
				Nonsense Word Decoding	
	Spelling	Test 3: Spelling	Spelling (Grades K-12)	Spelling	
		Test 16: Spelling of Sounds			
		Phoneme Grapheme Knowledge	Test 7: Word Attack	Early Reading Skills (Grades PK-3)	Nonsense Word Decoding
Test 16: Spelling of Sounds			Pseudoword Decoding (Grades 1-12)	Phonological Processing Associational Fluency	
Secondary Reading and Writing Difficulties	Reading Comprehension	Test 4: Passage Comprehension	Reading Comprehension (Grades 1-12)	Reading Comprehension	
		Test 12: Reading Recall		Reading Vocabulary	
	Written Expression	Test 17: Reading Vocabulary (Extended)			
		Test 6: Writing Samples	Sentence Composition (Grades 1-12)	Writing Fluency	
	Test 11: Sentence Writing Fluency	Essay Composition (Grades 3-12)	Written Expression		

Assessment Tools Used for the Assessment of Reading Disability/Dyslexia

Area Tested	WJ-IV COG, OL, & ACH Cluster/Test	WISC-V/WIAT-III Cluster/Test	KABC-II/KTEA-3 Cluster/Test	
Phonological Awareness (PC)	Auditory Processing COG	WIAT-III	KTEA-3	
	Test 5: Phonological Processing	Early Reading Skills (Grades PK-3)	Phonological Processing	
	Test 12: Nonword Repetition			
	Phonetic Coding OL	Pseudoword Decoding		
	Test 3: Segmentation			
	Test 7: Sound Blending			
	Test 9: Sound Awareness			
	Orthographic Awareness (OP)	COG	WISC-V	KTEA-3
		Test 4: Letter-Pattern Matching	Naming Speed Literacy	Spelling
Test 11: Number-Pattern Matching			Letter Naming Facility	
PC and OP	ACH	WIAT-III	Word Recognition Fluency	
	Test 1: Letter-Word Identification	Spelling		
	Test 3: Spelling			
Cognitive Abilities: Contributing Factors	ACH	WIAT-III		
	Test 7: Word Attack*	Word Reading*		
	Test 16: Spelling of Sounds*	Pseudoword Decoding*		
	Associative Memory (Glr:MA)	Associative Memory	Associative Memory	
	COG	WISC-V	KABC-II	
	Test 15: Visual-Auditory Learning	Delayed Symbol Translation	Atlantis & Atlantis Delayed	
		Immediate Symbol Translation	Rebus & Rebus Delayed	
		Recognition Symbol Translation		
	Memory Span (Gsm:MS)	Memory Span	Memory Span	
	OL	WISC-V	KABC-II	
Test 5: Sentence Repetition	Picture Span	Number Recall		
Memory (GF and Gsm)	COG	Integrated Spatial Span	Word Order	
	Test 18: Memory for Words	Digit Span Forward		
	Short-Term Working Memory (Gsm:MW)	Short-Term Working Memory	Short-Term Working Memory	
	COG	WISC-V	KABC-II	
	Test 3: Verbal Attention	Digit Span Backwards	Word Order	
	Test 10: Numbers Reversed	Letter-Number Sequencing		
Rapid Naming (RAN) (LAI)	Test 16: Object-Number Sequencing (Extended)	Integrated Sentence Recall		
	OL	WISC-V	KTEA-3	
	Speed of Lexical Access	Naming Speed	Object Naming Facility	
	Test 4: Rapid Picture Naming	Naming Speed Literacy	Associational Fluency	
Processing Speed (Gs)	Test 8: Retrieval Fluency	Naming Speed Quantity		
	COG	WISC-V		
	Test 4: Letter-Pattern Matching	Coding		
	Test 17: Pair Cancellation	Symbol Search		
	Test 11: Number-Pattern Matching	Cancellation		

# The Big 3 Side by Side

# Psychological Processing Related to Academic Achievement

Psychological Processing Areas Related to Academic Achievement								
Processing Areas	Academic Eligibility Areas							
	Language		Writing	Reading			Math	
	Oral Expression	Listening Comprehension	Written Expression	Basic Reading Skill	Reading Fluency Skills	Reading Comprehension	Math Calculation	Math Problem Solving
Attention					◐		◐	◐
Visual				●	●	◐	●	●
Auditory	◐	◐	◐	●	◐	◐		
Sensory-Motor			●					
Cognitive: Conceptualization	●	●	◐	◐	◐	◐	◐	●
Cognitive: Expression	◐	◐	◐	●	●	◐	◐	◐
Cognitive: Association	●	●	●	●	●	◐	●	●

Interpretation Guide (see appendix for specific information)

- indicates strong evidence
- ◐ indicates convincing evidence
- ◑ indicates partially convincing evidence



# Assessment Considerations...



- How are basal scores established?
- WIAT III: Subtests start points are determined by grade of enrollment not reading grade level (*PsychCorp*, p.60)
- Less subtests on standardized assessments can be given to students in PK/K
- Do you need secondary measures?
- Assessment of English Learners (ELs)
- Effects of remediation

# Primary Reading and Writing Difficulties

**LETTER SOUND**

**BASIC READING SKILLS**

**READING FLUENCY**

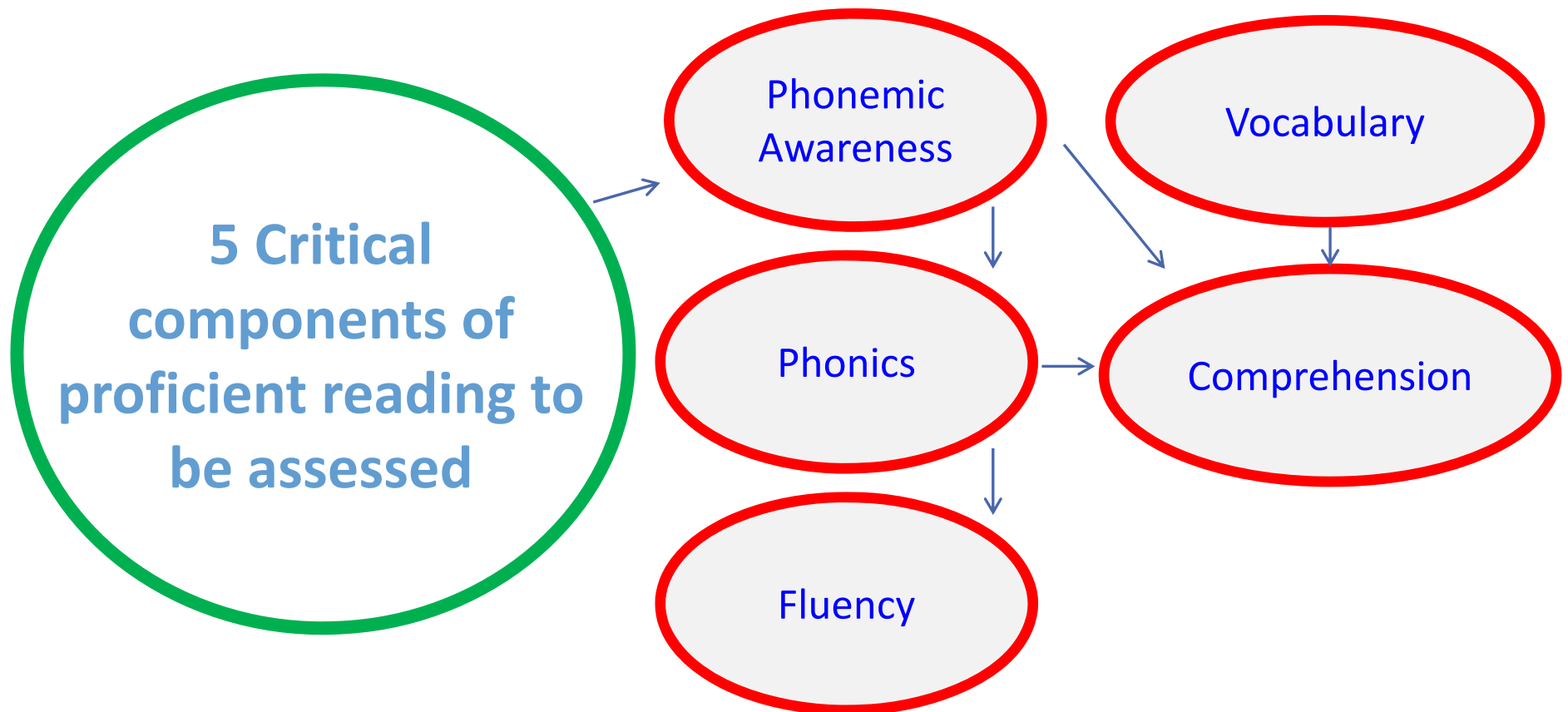
**SPELLING**

**PHONEME-GRAPHEME KNOWLEDGE**

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**By Jarice Butterfield**

# 5 Critical Components of Proficient Reading



# Letter Sound

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**Use informal measures to supplement the WJIV, WIAT III or KABC assessment data for low level or very young students**

## Letter Identification

- Case: Lower \_\_/26    Upper \_\_/26
- Letter Sounds: C \_\_/21    V \_\_/5 (short)

# Basic Reading Skills

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## **WJIV**

- Letter-word Identification
- Word Attack

## **WIAT III**

- Word Reading
- Pseudoword Decoding

## **Kaufman Test of Educational Achievement, Third Edition (KTEA-3)**

- Letter & Word Recognition
- Letter Naming Facility
- Nonsense Word Decoding

# Reading Fluency: Rate and Accuracy

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## **WJIV**

- Oral Reading
- Sentence Reading Fluency
- Sentence Reading Fluency
- Word Reading Fluency

## **WIAT III**

- Oral Reading Fluency
  - Supplemental - 30 Second Window
    - Word Reading Speed
    - Pseudoword Decoding Speed
  - Rate, Accuracy, and Fluency Scaled Scores

## **KTEA-3**

- Silent Reading Fluency
- Word Recognition Fluency
- Decoding Fluency

# Other Reading Fluency Tools: Rate and Accuracy

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## **Grey Oral Reading Tests-Fifth Edition (GORT-5)**

- Rate
- Accuracy
- Fluency

# Spelling

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## WJIV

- Spelling
- Spelling of Sounds

## WIAT III

- Spelling

## KTEA-III

- Spelling





# Other Spelling Measures

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## **Word Identification and Spelling Tests (WIST)**

- Spelling

# Phoneme-Grapheme Knowledge

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## WJIV

- Word Attack
- Spelling of Sounds

## WIAT III

- Early Reading Skills (Grade PK-3)
  - *Information only Grades 4 and Up*
- Pseudoword Decoding

## KTEA-3

- Nonsense Word Decoding
- Phonological Processing Associated with Fluency

# Secondary Reading and Writing Difficulties

**READING COMPREHENSION  
(NOT DUE TO A LANGUAGE PROCESSING DEFICIT)  
WRITTEN EXPRESSION**

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By Jarice Butterfield

# Reading Comprehension

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## WJIV

- Passage Comprehension
- Reading Recall
- Reading Vocabulary

## WIAT III

- Reading Comprehension
  - *Must start at enrolled grade level*

## KTEA-3

- Reading Comprehension

## **(other) Grey Oral Reading Tests-Fifth Edition (GORT-5)**

- Comprehension Scaled Score

# Written Expression

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## WJIV

- Writing Samples
- Sentence Writing Fluency

## WIAT III

- Sentence Composition
  - Sentence Combining and Sentence Building
  - Score can be misleading due to separate parts
- Essay Composition
  - Manual and Quick Scoring Guide
    - Word Count and Theme Development and Text Organization
    - Focuses on fluency – 10 Minutes

# Written Expression *(Continued)*

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## **KTEA-3**

- Written Expression

**Other Measure: Test of Written Language –  
Fourth Edition (TOWL-4)**

# Activity - Partner Turn and Share

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- 1) What standardized tool do you currently use for determining eligibility?
- 2) How and when do you validate any weak subtest scores?

# Informal Measures of Academic Assessment Related to Dyslexia/Reading Disabilities

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By Jarice Butterfield



# How and When to Use Informal Measures of Academic Assessment

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- Use for universal screening to determine targeted areas of need in reading
- Use for pre referral screening to determine if a student may need formal testing to determine the presence of a learning disability
- Use for ongoing bench mark tracking to determine progress made
- Use in conjunction with formal measures of reading / dyslexia to validate areas of weakness
- Use for annual assessment for IEP benchmark reporting and progress towards meeting reading goals

# Phonological Awareness Informal Measures Commonly Used

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- CORE Phoneme Deletion Test (grades K-3)
- CORE Phonological Segmentation Test (grades K-1)
- CORE Phoneme Segmentation Test (grades 2-12)
- Literacy Resources Inc. (LRI) - <http://www.literacyresourcesinc.com/resources/assessments/>
- QPAS – available at [www.hpedsb.on.ca/ec/services/cst/elementary/literacy/documents/November2013QPASwithFAQ.pdf](http://www.hpedsb.on.ca/ec/services/cst/elementary/literacy/documents/November2013QPASwithFAQ.pdf)
- Phonological Awareness Skills Screener (PASS) - <http://www.senia.asia/wp-content/uploads/2011/02/PASS-directions.pdf>

# Decoding and Word Attack Informal Measures Commonly Used

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- CORE Phonics Surveys
- CORE Graded High-Frequency Word Survey
- Phonics Assessment Based on Orton Gillingham by Jarice Butterfield
- San Diego Quick Assessment (both phonics and sight word recognition)
- DIBELS 6<sup>th</sup> Edition
- Read Naturally Quick Phonics Screener
- Reading A-Z Phonics Assessment
- Basic Phonics Skills Test (BPST)

# Decoding and Word Attack Informal Measures Commonly Used Continued

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- Texas Primary Reading Inventory (TPRI)
- Ekwall/Shanker Reading Inventory
- Dynamic Indicators of Beginning Early Literacy (DIBELS)
- Predictive Assessment of Reading (PAR)

# High Frequency Word / Word Attack Informal Measures Commonly Used

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- Project Read Red Word (irregular word lists compiled by Jarice Butterfield)
- CORE High-Frequency Word Survey
- San Diego Quick Assessment
- DIBELS
- Fry Sight Word Lists
- Dolch Sight Word Lists
- Reading A-Z High Frequency Words Assessment

<b>Suspected Area of Difficulty</b>	<b>Recommended Tools</b>
<b>Phonological awareness</b>	LMB LAC Test; LRI Phonemic Awareness Assessment; Cool Tools Reading Assessment <a href="https://www.literacyresourcesinc.com/resources/assessments/">https://www.literacyresourcesinc.com/resources/assessments/</a> ; Q-Pass Phonemic Awareness Test; CORE Phonemic Awareness
<b>Phonetic Coding (Phonics)</b>	OG Phonics Assessment Tool; CORE Phonics Survey; BPST Phonics Screener, Dibels; Cools Tools Reading Assessment
<b>Orthographic Processing</b> (automaticity of reading words – high frequency word recognition weaknesses)	Project Read Red Word List CORE High Frequency Word Lists San Diego Quick Assessment (CORE) WJIV Word Attack; WIAT Psuedo Word
<b>Reading Fluency</b>	CORE Graded Reading Assessments Read Naturally Bench Mark Assessor or Fluency Progress Monitor; Dibels Fluency Assessing Reading Fluency by Rasinski <a href="http://education.ucf.edu/mirc/Research/PR_EL_assessing-fluency.pdf">http://education.ucf.edu/mirc/Research/PR_EL_assessing-fluency.pdf</a>

# Partner Turn and Talk

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**What are your favorite informal reading measures for:**

- 1) Universal screening?
- 2) Determining targeted intervention?
- 3) Ongoing Progress Monitoring?

# Cognitive Abilities: Contributing Factors to Reading Disabilities/Dyslexia

Phonological Awareness

Orthographic Awareness

Memory

Rapid Naming

Processing Speed

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By Stacy Tolkin



# Phonological v Orthographic

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## **PHONOLOGICAL AWARENESS**

The ability to recognize that words are made up of a variety of sound units. The term encompasses a number of sound related skills necessary for a person to develop as a reader.

## **ORTHOGRAPHIC AWARENESS**

The system to form, store, and recall words from memory. Readers look at letters and words on the page and use their knowledge of sound/symbol relationships to sound out tricky words. Eventually the visual memory of this word makes it a solid memory in the brain to be called on later. A word memorized in its entirety is called a sight word. Otherwise, every word we read or write would have to be sounded out, meaning that reading and writing would take a lot longer.

# Phonological or Orthographic?!?!

PC and OP	<i>ACH</i> Test 7: Word Attack*	<i>WIAT-III</i> Word Reading*	
	Test 16: Spelling of Sounds*	Pseudoword Decoding*	

## Phonological

### Phoneme Blending

Convert the phonemes into a single, unified form

## Orthography

### Grapheme Parsing

Convert a letter or letter group into a grapheme string

### Phoneme Assignment

Determine what phoneme corresponds to each of the graphemes

*Source: Coltheart, M. (1996). Phonological dyslexia: Past and future. Cognitive Neuropsychology, 12, 749-762.*

# Phonological Awareness

(Ga:PC)

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Phonological Awareness (PC)	Auditory Processing <b>COG</b>	<b>WIAT III</b>	<b>KTEA-3</b>
	Test 5: Phonological Processing		
	Test 12: Nonword Repetition	<b>Pseudoword Decoding</b>	
	Phonetic Coding <b>QL</b>		
	Test 3: Segmentation		
	Test 7: Sound Blending		
Test 9: Sound Awareness			

# Phonological Awareness *(Continued)*

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## Comprehensive Test of Phonological Processing (CTOPP-2)

- Phonological Awareness Composite
  - Elision, Blending Words, and Sound Matching  
(Ages 4 – 6)
  - Elision, Blending Words, and Phoneme Isolation  
(Ages 7 – 24)
- Alternate Phonological Awareness Composite  
(Ages 7 – 24)
  - Blending Nonwords and Segmenting Nonwords

# Phonological Awareness *(Continued)*

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## Lindamood Auditory Conceptualization Test Third Edition (LAC-3)

## The Phonological Awareness Test 2 (PAT 2)

## Test of Auditory Processing (TAPS-3)

- Word Discrimination
- Phonological Segmentation
- Phonological Blending



# Phonological Awareness *(Continued)*

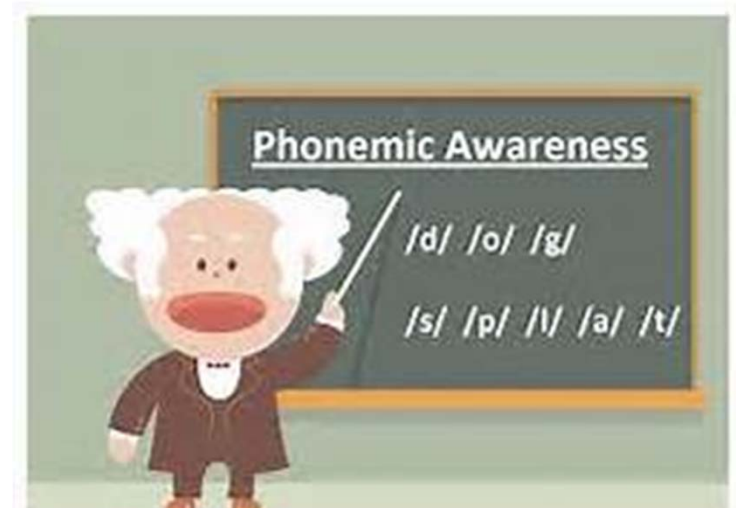
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## Differential Ability Scales II (DAS-II)

- Phonological Processing

## Feifer Assessment of Reading (FAR)

- Phonological Index
  - Phonemic Awareness\*
  - Nonsenseword Decoding
  - Isolated Word Reading Fluency
  - Oral Reading Fluency
  - Positioning Sounds\*



# Phonological Awareness *(Continued)*

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## **Clinical Evaluation of Language Fundamentals- Preschool-2 (CELF-Pre2)**

- Phonological Awareness

## **Tests for Auditory Processing Disorders for Children (SCAN-3:C)**

- Filtered Words

## **NEPSY II**

- Phonological Processing

# Orthographic Awareness

*(OP)*

*MUST have letters or words, not shapes, designs or pictures, otherwise more of a Processing Speed task.*

Orthographic Awareness <i>(OP)</i>	<b>COG</b> Test 4: Letter-Pattern Matching	<b>WISC-V</b> Naming Speed Literacy	<b>KTEA-3</b> Spelling
	Test 11: Number-Pattern Matching		Letter Naming Facility
	<b>ACH</b> Test 1: Letter-Word Identification	<b>WIAT-III</b> Spelling	Word Recognition Fluency
	Test 3: Spelling		



# Orthographic Awareness *(Continued)*

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## Jordan Left Right Reversal Test 3 (Jordan-3)

### Dynamic Indicators of Basic Early Literacy Skills (DIBELS-6)

#### FAR

- Orthographical Processing



# Memory

*Auditory Memory Span (Gsm:MS)*

*Short-term Working Memory (Gsm:MW)*

*Associative Memory (Glr:MA)*

<b>Memory</b> <i>(Glr and Gsm)</i>	<b>Associative Memory (Glr:MA)</b>	<b>Associative Memory</b>	<b>Associative Memory</b>
	<b>COG</b> Test 13: Visual-Auditory Learning	<b>WISC-V</b> Delayed Symbol Translation	<b>KABC-II</b> Atlantis & Atlantis Delayed
		Immediate Symbol Translation	Rebus & Rebus Delayed
		Recognition Symbol Translation	
	<b>Memory Span (Gsm:MS)</b>	<b>Memory Span</b>	<b>Memory Span</b>
	<b>OL</b> Test 5: Sentence Repetition	<b>WISC-V</b> Picture Span	<b>KABC-II</b> Number Recall
	<b>COG</b> Test 18: Memory for Words	Integrated Spatial Span	Word Order
		Digit Span Forward	
	<b>Short-Term Working Memory (Gsm:MW)</b>	<b>Short-Term Working Memory</b>	<b>Short-Term Working Memory</b>
	<b>COG</b> Test 3: Verbal Attention	<b>WISC-V</b> Digit Span Backwards	<b>KABC-II</b> Word Order
Test 10: Numbers Reversed	Letter-Number Sequencing		
Test 16: Object-Number Sequencing (Extended)	Integrated Sentence Recall		

# Memory *(Continued)*

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## **Test of Auditory Processing (TAPS-3)**

- Numbers Forward (*MS*) and Reversed (*MW*)
- Word and Sentence Memory (*MS*)

## **CTOPP-2**

- Phonological Memory Composite
  - Memory for Digits (*MS*) and Nonword Repetition (*MS*)

## **Universal Nonverbal Intelligence Test –Second Edition (UNIT2)**

- Symbolic Memory (*MS/MW*)

## Memory *(Continued)*

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### **Cognitive Assessment System – Second Edition (CAS2)**

- Sentence Repetition *(MS)*
- Visual Digit Span *(MS)*
- Word Series *(MS)*
- Sentence Questions *(MW)*

### **Wide Range of Assessment and Learning – Second Edition (WRAML2)**

- Sound Symbol *(MA)*
- Sound Symbol Delay *(MA)*

# Memory *(Continued)*

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## NEPSY II

- Repetition of Nonsense Words *(MS)*
- Sentence Repetition *(MS)*
- Word List Interference *(MS/MW)*
- Inhibition *(MW)*
- Memory for Names *(MA)*
- Memory for Names Delayed *(MA)*

## Memory *(Continued)*

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### **Clinical Evaluation of Language Fundamentals – Fifth Edition (CELF-5)**

- Recalling Sentences *(MS)*

### **Clinical Evaluation of Language Fundamentals – Preschool-2 (CELF-Pre2)**

- Recalling Sentences *(MS)*
- Recalling Sentences in Context *(MS)*

# Rapid Naming

## *Speed of Lexical Access (LA)*

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Rapid Naming (RAN)	<b>OL:</b> Speed of Lexical Access	<b>WISC-V:</b> Naming Speed	<b>KTEA-3:</b> Object Naming Facility
	Test 4: Rapid Picture Naming	Naming Speed Literacy	Associational Fluency
	Test 8: Retrieval Fluency	Naming Speed Quantity	

## **CTOPP-2**

- Rapid Symbolic Naming Composite
  - Rapid Digit Naming and Rapid Letter Naming
- Rapid Non-Symbolic Naming Composite  
(Alternative for Ages 4-6)
  - Rapid Color Naming and Rapid Object Naming

# Rapid Naming *(Continued)*

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## **NEPSY-II**

- Speeded Name

## **DAS-II**

- Rapid Naming

## **FAR**

- Rapid Automatic Naming
- Verbal Fluency



# Rapid Naming *(Continued)*

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## **CAS2**

- Expressive Attention

## **RAN/RAS: Rapid Automated Naming and Rapid Alternating Stimulus Tests**

- Colors
- Letters
- Numbers
- Objects

# Processing Speed (Gs)

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Processing Speed (Gs)	<b>COG:</b>	<b>WISC-V:</b>	
	Test 4: Letter-Pattern Matching	Coding	
	Test 17: Pair Cancellation	Symbol Search	
	Test 11: Number-Pattern Matching	Cancellation	

## NEPSY-II

- Design Fluency

## FAR

- Visual Perception

# Processing Speed *(Continued)*

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## **DAS-II**

- Speed of Information Processing

## **CAS2**

- Planned Codes
- Number Detection
- Planned Matching Numbers
- Receptive Attention

# Activity – Part I

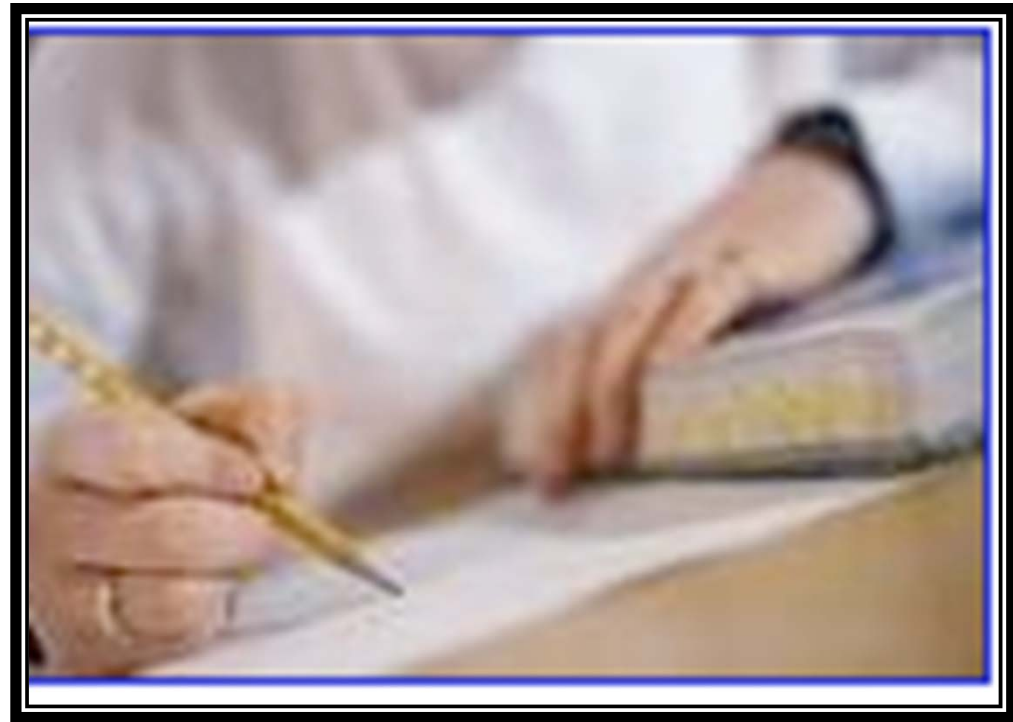
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**Determine the Contributing Cognitive Factors  
(areas of weak processing) for Jimmy:**

- **Phonological Awareness**
- **Orthographic Awareness**
- **Memory**
- **Rapid Automatic Naming**
- **Processing Speed**

## SECTION 2

READING  
ERROR  
ANALYSIS AND  
HOW  
ASSESSMENT  
INFORMS  
INTERVENTION



# Oral Reading Error/Miscue Analysis

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- Omissions
- Insertion
- Substitution
- Gross mispronunciation of a word
- Hesitation
- Inversion
- Disregard of punctuation

# Miscues in Reading are Significant when...

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The meaning of the sentence is altered and the student does not correct the miscue.

A nonword is used in place of a word

A partial word is substituted for the word or phrase

A word is pronounced for the student

# Miscues are not significant when...

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- The meaning of the sentences undergoes no change or minimal change
- They are self-corrected by the student
- They are applicable in the student's dialect
- They are later read correctly in the same passage



# Error Analysis of Assessment Results

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**Step 1:** Documentation of the **types of miscues/errors** seen during both formal and informal assessment

For example:

- Student knew the letter sounds of b, p, d, w, s, n, m and t
- Student knew short vowel sounds of a, e, and o
- Student could decode 80% of CVC words but missed the words “bud” substituted “bad” and “did” substituted and “ded”
- Student could decode nonsense words with known letter sounds only
- Student could not decode irregular, high frequency words that could not be phonetically decoded
- Student inserted the word “the”
- Student inverted the letter “b” for “d”

## Error Analysis of Assessment Results *(Continued)*

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**Step 2:** Analysis of the error patterns seen in relation to the ***processing deficits*** - noted if this data is available

**Step 3:** Statement of **hypothesis** about why student is making the patterns of errors seen (is it a weakness in phonological processing or orthographical processing and underlying processing issues)

## Error Analysis of Assessment Results *(Continued)*

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### Sample Statement:

Student did very well with all areas of phonological processing. Her area of relative weakness was in deleting occasional sounds such as she read “be” for “bet”. She was able to phonetically decode most Consonant-Vowel-Consonant (CVC) words such as “bed”, “cat” and “top”. When reading words, Student seemed to be impulsive at times, not taking the time to read words she did not know. Timed tests seemed to increase her impulsivity.

## Error Analysis of Assessment Results *(Continued)*

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### Sample Statement Continued:

She did not self-correct even when reading in context. Her greatest area of struggle was in reading irregular high frequency words that could not be sounded out such as “the” or “would”. It appears her greatest area of weakness is in orthographical processing as she is not able to visually memorize words as a whole or as a gestalt. This is most likely due to her processing weakness seen in the area of working memory.

# Academic Assessment Error Analysis

PROCESSING DEFICIT	ERROR PATTERNS	SUGGESTED REMEDIATION
<p><b>Phonological Awareness</b></p> <ul style="list-style-type: none"> <li>▪ Auditory processing</li> <li>▪ Phonetic coding</li> </ul>	<ul style="list-style-type: none"> <li>▪ Inability to repeat a rhyme</li> <li>▪ Inability to read a word when one letter is removed and another letter is substituted (ran, can, man)</li> <li>▪ Weak letter-sound correspondence</li> <li>▪ Weak blending sounds to read the word – student sounds out c-a-n and says “came”</li> <li>▪ Student reads the beginning of the word and guesses at other parts – student reads “bet” for “beast”</li> </ul>	<ul style="list-style-type: none"> <li>▪ Multi-sensory, systematic, part to-whole instruction with emphasis on matching auditory input with tactile and visual input</li> <li>▪ Early Primary years: OG based programs - LMB Lips, Project Read Phonology, Wilson Reading</li> <li>▪ 3<sup>rd</sup> Grade on: OG based programs - Sonday, Barton or non OGLMB program Seeing Stars</li> </ul>

# Academic Assessment Error Analysis

## *(Continued)*

PROCESSING DEFICIT	ERROR PATTERN ANALYSIS	SUGGESTED REMEDIATION
<p><b>Memory</b></p> <ul style="list-style-type: none"> <li>▪ Auditory memory</li> <li>▪ Short term memory</li> <li>▪ Associative memory</li> </ul>	<ul style="list-style-type: none"> <li>▪ Student does not know letter-sound correspondence</li> <li>▪ Reads “d” for “b” or “short a sound for e”</li> <li>▪ Student is unable to read any irregular sight words</li> <li>▪ Student attempts to phonetically decode all high frequency words that are regular and can be decoded even though they have seen them many times</li> </ul>	<ul style="list-style-type: none"> <li>▪ Daily Visual to auditory frequent review of high frequency sight words using Apps such as Dolch Word drills, etc.</li> <li>▪ Multi-sensory, systematic, part to-whole instruction with emphasis on matching visual input with tactile and auditory input</li> <li>▪ Fast Forward or Earobics or other computer based programs with emphasis on strengthening auditory processing</li> </ul>

# Academic Assessment Error Analysis

## *(Continued)*

PROCESSING DEFICIT	ERROR PATTERN ANALYSIS	SUGGESTED REMEDIATION
<b>Processing Speed</b> <ul style="list-style-type: none"> <li>▪ Cognitive speed</li> <li>▪ Perceptual speed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Student has very low reading fluency</li> <li>▪ Student has poor comprehension due to slow reading fluency</li> <li>▪ Student can read words if allowed extra time</li> </ul>	<ul style="list-style-type: none"> <li>▪ Repeated drills using programs such as Fast Forward, or other brain training apps or programs</li> <li>▪ Repeated, daily practice of reading out loud at the student's readability level</li> </ul>
<b>Rapid Naming (RAN)</b>	<ul style="list-style-type: none"> <li>▪ Student struggles to state letter sounds when shown visual</li> <li>▪ Student can read words if allowed extra time</li> <li>▪ Student can sound out words very slowly but has trouble bringing back to the whole as it is labored</li> </ul>	<ul style="list-style-type: none"> <li>▪ Repeated drills using programs such as Fast Forward, or other brain training apps or programs</li> <li>▪ Daily Visual to auditory frequent review of high frequency sight words using Apps and reading aloud daily</li> </ul>

# Academic Assessment Error Analysis

## *(Continued)*

PROCESSING DEFICIT	ERROR PATTERNS	SUGGESTED REMEDIATION
<p><b>Visual Processing</b></p> <ul style="list-style-type: none"> <li>▪ Visual discrimination</li> <li>▪ Orthographic Awareness</li> </ul>	<ul style="list-style-type: none"> <li>▪ Letter reversals in spelling and/or reading</li> <li>▪ High frequency word reading</li> <li>▪ Labored nonsense or unfamiliar word reading due to inability to recognize word parts or linguistic patterns</li> <li>▪ Student can read high frequency words that are “regular or decodable” but not words that are “irregular” such as “the”</li> <li>▪ Student makes letter reversals or whole word</li> </ul>	<ul style="list-style-type: none"> <li>▪ Multi-sensory, systematic, part to-whole instruction with emphasis on matching visual input to auditory and tactile input</li> <li>▪ Use of Orton Gillingham based programs such as Project Read Phonics or LMB Lips if there are letter reversals due to visual discrimination issues</li> <li>▪ Sonday, Barton or other OG based programs that are strong in visual areas – 1<sup>st</sup> choice in LMB Seeing Stars</li> </ul>



# Taken from the CDE Dyslexia Guidelines



TOM TORLAKSON  
State Superintendent  
of Public Instruction

## Effective Approaches for Teaching Students with Dyslexia

*California Education Code* Section 56335(a) defines educational services for students with dyslexia as follows:

“ ‘educational services’ means an

- ✓ **evidence-based,**
- ✓ **multisensory,**
- ✓ **direct,**
- ✓ **explicit,**
- ✓ **structured,**
- ✓ **and sequential** approach to instructing pupils who have dyslexia.”



# Remediation of Orthographic Processing

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## **Students need *direct instruction strategies that increase visual memory of words as “gestalts”***

- Teach high frequency irregular words first as they cannot be blended and sounded out with use of “phonics” (Project Read Red Words)
- Teach high frequency irregular words using visualization combined with oral and tactile strategies to increase memory
- Teach all high frequency words through multi-sensory frequent repetition strategies (tap and say each letter, close eyes and visualize word, etc.)
- Use computer programs or Apps such as “Dolch Sight Words” – note these include irregular and regular high frequency words
- Practice spelling high frequency words through repeated dictation

# Remediation of Phonological Awareness

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**Students need *direct instruction in phonological processing strategies –how do sounds relate to printed words***

- 5-18 hours of total instruction time based on need
- Sequence of learning:
  - auditory rhyming songs
  - sentence segmentation
  - syllable segmentation & blending
  - onset rime blending & segmentation
  - blending and segmentation of individual phonemes in words

# Remediation of Phonetic Blending

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## **Students need *direct instruction phonics strategies –blending sounds into words fluently***

- Teach letter sounds through multi-sensory strategies such as use of sand trays, glue cards, visualization, etc.
- Begin with short vowel sounds and consonants that can be maintained such as /s/ and /m/ (see Orton Gillingham sequence)
- Teach how to segment and blend phonemes in words with letters using multi-sensory strategies (tiles, finger blending, tapping with fist, visualizing, etc.)
- Teach spelling simultaneously through use of tiles, finger spelling, etc.

# Remediation of Multi-syllabic Word Decoding

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## **Students need *direct instruction in linguistic structures such as syllabication in English***

- Students need direct instruction in concept of syllabication – open and closed syllable, syllabication patterns VCV, VCCV, VCCCV, VCLE, etc.
- Use of manipulatives such as tiles, blocks, finger blending, fist tapping or visualization to sound out each letter and then bring back to the whole for each syllable and,
- Blending each syllable together to form the multi-syllabic word
- An alter strategy is to “chunk” words into parts such as separation of pre fixes, suffixes from root words, etc.

# Activity – Part II

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## Targeted interventions based on weakness demonstrated

- Make recommendations for targeted, specific recommendations for student in the given scenario, to include frequency, duration, adult to student ratio, etc.



# Thank You!

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## **Contact Us...**

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