



Dyslexia: An Understanding

What is Dyslexia

Dys = Difficulty

Lex = Words

Term coined in the 1800's



For 25%-35%, learning to read is accomplished with ease.

60-65% have difficulty.

About 20% find reading to be the hardest academic subject they will encounter.

-National Institute for Child Health and Human Development



Reading Development

Uta Frith's Model

Stage 1: Logographic

Instant word recognition on a basis of salient graphic features (visual features, ex. STOP sign)

Stage 2: Alphabetic

Letter-sound by letter-sound analysis putting together of sounds to evoke a word

Stage 3: Orthographic

Instant Recognition of morphemic parts child becomes more aware of letter clusters and morphological units.





The Neuroscience of Reading

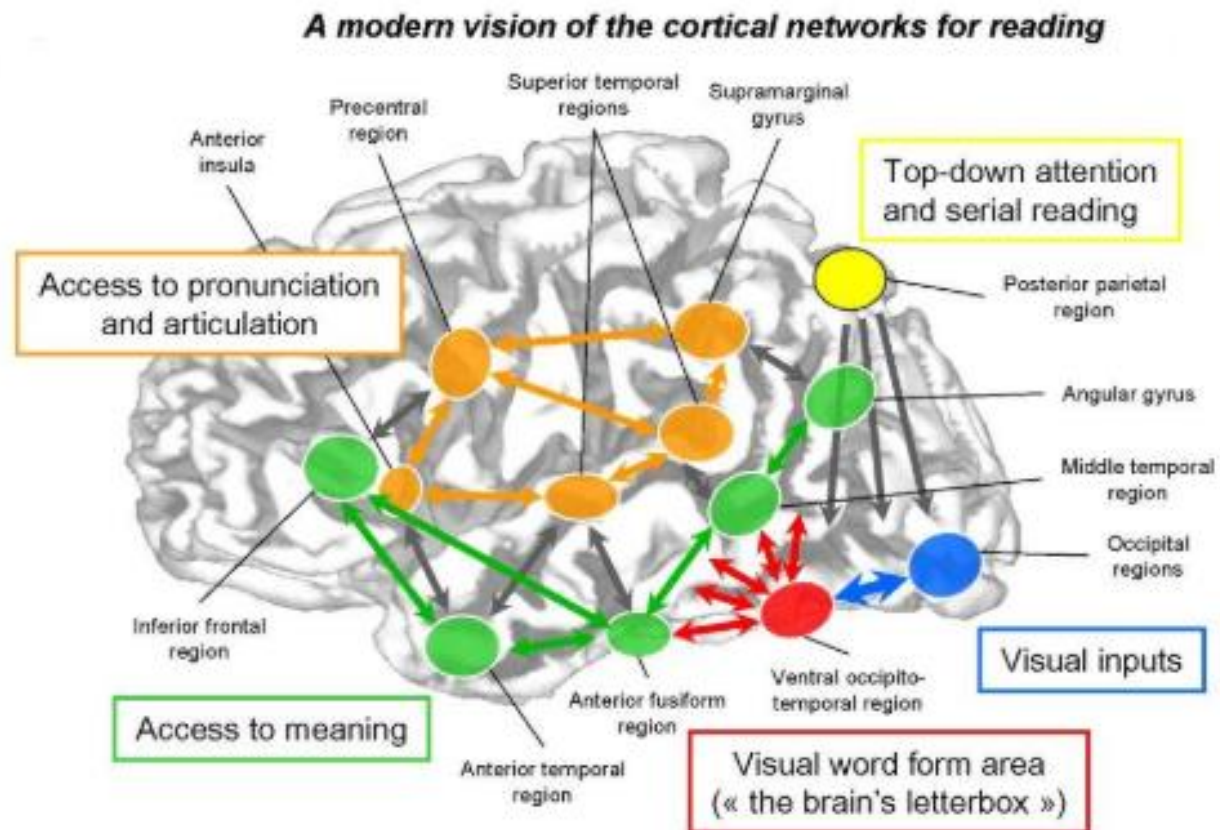
- We are hard-wired for language.
- Reading is language made visible.
- Reading is an adaptation.
- For many, creating the circuitry for reading is difficult.



Mapping

Learning to read consists of:

- Creating an Invariant visual representation of written words.
- Connecting it to brain areas coded for sound and meaning.

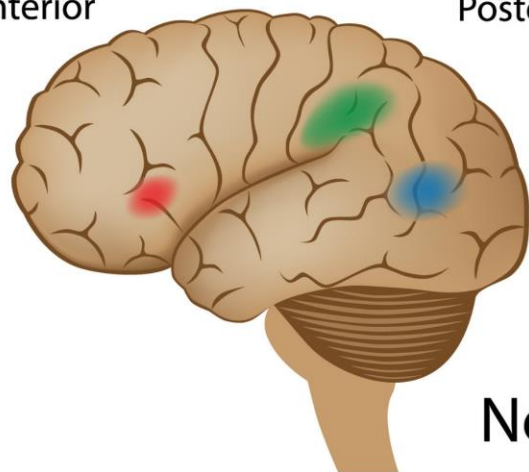


Lateral view

Superior view

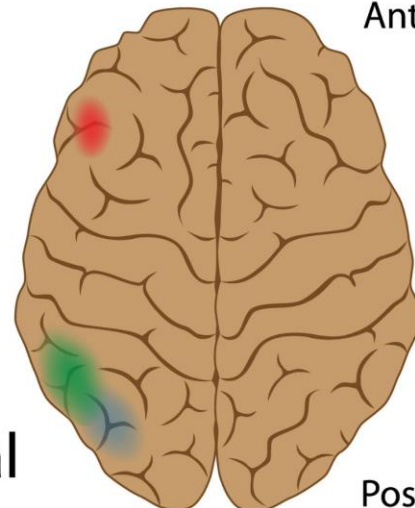
Anterior

Posterior



Normal

Anterior



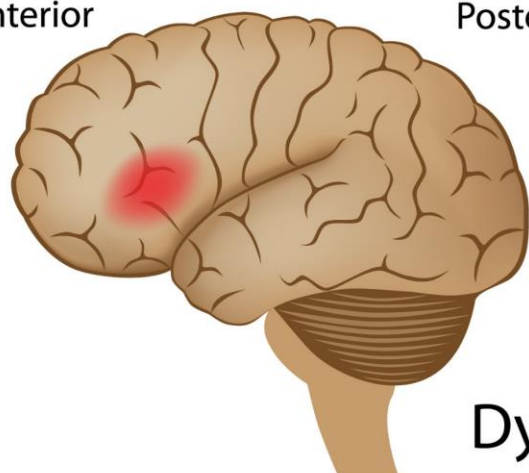
Posterior

Left

Right

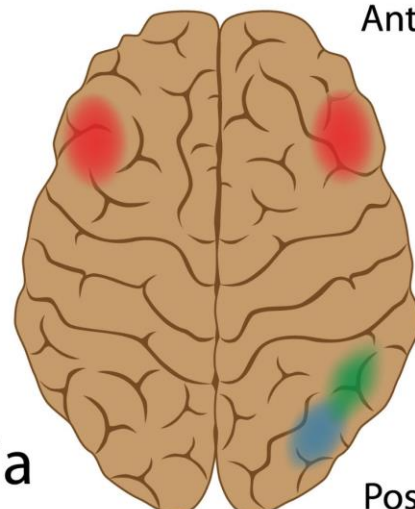
Anterior

Posterior



Dyslexia

Anterior



Posterior



Adaptation is possible due to brain plasticity

Plasticity is making new connections, not new neurons

Effective remediation drives brain changes

- New neural connections form

- Efficiency and synaptic numbers increase

There is a “computer upgrade”

- Capacity is enhanced

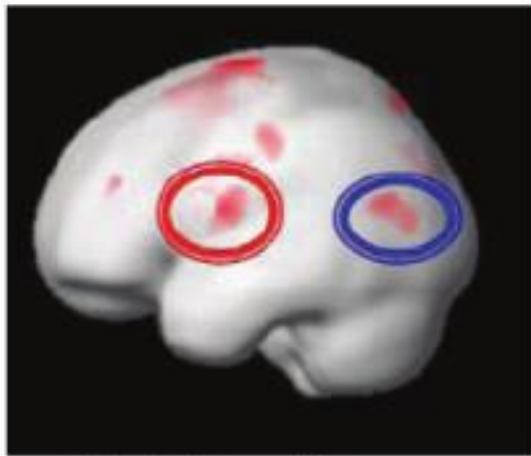
- It is easier for complex information to be processed

- Memory and retrieval are improved

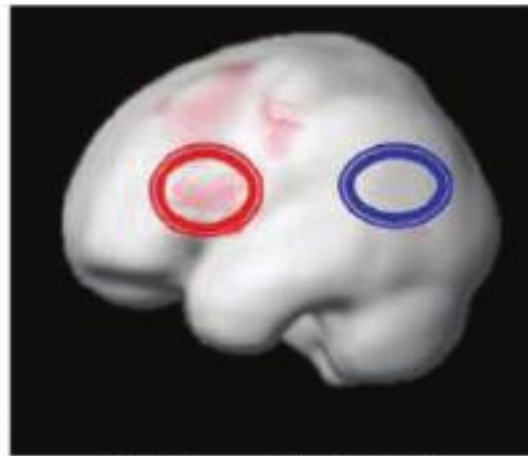
-Dr. Gordon Sherman



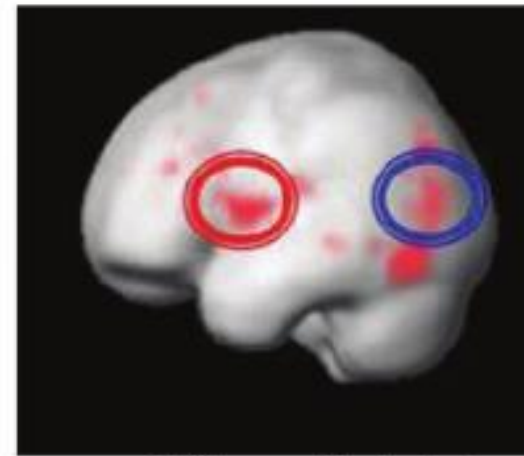
Brain Differences in Dyslexia & Its Treatment



Typically reading
children



Children with dyslexia
before remediation



Children with dyslexia
after remediation



Source: Dyslexia: A New Synergy Between Education and Cognitive Neuroscience; John D E Gabrieli;
Science 325(5938):280-3 · August 2009

It's all about the connections.

<https://www.youtube.com/watch?v=C2tvrJ8roa8&feature=youtu.be>

Usable Minute: What is Dyslexia?



It is possible to reliably identify the children who are destined for reading failure at a very early age.

“It is possible to screen all children for reading weaknesses; if this is followed up by intensive, research-based intervention, studies show that 94 to 98% of early elementary children can reach reading levels in the average range for their grade.”

-The American Educator, Fall 2004



For teachers:

- Be aware of the struggling readers in your class and watch for red flags in the core areas.
- Present the kind of reading instruction that works best for dyslexics. Teach phonemic awareness. Use explicit, sequential, systematic phonics instruction.
- Employ screening tools to help identify potential dyslexics.
- Encourage parents to have their children receive a psycho-educational battery of tests by a psychologist.



The Parent Piece...What Now?

Where are you in the process?
Figure out your child's puzzle pieces.
Educate yourself.
Focus on your child's strengths.



What now? Just two things.

- ☐ 1) Get your child reading
- ☐ 2) Keep his confidence up



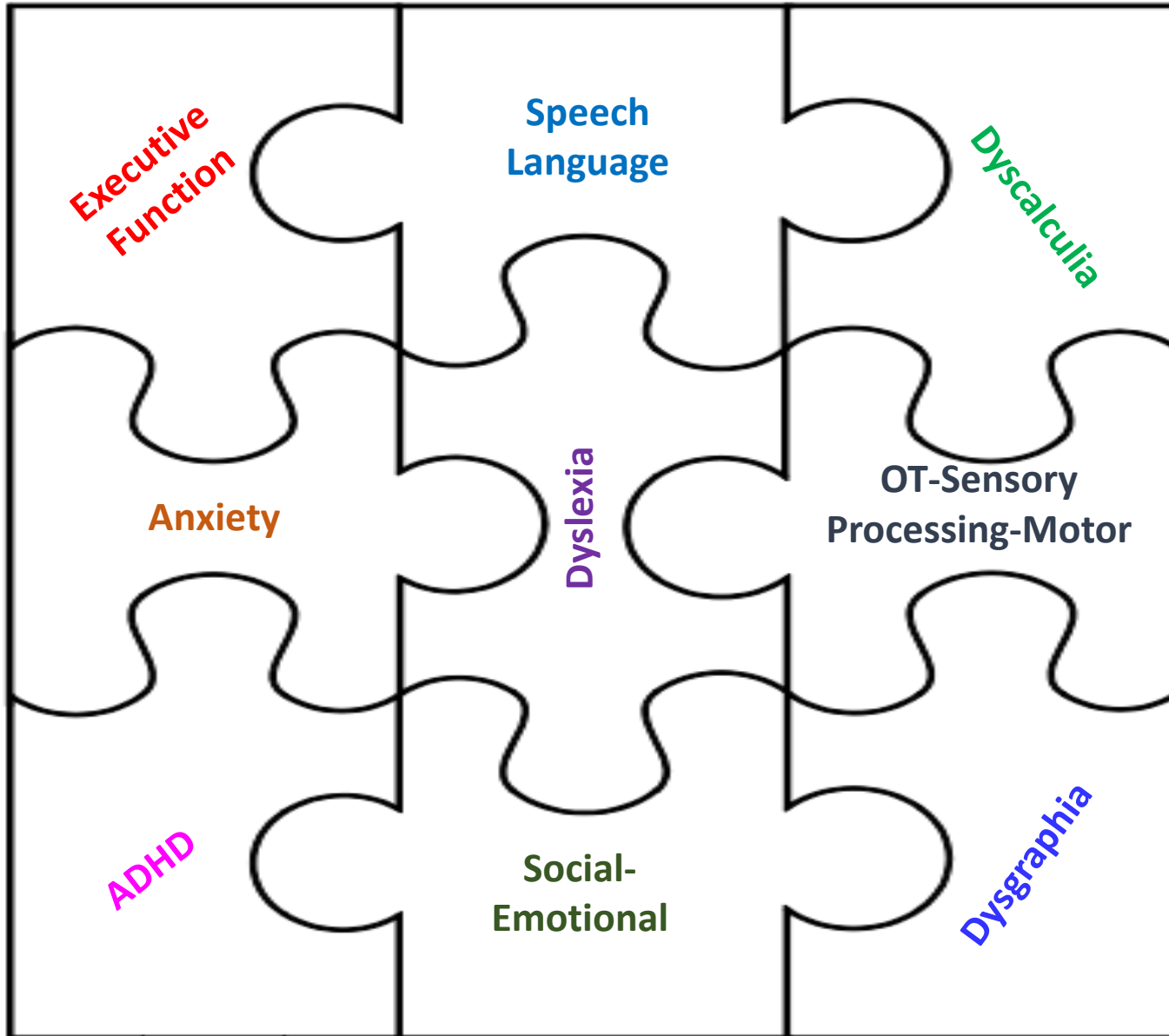
Why is it so hard???

- 1) The differences are personal.
- 2) The diagnosis is clinical.
- 3) The treatment is educational.
- 4) The understanding is scientific.

-Margaret Byrd Rawson & Roger Sanders



Figure Out Your Child's Puzzle Pieces



Educate Yourself:

- Listen to the professionals.
- Try not to be defensive.
- Listen to what teachers say is happening in the classroom / or therapists.
- Try to sort out what the difficulties are and work together to come up with a solution.
- Help teachers and other professionals understand dyslexia.
- Ask questions!!!



- Other resources

- www.dyslexiaida.org
- www.understood.org
- www.dyslexia.yale.edu
- www.greatschools.org
- www.ldonline.org
- www.ncld.org
- www.ortonacademy.org
- www.allkindsofminds.org
- www.learningally.org
- www.additude.org

- Follow us!

The Dyslexia Initiative

www.TheDyslexiaInitiative.org

Facebook: @DyslexiaInitiative

Twitter: dyslexia_the

Instagram: The Dyslexia Initiative

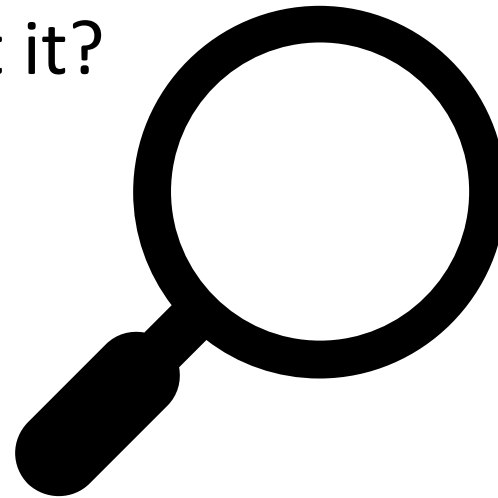
- The Dyslexia Resource

- www.dyslexiaresource.org



Ask yourself & your teachers:

1. What is interfering with my child's learning?
2. How much is it interfering?
3. Do we need to do anything about it?



ACTIONS:

- ❖ Read, Read, Read to your child...or listen to books!
- ❖ Show them Reading and Learning is fun.
- ❖ Vocabulary – Let them hear a lot of wonderful vocabulary.
- ❖ Focus on Strengths – Whole child.
- ❖ Gentle, kind toughness.
- ❖ Let them participate in and explore their extra-curricular activities & talents!



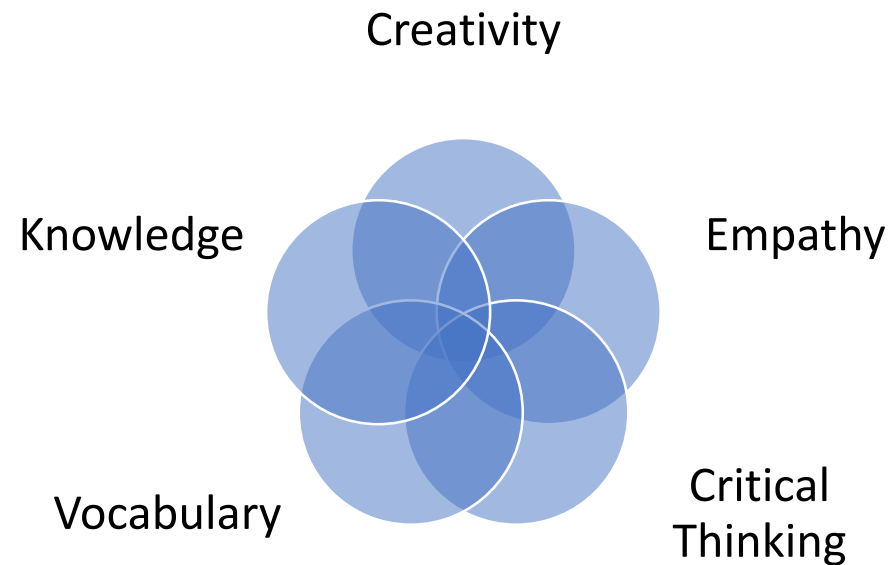
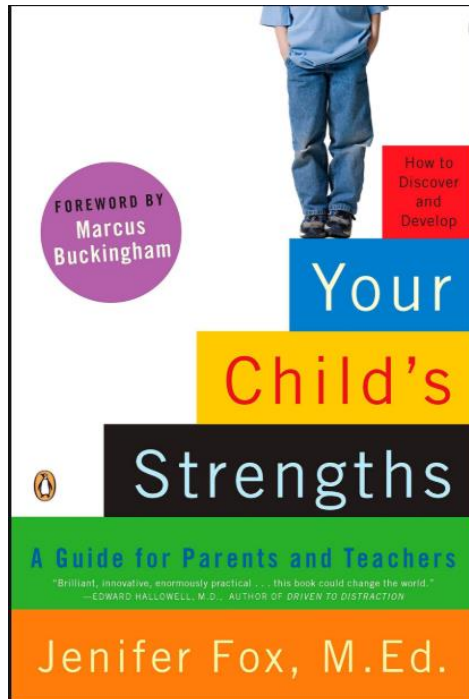
EMOTIONS:

As a parent, imagine yourself as...

- ❖ The one who gently pushes
- ❖ The advocate
- ❖ The one who understands
- ❖ The constant supporter
- ❖ The one who helps figure out the solution
- ❖ The realist...that says, “It IS hard, but you can do this.”



Focus on your child's strengths



Children and adults with dyslexia are highly creative, and have many cognitive and emotional strengths, despite a weakness in decoding words.

-Yale Center for Dyslexia and Creativity

DO YOU READ SLOWLY? COULD YOU BE DYSLEXIC?

YOU MAY BE DYSLEXIC IF YOU...

- ...Read slowly and with much effort*
- ...Are often the one to solve the problem*
- ...Can't spell; have messy handwriting*
- ...Your writing shows terrific imagination*
- ...Have trouble remembering dates and names*
- ...Think out-of-the box, grasp the big picture*
- ...Have difficulty retrieving and pronouncing spoken words*
- ...Have excellent vocabulary and ideas*

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FIND OUT MORE: www.dyslexia.yale.edu

Founded and co-directed by Drs. Sally and Bennett Shaywitz, professors of learning development and dyslexia, The Yale Center for Dyslexia & Creativity is uniquely dedicated to applying cutting-edge science to transform the lives of children and adults who are dyslexic.



SLOW READER. OUT-OF-THE-BOX THINKER.



Red Flag Checklist

Phonemic Awareness & Reading Skills

Preschool	<p>A child should be able to:</p> <ul style="list-style-type: none"> <input type="checkbox"/> produce rhyming words <input type="checkbox"/> delete roots, syllables and phonemes <i>e.g. Say "cowboy." Now say it again, but don't say "boy"</i> <input type="checkbox"/> divide words into syllables <input type="checkbox"/> substitute a phoneme to a new word <i>e.g. Say "f-u-n" What is that? Now say it again but change "f" to "s"</i> <input type="checkbox"/> divide sentences into words <input type="checkbox"/> identify a phoneme by its position in a word <i>(beginning, middle, end)</i> <input type="checkbox"/> discriminate rhyming words <input type="checkbox"/> divide words into phonemes
6 Years Old	<p>A child should be able to:</p> <ul style="list-style-type: none"> <input type="checkbox"/> write words <input type="checkbox"/> identify sounds and letters <i>(sound / symbol relationship)</i> <input type="checkbox"/> write sentences <input type="checkbox"/> begin to decode <input type="checkbox"/> blend sounds together <i>vc, vcv words, words with blends (2 and 3 letters), words with</i> <input type="checkbox"/> decode nonsense words <i>consonant digraphs, magic e words, etc.</i> <input type="checkbox"/> segment words into syllables
2nd – 5th Grade	<p>A child should be able to:</p> <ul style="list-style-type: none"> <input type="checkbox"/> spell well <input type="checkbox"/> recall words quickly without much repetition <input type="checkbox"/> have appropriate handwriting <input type="checkbox"/> comprehend reading material at or above grade level <input type="checkbox"/> enjoy reading and writing <input type="checkbox"/> read accurately <input type="checkbox"/> have appropriate or strong written expression <input type="checkbox"/> have appropriate or strong reading strategies



Red Flag Checklist Continued

- Dyslexia is:**
- Often unexpected
 - Neurobiological in origin
 - A specific learning disability
 - Has secondary consequences
 - A deficit in phonological components
 - Inaccurate or non-fluent word recognition
 - A deficit in spelling and decoding abilities

If I have my child tested, what tests will he / she need to have administered?

- Phoneme awareness tasks in kindergarten and beginning first grade level
- Timed tests of letter naming or letter – sound associations in kindergarten and beginning first grade level
- Direct measure of decoding and word recognition toward the middle and end of first grade and beyond
- Oral reading fluency, a timed test that combines reading rate and accuracy, once the student can read connected texts

Critical Skills for Successful Readers

- Phonological awareness
- Automatic and accurate letter naming
- Letter-Sound association
- Word reading accuracy and fluency
- Passage reading fluency and comprehension

Essential Components of Effective Reading Instruction

- Phoneme awareness
- Written expression
- Speaking and listening
- Phonics and word recognition
- Fluency
- Vocabulary
- Comprehension



*Red Flag Checklist compiled by The International Dyslexia Association & The Schenck School