


**DYSLEXIA**  
TRAINING INSTITUTE  
EDUCATION CHANGES EVERYTHING

*Dyslexia Assessment &  
Intervention - in a nutshell*



Arlington, Virginia  
May 11, 2017

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The price of unremediated dyslexia



**BROCK**



**dys + lex + ia**

## DYSLEXIA IS NOT:

- Caused by poor eyesight or hearing problems
  - Vision Therapy or Color Overlays will not help.
  - Poor tracking, etc is usually the result of dyslexia, not the cause
- Seeing words or letters backwards
- A Developmental Disability
- Acquired Alexia, Aphasia or Anomia – these are caused by some type of head injury (ie: stroke)
- A degenerative disease
- Lack of educational opportunity
- The result of a lack of effort or laziness on the part of the student
- A medical condition

## VISUAL PROCESSING OR DYSLEXIA?

“The biggest difference is that children with **dyslexia** have trouble processing language rather than visual information. They may enjoy drawing pictures, playing video games and doing other things that involve interpreting what the eyes see. Children with dyslexia struggle with connecting the letters they see to the sounds that are associated with those letters.”

~ Guenivere Eden

## SIDEBAR: AUDITORY PROCESSING OR DYSLEXIA?

(C)APD	Dyslexia
In school, children with APD may have difficulty with spelling, reading, and understanding information presented verbally in the classroom.	In school, children with dyslexia may have difficulty with spelling, reading, and understanding information presented in print in the classroom.
Have trouble paying attention to and remembering information presented orally	Difficulty manipulating language both verbally and in print
Need more time to process information	Difficulty with spelling
Difficulty distinguishing between verbally presented sounds or words. They may hear <i>clomp</i> instead of <i>camp</i> .	Difficulty with reading comprehension
Difficulty focusing when background noise is present.	Difficulty with fluency
Difficulty remembering what was said to them.	Difficulty with word problems
Difficulty following directions	
Often responds to questions or comments with “what” or “huh?”	

## LET'S TALK ABOUT LETTER REVERSALS

- *Reading in the Brain*, Stanislaus Dehaene
  - Letter reversals are normal through the first grade, after that they become a red flag
  - Letter reversals are the result of the brain trying to unlearn directionality.



**b d p q**

## WHAT IS DYSLEXIA: A DEFINITION

**Dyslexia is a specific learning disability that is *neurological* in origin...It is characterized by *difficulties with accurate and/or fluent word recognition* and by *poor spelling and decoding abilities*.**

## CONTINUED

**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.**

## CONTINUED

**Secondary consequences *may* include problems in *reading comprehension* and *reduced reading experience* that *can* **impede growth of vocabulary and background knowledge.****

(Adopted by the International Dyslexia Association (IDA) and the National Institute for Child Health and Human Development (NICHD).)

## RESILIENCE



- Students with dyslexia often experience anxiety, depression, and low self-esteem at levels far above their peers without dyslexia (Mugnaini et al., 2009).
- Resilience is: (1) exposure to significant risk or adversity, and (2) achievement of a better-than-expected adaptation or outcome despite the presence of that risk or adversity (Masten, 2014).
- Resilience in students with dyslexia is a dynamic process with an interaction of risk and protective factors at the individual, family, and community levels.

## WHAT LEADS TO RESILIENCE?

- Parent/family support
- Appropriate school support
- Executive Function strengths
- Encouraged and taught to self-advocate
- Above average intellectual ability

## WHAT RESILIENCE SOUNDS LIKE

# MEET JEREMIAH

### POSSIBLE WEAKNESSES (NEEDS)

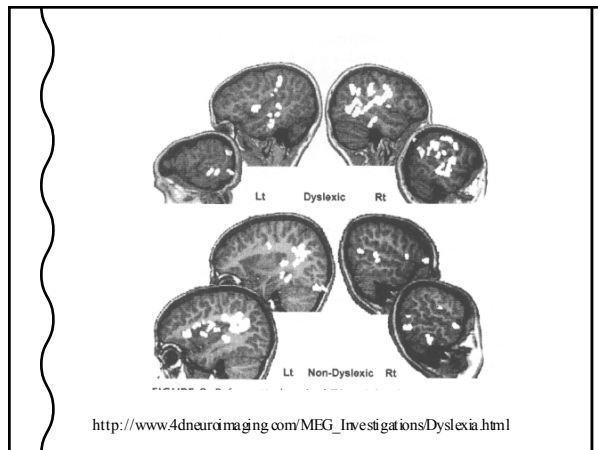
Phonological Processing	Comprehension Fluency
Orthographic Processing	Working Memory
Rapid Naming	Processing Speed

Typical readers



Dyslexic readers





## LIFELONG CONDITION

- 74% of poor readers in 3rd grade remain poor readers in the 9th grade. Often they can't read well as adults either:



## Identifying Dyslexia

**Identify:**  
What are  
the signs?

## 'unexpected'

**"Dyslexia is a weakness in a sea of strengths."**

~ Sally Shaywitz, MD

## PHONEMIC AWARENESS

- Difficulty with hearing and manipulating sounds in words

**Phoneme Segmentation**

**Phoneme Counting**

**Phoneme Deletion**

**Phoneme Substitution**

**Phoneme Matching**

**Blending**

## PHONEMIC AWARENESS

- Difficulty identifying or generating rhyming words, or counting syllables in words on an auditory level.

**at  
bat  
cat  
fat  
hat  
sat**

**fantastic  
fantastic**

## 'poor spelling' (Orthographic Awareness)

Roberto  
a-b-c-d-e-f-g-h-i-j-k-l-m-n-o-p-q-r-s-t-u-v-w-x-y-z

Year day I went to soccer practice  
It was rel- fun, we had the s-erious.

15. how  
16. strong  
17. abl  
18. ev reon  
19. unkel  
20. neaf  
21. br-n-dish  
22. n-iten  
23. ex-pek  
24. shur  
25. chuph

6/27/16

He trip to San Diego  
was a blast. I loved the  
hotel. It had a  
very nice pool. I love  
it so much. Love it. We  
went to San Diego and got hit  
by shaman and Ring Raps.  
Then we went to the Dofin  
and Friendship Show. I had to  
go to this special theater  
to do this test. Then  
we went home. Rocky was  
so excited to see us. It was the  
best VR ever. Let's go again.

## SIDEBAR: DYSGRAPHIA

- Dysgraphia is a condition that causes trouble with written expression. The term comes from the Greek words *dys* ("impaired") and *graphia* ("making letter forms by hand"). Dysgraphia is a brain-based issue. It's not the result of a child being lazy.
- For many children with dysgraphia, just holding a pencil and organizing letters on a line is difficult. Their handwriting tends to be messy. Many struggle with spelling and putting thoughts on paper. [!] These and other writing tasks—like putting ideas into language that is organized, stored and then retrieved from memory—may all add to struggles with written expression.

**CHARACTERCOUNTS!**  
Pillar of the Month  
**FAIRNESS**

• Play by the rules & take turns and share • Be open-minded, listen to others  
• Don't take advantage of others • Don't blame others randomly

• Fair • Just • Open • Impartial • Listens

Thursday 28	Language Arts/Reading	✓ Science
	Other	
	Spelling	Other
	Social Studies	Parent/Guardian Teacher Comments
	Math	Parent/Guardian Signature
Friday 29	Language Arts/Reading	✓ Science
	Other	

Tuesday 22	Language Arts/Reading	✓ Science
	Other	Fossil mortal bushel long level
	Spelling	Other
	Social Studies	Parent/Guardian Teacher Comments
	Math	Parent/Guardian Signature
Wednesday 23	Language Arts/Reading	✓ Science
	Other	
	Spelling	Other
	Social Studies	Parent/Guardian Teacher Comments
	Math	Parent/Guardian Signature

Tuesday	Language Arts/Reading	Science
28	1/6/17	Other
Spelling		Other
Social Studies		Parent/Guardian Teacher Comments
Math	PL 1077 7A	Parent/Guardian Signature
Wednesday	Language Arts/Reading	Science
29		Other
Spelling		Other
Social Studies		Parent/Guardian Teacher Comments
Math	24 22 11	Parent/Guardian Signature

### Is it really a silent disability?



Pets like the sun.  
Cats play in the sun.  
 Dogs run in the sun.  
 Do pets have fun?  
Yes! Pets like the sun.

Pets do not like the rain.  
 Cats get wet. Dogs get wet.  
 Do pets have fun?  
 No! No! Not in the rain.

### READING COMPREHENSION & FLUENCY DIFFICULTIES

- Poor reading comprehension during oral or silent reading
- Slow, laborious oral reading
- Dysfluent reading

Speed is not the road to success.  
 Careful practice is the road to speed.  
 ~Beth Slingerland

### NEED MORE TIME TO PROCESS NEW INFORMATION.



### DYSLEXIA SUBTYPES DYSLEXIA CASE STUDY: PHONOLOGICAL PROCESSING

- Julia has struggled with reading and spelling since kindergarten. In the first grade she was screened with the CTOPP-2 and had **below average** scores in *Phonological Processing* and *Phonological Memory*, but her *Rapid Naming Score* was in the *average range*.
- Julia has difficulty verbally manipulating language.
- For example, she has difficulty:
  - identifying the individual phonemes in words like <catch>
  - blending phonemes like /s/ /p/ /i/ /n/
  - deleting phones for /cat/ to /at/

### DYSLEXIA SUBTYPES DYSLEXIA CASE STUDY: DOUBLE DEFICIT

In the first grade Joe was screened with the CTOPP-2 and had **below average** scores in *Phonological Processing* and *Rapid Naming Score*, but his *Phonological Memory* was in the *average range*.

Joe has difficulty verbally manipulating language and he also struggles to retrieve verbal language.

### Dyslexia Subtypes Dyslexia Case Study: Orthographic Processing

Javier scored in the *above average range in Phonological Awareness and Phonological Memory* on the CTOPP-2, but *he still struggled to read*.  
He was *spelling entirely phonologically*.

Interestingly, he was able to spell words like *brandish* that did not contain silent marker letters or complex grapheme combinations, but he could not spell the word *every*.

He spells phonemically which means he will spell  
<every> as <evry> or  
<helped> as <help<.&br/>Javier has an above average IQ.

## ORTHOGRAPHIC DYSLEXIA

- Phonological Processing is average or above average, but can't translate that ability to the written word for decoding or encoding.
- Lack of understanding of the orthography of the language
- Highly reflective in spelling

• Article by Dr.Kelli -  
<http://www.dyslexia-training-institute.org/blog/orthographic-dyslexia-is-it-always-phonological-awareness/>

## TWICE EXCEPTIONAL (2E)

- Gifted and a learning disability
- Takes inordinate amount of time for classwork or homework
- High vocabulary and spoken skills, not reflected in written compositions
- Often develop compensatory skills
- Often unidentified
- Article by Dr.Kelli: <http://literacyworldwide.org/blog/literacy-daily/2014/12/10/gifted-and-dyslexic-twice-exceptional>
- IDA Fact Sheet <http://ida.org/gifted-and-dyslexic-identifying-and-instructing-the-twice-exceptional-student-fact-sheet>

## ASSESSMENT

## BEFORE WE GO ANY FURTHER...

**Tests Do Not Evaluate  
People Do**



## DYSLEXIA RED FLAGS WHAT ARE WE LOOKING FOR?

Dyslexia 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.

## JUST PHONOLOGICAL AWARENESS?

**Caution:** *Dyslexia is not only a weakness in phonological awareness.*  
We cannot rely solely on a definition of dyslexia that only considers phonological awareness.

## RAPID NAMING

- An Individual's ability to recognize a visual symbol such as a letter or color and name it accurately and rapidly.
- An excellent predictor of reading fluency.

[RAN Article](#)

## RAPID NAMING TESTS MEASURE

- Ability to sustain attention to process and name the symbols.
- Ability to name and discriminate among the symbols.
- Ability to retrieve verbal labels rapidly.
- Ability to articulate words rapidly.

## WHAT WE KNOW ABOUT RAPID NAMING (MATHER, 2016)

- Appears to be distinct from phonology
- Predicts word reading accuracy and speed in many languages.
- Predicts irregular word reading better than non-word reading.
- Predicts poor reading across the lifespan.

## ORTHOGRAPHIC AWARENESS

- The third component of dyslexia
- Students with dyslexia have weaknesses in the automatic recall of spelling patterns and spell words the way the sound rather than the way they built (morphemes & graphemes).  
egzact versus exact  
akshun vs action

## ORTHOGRAPHIC CODING IS...

- The ability to 'use familiar orthographic sequences to access the lexicon without phonological mediation'
- "...phonological processing may occur but the output of the phonological processor is not sufficient to make a decision about the lexical identity of a letter string."
- "You may sound out the the word, but that doesn't give you enough information to know if the word is spelled correctly."
  - Rane for rain
  - Soap for sope

How do we know which one is which? Most of us are able to store the lexical representation, but what about those who cannot.



### FIND THE WEAKNESS BEFORE DETERMINING THE INTERVENTION

- Find the deficit and respond to it.
- It is not always phonological processing.
- A child who spells *exact* as *egzact* has really good phonological awareness skills but may need help with orthographic awareness.
- We also must consider if they have had previous phonological awareness intervention.

### WHAT IS NOT APPROPRIATE SCREENING?

- Cover overlays – Irlen Syndrome
- Vision Therapy
- Reversals
- Left-hand dominance
- Eye tracking

### SOME EXAMPLES OF ASSESSMENTS - INFORMAL

- DRA – Questions to ask: CWPM vs. WPM, Cold vs. Hot reads
- Inventories: Bader; Core Phonics Survey
- WADE
- Curriculum Based Monitoring (CBM) – Progress monitoring in a specific text or program

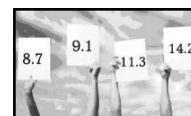
### EXAMPLES OF ASSESSMENTS : FORMAL

- Norm referenced, Standardized
- Able to make comparisons to other students
  - **CTOPP-2** – Comprehensive Test of Phonological Processing
  - **GORT-5** – Gray Oral Reading Test
  - **GSRT** – Gray Silent Reading Test
  - **RAN/RAS** – Rapid Naming
  - **TOWRE-2** – Test of Word Reading Efficiency
  - **WJ-IV** – Woodcock Johnson Achievement Battery



### RAW SCORES

If I told you that you had 16 correct answers on a test?  
What do you know about your score?



## SO, WHAT IS A RAW SCORE?

- A raw score is the number of questions answered correctly on a test or subtest.
- For example, if a test has 59 items and the student gets 23 items correct, the raw score would be 23.
- Raw scores are converted to percentile ranks, standard scores, grade equivalent and age equivalent scores.

## STANDARD SCORES

Now you have a SS of 100.  
What information do you have?

## WHAT IS SS?

Standard Scores (SS) raw scores that have been transformed to have a given mean and standard deviation. They describe how far an examinee's score lies from the mean of the distribution in terms of the standard deviation.

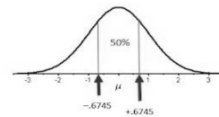
For example, the WISC IV has a mean standard score of 100, with each standard deviation being 15 points. A standard score of 85 would be one standard deviation below the mean.

## PERCENTILE RANKS

Percentiles are derived scores that permit us to determine an individual's position relative to the standardization sample (or any other specific sample).

A percentile rank is a point in a distribution at or below which the scores of a given percentage of individuals fall.

If 63 percent of the scores fall below a given score, then that score is at the 63rd percentile rank.



## GRADE EQUIVALENTS (GE)

GE is a score derived by computing the mean raw score obtained by children in each grade. It is usually expressed in tenths of a grade.

A grade equivalent score of 3.5 on a reading test means that the child is reading at a level consistent with the average child who is in the middle of the third grade.

## AGE EQUIVALENTS (AE)

AE is a score derived by computing the mean raw score of a measure for a group of children with specific age.

An age equivalent score of 9.5 on a reading test means that the child is reading at a level which is similar to that of the average nine year, six month old child.



## STANDARD DEVIATION (SD)

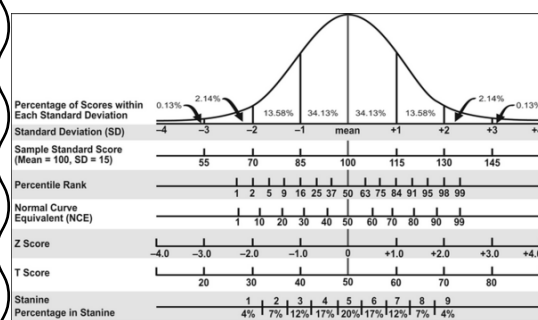
SD is the extent to which scores *deviate from the mean*.  
What is the *mean*, you ask?

How many standard deviations from the mean is a SS of 80?

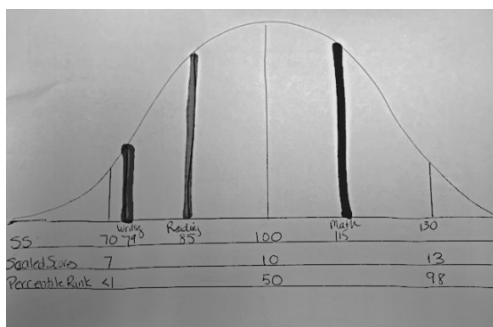
## COMPOSITE SCORES

“Composite” = made up of smaller (subtest, etc.) scores

## WHAT DOES IT ALL MEAN ON A BELL CURVE?



## BELL CURVE ANSWER STANDARD SCORES



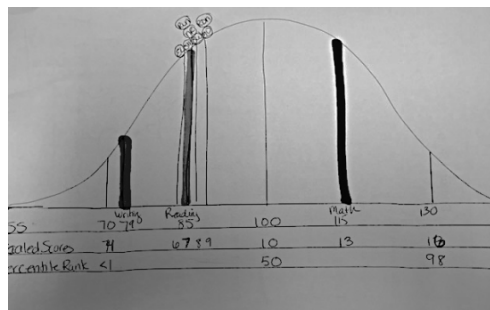
## WHAT ABOUT SUBTESTS?

- A group of test items that measure a specific area (i.e., math calculation and reading comprehension).
- Several subtests make up a test and create a composite score.
- *Dyslexia can be found in the subtests*
- On some assessments, subtest scores are called *scaled scores*.
- The mean scaled score is 10 with an SD of 3.

## CHART THESE SCALED SCORES ON THE BELL CURVE

- Elision – 6
- Blending Words – 8
- Sound matching – 7
- Memory for Digits – 9
- Nonword Repetition – 7
- Rapid Digit Naming – 9
- Rapid Letter Naming – 7

## WHAT DOES THE BELL CURVE TELL US ABOUT THIS STUDENT?



## WHAT IS RPI? WJ-IV RELATIVE PROFICIENCY INDEX (RPI)

- Predicts level of success on similar tasks. The RPI can document a performance deficit that may not be apparent based on the peer comparison (standard score, percentile rank).
- Show actual distance from average.
- Ranges from 0/90 – 100/90
- Documents a functional limitation.
  - Independent Level = RPI 96/90 or above (EASY)
  - Instructional Level = RPI 76/90 to
  - Frustration Level = RPI 75/90 or below (DIFFICULT)

<http://www.nelson.com/assessment/pdf/asb6.pdf>

## RPI IN MOTION

The Relative Proficiency Index (RPI) *predicts a student's level of proficiency* on tasks that typical age- or grade-peers would perform with 90% proficiency.

For example, an RPI of 55/90 on the Letter-Word Identification subtest would indicate that on similar tasks, the student would demonstrate 55% accuracy, whereas age- or grade-peers would demonstrate 90% accuracy.

RPI 55/90

Student 55% accuracy

Age/Grade Peers 90% accuracy

## RPI

- Has direct instructional implications
- Matches better with what the teachers see in the classroom than SS do.

Woodcock  
Johnson IV

## LET'S SEE THE SCORES IN ACTION (DON'T WORRY, WE SENT YOU A COPY)

WJ-IV Test	Raw	W	GE	EASY to DIFF	RPI	SS (10th Grade)	NI	
ORAL LANGUAGE (Std)	499	4.6	2.0	13.0	93/90	107 (102-113)	9-11	
BRIEF ACHIEVEMENT	476	2.9	2.4	3.4	71/90	90 (88-93)	8-2	
BROAD READING	468	2.3	1.9	2.7	46/90	81 (78-83)	7-7	
BROAD MATH	496	4.0	3.1	5.2	94/90	108 (104-112)	9-4	
BROAD WRITTEN LANG	475	2.2	1.7	2.8	59/90	80 (76-84)	7-6	
BRIEF READING	461	2.2	1.9	2.6	30/90	82 (79-84)	7-7	
BRIEF MATH	499	4.3	3.5	5.3	96/90	111 (106-115)	9-7	
MATH CALC SKILLS	493	3.8	2.6	5.1	92/90	105 (100-111)	9-3	
BRIEF WRITING	476	2.2	1.8	2.8	59/90	83 (79-87)	7-6	
WRITTEN EXPRESSION	481	2.3	1.8	3.4	74/90	86 (81-91)	7-8	
ACADEMIC SKILLS	475	2.8	2.3	3.3	67/90	89 (86-92)	8-1	
ACADEMIC FLUENCY	482	2.2	1.3	3.5	76/90	79 (75-84)	7-6	
ACADEMIC APPS	482	2.7	2.2	3.5	76/90	90 (87-93)	8-1	
Letter-Word Identification	39	464	2.8	2.5	3.1	51/90	91 (88-93)	8-1
Reading Fluency	20	482	2.4	1.6	3.8	78/90	88 (83-93)	7-8
Story Recall	385	13.0	2.7	13.3	96/90	118 (110-125)	>20	
Understanding Directions	492	3.3	1.8	5.9	89/90	98 (93-104)	8-7	
Calculation	16	499	4.1	3.3	5.1	95/90	112 (105-120)	9-10
Math Fluency	37	490	2.7	2.7	5.1	85/90	89 (85-93)	8-0
Spelling	22	464	1.9	1.6	2.3	28/90	80 (76-84)	7-3
Writing Fluency	6	475	1.9	1.1	2.8	60/90	76 (68-84)	7-3
Passage Comprehension	16	458	1.6	1.3	1.9	15/90	72 (67-76)	6-11
Applied Problems	34	501	4.4	3.6	5.5	92/90	110 (105-114)	9-9
Writing Samples	18-C	488	2.8	2.1	4.5	84/90	95 (89-100)	8-2

### TESTING ESSENTIAL READING SKILLS FOR SYMPTOMS OF DYSLLEXIA

- **Phonological Processing skills** – Elision, Blending, Phoneme Isolation, Memory, Rapid Automatic Naming
- **Word Reading** – real words
- **Decoding** – nonsense words
- **Oral Reading Fluency** – Rate and Accuracy
- **Rapid Naming**
- **Spelling**
- **Reading Comprehension**
- **Silent reading vs oral reading discrepancies**

### A NOTE ABOUT ASSESSING PHONOLOGICAL AWARENESS

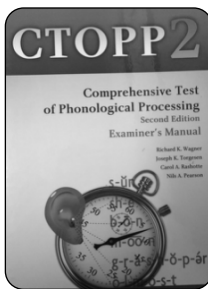
- What is a phoneme?
- If we give a child the word <try> and they tell us there are 4 'sounds' in the word <try>, how is their phonological awareness?
- If we ask a student to read the nonsense word <chom> how do we know whether or not they pronounced it correctly?

### COLLECTING BACKGROUND INFORMATION

- Genetic Factor
- Educational History
- Early Literacy Experiences
- Second Language
- Serious Illnesses
- Hearing/Vision
- Birth Trauma

### POPULAR SCREENERS FOR DYSLLEXIA

- **PALS** - Phonological Awareness Literacy Screening (no RAN)
- **PAR** – Predictive Assessment of Reading
- **FAR** – Feifer Assessment of Reading (include RAN)
- **RAN/RAS** – Rapid Naming
- **Dyslexia Screen** (Shaywitz) – not yet released



## CTOPP-2

### CTOPP- 2

- The CTOPP *measures phonological awareness and processing necessary for accurate and fluent word recognition and spelling. The average standard score is 8-10 for the subtests and 100 for the composite scores.*
- **Phonological Awareness** measures an individual's awareness and access to the phonological structure of oral language. A deficit in this area is a hallmark of dyslexia. Those with this deficit are usually more responsive to intervention.
- **Phonological Memory** measures the individual's ability to code information phonologically for temporary storage in working or short-term memory.
- **Rapid Naming** measures the individual's efficient retrieval of phonological information from long-term or permanent memory as well as the examinee's ability to execute a sequence of operations quickly and repeatedly. Individuals who score poorly commonly have problems with reading fluency.

## CTOPP – 2 SUBTESTS

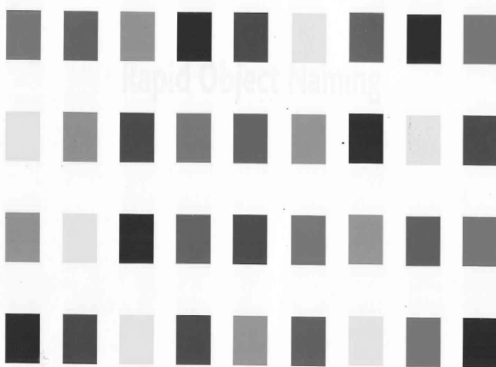
Subtest	Age Range
• Elision	(Ages 4-24)
• Blending Words	(Ages 4-24)
• Sound Matching	(Ages 4-6)
• Memory for Digits	(Ages 4-24)
• Phoneme Isolation	(Ages 7-24)
• Blending Nonwords	(Ages 4-24)
• Nonword Repetition	(Ages 4-24)
• Rapid Digit Naming	(Ages 4-24)
• Rapid Letter Naming	(Ages 4-24)
• Rapid Object Naming	(Ages 4-6)
• Rapid Color Naming	(Ages 4-6)
• Supplemental: Blending Nonwords	(Ages 4-24)
• Supplemental: Segmenting Nonwords	(Ages 7-24)

## Joey Learns French



### SAMPLE OF A RAPID NAMING TASK:

3.	7	5	8	4	3	7	5	8
5.	9	8	4	3	5	9	8	4
7.	4	9	5	3	7	4	9	5
4	5	3	9	7	4	5	3	9





s t n a k c t s c  
 k a n c k t a n s  
 t k c s n a t c n  
 k a s n c k s t a



## WHAT ABOUT QUALITATIVE INFORMATION?

Reading miscues

Observations

Spelling

## Understanding Miscues

- 1 Many American farm workers have been aided by the efforts of a shy, <sup>added</sup> patient man
- 2 named César Chávez. As a youth, César traveled from one farm to another picking crops
- 3 as they ripened. Since his <sup>ripened</sup> family had no permanent home, César had attended thirty-
- 4 seven different schools by the time he reached the seventh grade. As he grew older, he
- 5 became increasingly concerned about the <sup>previously</sup> poverty and suffering of the farm workers. He
- 6 began speaking to groups of workers about their need for safer housing and better health
- 7 care. He convinced the <sup>convinced</sup> grape pickers in California to join together and strike for better pay and
- 8 working conditions. A strong believer in nonviolence, he led many <sup>created</sup> peaceful protest
- 9 marches and organized the first successful farm workers' union in the United States. <sup>warmer</sup>

party for pretty	got for get	from for of	indy for idea
how for now	ranging for rangers	invited for invention	slipped for shipped
added for aided	ripped for ripened	farmer for family	previously for poverty
convicted for convinced	credentials for conditions	powerful for peaceful	lunged for lugged
sprinter for splintered	barrier for barren	shells for shoals	approximately for approaching
enter for invert	battle for battered		

## •Let's look at some samples

**Miscue:** diget for day  
**Need:** understand the grapheme options for /d/.  
**What won't work:** waiting until they are more 'developmentally ready' according to an age-based sequence.

**Miscue:** spahol for spaid  
**Need:** understand the grapheme options for /h/.  
 Understanding morpheme boundaries. Understand the role derivational suffixes.  
 spec + i + d

**Grammatical Need:** -al is an adjectival suffix

**What won't work:**

- To sound it out first.
- Making it a 'right' word for memorization activities.

**Miscue:** ouis for ouisous  
**Need:** Understand the functions of final -s in words.  
 Understand the functions of final non-syllabic  
**What won't work:**

- To sound it out first.

## SPELLING MISTAKES TELL US EVERYTHING WE NEED TO KNOW.

two for who – look for other words with similar meaning and spelling. Which, why, what? Talk about differences in pronunciation.

expect for expect – word sum ex + pect. Talk about phones versus phonemes

shure for shure – look for patterns: sugar, treasure, pleasure

enuf for enough – talk about grapheme/phoneme options. Grapheme <ugh>

unufy for unufy – talk about meaning. Look for other words similar in meaning. Unite, unity. Word sum.

electric for electricity – talk about meaning. Look for other words similar in meaning with similar spelling. Electric. Word sum. electr + ic, electr + ic + ity

## OBSERVATIONS

- Not necessary for screening
- If conducted, observations should be observing reading and writing— not behavior
- What did they produce during the observation?
- What did they do while everyone else was reading?
- Pauses, time taken to get to the right answer

## WHEN SCREENING, KEEP IN MIND..

If the student exhibits reading and spelling difficulties and currently has average phonological/phonemic processing, review the student's history to determine if there is evidence of previous interventions with phonological/phonemic awareness. Previous effective instruction in phonological/phonemic awareness may remediate phonological awareness skills in isolation. **Thus, average phonological awareness scores alone do not rule out the existence of dyslexia.** Ongoing phonological processing deficits can also be exhibited in word reading and/or spelling (Texas Education Agency, 2014, p. 22).



A weakness in orthographic awareness can be a significant contributing factor to dyslexia. Although orthographic awareness is a linguistic ability, it is often assessed through tests of irregular- or exception-word reading, and spelling. Students with a weakness in orthographic awareness are more successful in reading phonetically regular words than irregular words and tend to spell irregular words the way they sound, rather than the way they look.

-C. Proctor, N. Mather & L. Jaffe (July 2016)

**DYSLEXIA PROFILE**

Name \_\_\_\_\_ Date of Birth \_\_\_\_\_ Sex \_\_\_\_\_  
 School \_\_\_\_\_ State \_\_\_\_\_  
 The [Name of State] Education Code (S statute number) 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.

Dyslexia affects reading at the single word level, reading fluency, and spelling. In turn, these deficits cause difficulties with reading comprehension and written expression. Oral language, math abilities, and general knowledge that do not require reading are often unimpaired. According to research, the major cognitive risk factors of dyslexia include weaknesses in hearing, rapid automatized naming, verbal ability, phonological awareness, orthographic awareness, short-term working memory, associative memory, visual-spatial reasoning, and/or processing speed. The reading and spelling difficulties are often unexpected in relation to the student's other cognitive, oral language, or academic abilities.

**Section B: Summary**  
 In each column below, check the skills that are lower than the examinee's cognitive abilities or ability to learn information and skills that do not require reading (e.g., oral language, mathematics).

Primary Reading and Writing Difficulties	Secondary Reading and Writing Difficulties	Cognitive Abilities
<input type="checkbox"/> Letter-sound knowledge <input type="checkbox"/> Letter names <input type="checkbox"/> Letter sounds <input type="checkbox"/> Basic reading skills <input type="checkbox"/> Word identification <input type="checkbox"/> Phonics (sound-letter decoding) <input type="checkbox"/> Reading fluency and rate <input type="checkbox"/> Spelling <input type="checkbox"/> In context	<input type="checkbox"/> Reading comprehension <input type="checkbox"/> Written expression	<input type="checkbox"/> Phonological awareness <input type="checkbox"/> Blending <input type="checkbox"/> Segmentation <input type="checkbox"/> Orthographic awareness <input type="checkbox"/> Memory <input type="checkbox"/> Short-term working memory <input type="checkbox"/> Associative memory <input type="checkbox"/> Rapid automatized naming <input type="checkbox"/> Processing speed

**Cognitive and Achievement Abilities:** Ability to learn independent of reading.  
 In each column below, check abilities or skills that are higher than the examinee's reading and spelling skills.

General Cognitive Abilities	Oral Language	Mathematics	Knowledge
<input type="checkbox"/> General intelligence <input type="checkbox"/> Reasoning/knowledge	<input type="checkbox"/> Oral expression <input type="checkbox"/> Listening comprehension <input type="checkbox"/> Vocabulary	<input type="checkbox"/> Calculations <input type="checkbox"/> Problem solving	<input type="checkbox"/> General information <input type="checkbox"/> Academic knowledge

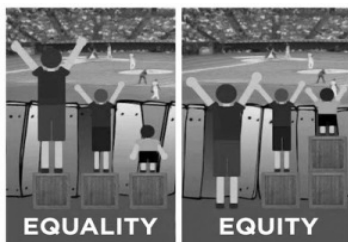
**Check Additional At-Risk Indicators**  
☐ Family history ☐ Early speech-language issues

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

Evaluator \_\_\_\_\_ Date \_\_\_\_\_  
 Reviewer \_\_\_\_\_

Bookshare/Braille, downloaded by C. Proctor, N. Mather, and L. Jaffe from Bookshare, Page 3 of 5

## Interventions and Accommodations



## WHAT IS NOT APPROPRIATE INTERVENTION?

- Cover overlays – Irlen Syndrome
- Vision Therapy
- Reversals
- Left-hand dominance
- Eye tracking



## ACCOMMODATION & REMEDIATION

- **Accommodation** – tools or modifications to assist the student to be successful in the classroom (or work) environment
- **Remediation** – direct, explicit instruction to assist the student with learning the phonemes, phonology and phonics rules in a structured, systematic, sequential, multi-sensory program

## ACCOMMODATION EXAMPLES

- To be used in a classroom & home
- books in an audio format (Bookshare, Learning Ally)
- text-to-speech software (webpages, documents)
- speech-to-text and/or predictive software
- grammar check
- reduced pencil/paper work – (ie: oral responses, scribe)
- revised assignments – classwork & homework
- note taker or notes supplied
- Organization structures (ie: graphic organizers, word webs)
- specific seat assignment
- extra time to complete tasks (test, quizzes, classwork, homework)
- spelling not marked off
- record classroom lectures
- Resources:
  - <http://www.edutopia.org/blog/dyslexia-in-general-ed-classroom-kelli-sandman-hurley>
  - [www.dyslexia.com](http://www.dyslexia.com)
  - [www.headstrongnation.org](http://www.headstrongnation.org)

## WHILE THEY ARE IN A CLASSROOM REMEMBER

- Give them processing time – They have the ability to process, but they may need more time to process.
  - Don't call on the student unless you know they have had enough processing time to have an answer. You can set up a private signal system.
- They are trying hard! Every student wants to be like their peers and meet their teacher's and parent's expectations.
- Don't hold a good day over their head. Students with dyslexia have inconsistent performance as they are learning.
- Do not have them read aloud in class unless they volunteer.

## FOR REMEDIATION - STRUCTURED LITERACY

- We need to teach - Structure of English Language
  - Phonemic Awareness
  - Phonological Awareness
  - Phonics - Phoneme/Grapheme (Sound/Symbol) Relationships
  - Morphology - bases, roots, prefixes, suffixes
  - Syllables - Unit of oral or written language with one vowel pattern
  - Spelling Rules
  - Syntax - grammar; sentence variations, mechanics
  - Semantics - meaning based
- We need to use *Structured Literacy*, an approach that is:
  - Systematic
  - Explicit
  - Multisensory
  - Examples: Orton-Gillingham, Slingerland Based, or Structured Word Inquiry

*Not one-size-fits-all!*

## EXPLICITNESS

The Oxford dictionary defines the word explicit as,

*'Stated clearly and in detail, leaving no room for confusion or doubt.'*

This is exactly what an appropriate intervention does for a student with dyslexia, the teacher and student together discover exactly why words are spelled and pronounced the way they are, it leaves no room for confusion.

## Dyslexia Intervention Vocabulary

## PHONOLOGY

- An important aspect of phonological awareness is phonemic awareness or the ability to segment words into their component sounds, which are called phonemes.
- A phoneme is the smallest unit of sound in a given language that can be recognized as being distinct from other sounds in the language.
  - Examples:
    - cat* has three phonemes (/k/, /ä/, /t/)
    - grasp* has five phonemes (/g/, /r/, /ä/, /s/, /p/)
    - chip* has three phonemes (/ch/, /i/, /p/)
    - spray* has four phonemes (/s/, /p/, /r/, /ä/)
    - shave* has three phonemes (/sh/, /ä/, /v/)

### Syllable Instruction

- A syllable is a unit of oral or written language with one vowel pattern.
- Seven Syllable Types:
  - Closed Syllable: cat, split, match, tips
  - Open Syllable: me, fly, open
  - Vowel-Consonant-e: make, plates
  - Vowel Digraphs (Vowel Teams): meat, peek, soap
  - Diphthongs: boys, toil, laundry
  - r-Controlled: cart, torch, dirt, clerk, hurt
  - \*Consonant –le: able, fiddle, sparkle

### Dividing Words....

Example of how a student can learn a word when they know the first two syllable types and their associated rules:

un·re·spon·sive

Caution: Syllables can mask bases and roots, therefore obscuring meaning  
un + re + sponse/ + ive

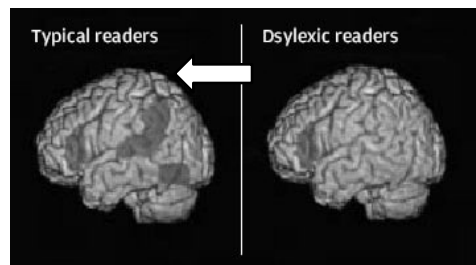
Spelling Rule the student would know – The letter 'v' will not end a word in English, so the letter 'e' goes after the 'v'. The 'e' may be doing one job or two jobs, single silent e is a marker letter.

### INSTRUCTORS MUST ALSO...

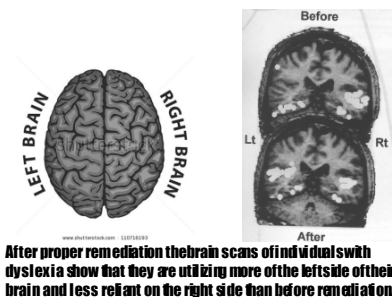
- Allow time for processing
- Provide repetition
- Drop the /uh/ when teaching phonemic awareness.

### THE BRAIN AFTER PROPER REMEDIATION

Proper remediation changes the organization of the neural pathways in the brain.



### Brain After Appropriate Remediation



### Special Ed Law

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)

## SUPREME COURT DECISION MARCH 2017



IDEA demands more than 'more than minimal'. It requires an educational program reasonably calculated to enable a child to make progress appropriate *in light of the child's circumstances.*

## 2004 IDEA AND SPELLING

- **Specific learning disability (SLD):** IDEA defines SLD as "A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, *spell*, or do mathematical calculations."

## 2004 IDEA AND IDENTIFICATION

A State must adopt, consistent with 34 CFR 300.309, criteria for determining whether a child has a specific learning disability as defined in 34 CFR 300.8(c)(10). In addition, the criteria adopted by the State:

- Must not require the use of a severe discrepancy between intellectual ability and achievement for determining whether a child has a specific learning disability, as defined in 34 CFR 300.8(c)(10);
- Must permit the use of a process based on the child's response to scientific, research-based intervention; and
- May permit the use of other alternative research-based procedures for determining whether a child has a specific learning disability, as defined in 34 CFR 300.8(c)(10).

## 2015 DYSLEXIA OSEP MEMO

*There is nothing in the IDEA or our implementing regulations that prohibits the inclusion of the condition that is the basis for the child's disability determination in the child's IEP. In addition, the IEP must address the child's needs resulting from the child's disability to enable the child to advance appropriately towards attaining his or her annual IEP goals and to enable the child to be involved in, and make progress in, the general education curriculum. 34 CFR §§300.320(a)(1), (2), and (4). Therefore, if a child's dyslexia, dyscalculia, or dysgraphia is the condition that forms the basis for the determination that a child has a specific learning disability, OSERS believes that there could be situations where an IEP Team could determine that personnel responsible for IEP implementation would need to know about the condition underlying the child's disability.*

## RESOURCES

### ■ Training

- Dyslexia Training Institute Online Courses
  - 4 week courses & 2 Certificate Programs
- Free webinars on Learning Ally
- Structured Word Inquiry
- Word Works Kingston – [www.wordworkskingston.com](http://www.wordworkskingston.com)
- Linguist Educator Exchange – [www.linguisteducatorexchange.com](http://www.linguisteducatorexchange.com)
- Real Spelling – [www.realspelling.fr](http://www.realspelling.fr)

### ■ Books

- Overcoming Dyslexia by Sally Shaywitz
- Proust and the Squid by Maryanne Wolf
- Reading in the Brain by Stanislas Dehaene
- The Dyslexia Empowerment Plan by Ben Foss
- The Dyslexic Advantage by Dr. Eides

## RESOURCES

### ■ Videos & Documentaries

- Videos
  - TedEd – 4 mins explanation of dyslexia – <http://ed.ted.com/lessons/what-is-dyslexia-kelli-sandman-hurley>
  - Youtube: Gina Cooke (3 Videos)
    - Making Sense of Spelling, The True Story of True, Why is There a b in Doubt
- Documentaries
  - Embracing Dyslexia by Luis Macias
  - The Big Picture: Rethinking Dyslexia by James Redford
  - Dislecksia the Movie by Harvey Hubble

### ■ Organizations

- International Dyslexia Association – [interdys.org](http://interdys.org)
- Decoding Dyslexia – [www.decodingdyslexia.net](http://www.decodingdyslexia.net)

## RESOURCES

### ■ Websites

- DTI Blog - [www.dyslexiatraininginstitute.org/blog](http://www.dyslexiatraininginstitute.org/blog)
- Yale Center for Dyslexia & Creativity - [www.dyslexia.yale.edu](http://www.dyslexia.yale.edu)
- Special Ed Advisor - [www.specialeducationadvisor.com](http://www.specialeducationadvisor.com)
- Florida Center for Reading Research - [www.fcrr.org](http://www.fcrr.org)
- Jamie Martin Assistive Tech - <http://www.atdyslexia.com/assistive-technology/>
- Dyslexic Advantage - [www.dyslexicadvantage.org](http://www.dyslexicadvantage.org)
- LEX - <http://linguisteducatorexchange.com/>
- WordWorks Literacy Centre - <http://wordworkskingston.com>
- Real Spelling - [www.realspelling.fr](http://www.realspelling.fr)

