



Willamette Valley Dyslexia Center
Presented by Lynn Brown, M. ED


DYSLEXIA DECODED

Session 2:

- Typical Reading Development
- Warning Signs

If learning to read were as natural as acquiring spoken language, everyone would learn reading as easily as ducks learn to swim.

<https://www.wvdyslexiacenter.com>



Welcome to Session 2!

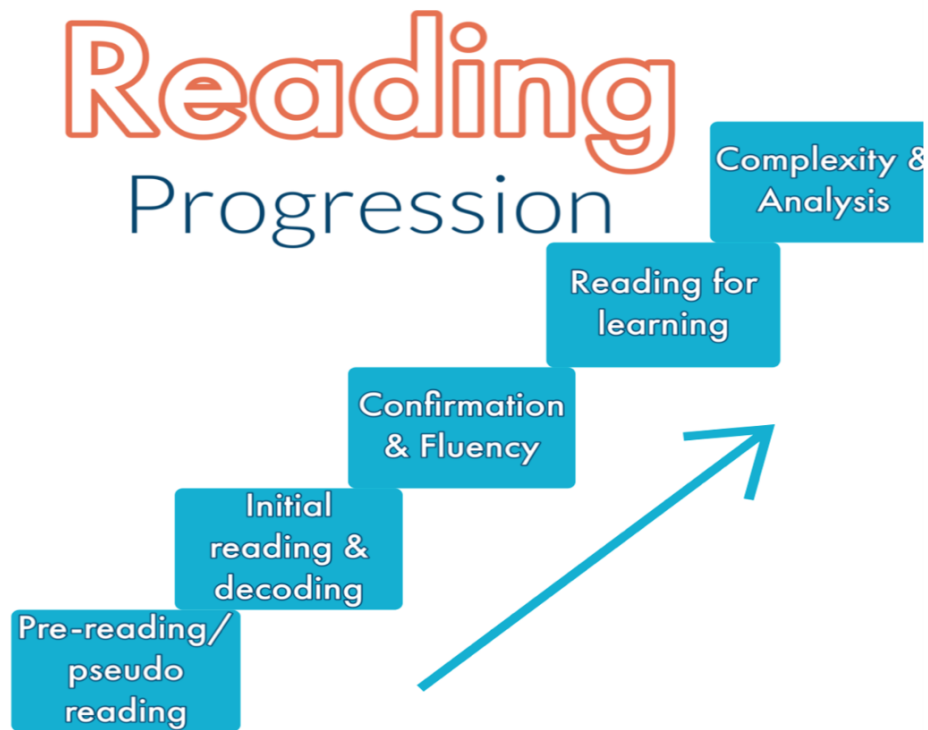
In this session, we are going to dive into the typical stages of reading development, and then use that to set the tone for the warning signs of Dyslexia!

You will hear me say throughout the course: **There is no substitute for EARLY INTERVENTION and APPROPRIATE INSTRUCTION.**

There is a myth floating out in the world of education that these difficulties are developmental and that kids will outgrow these obstacles. If you know a child who is struggling with letter separating sounds in words or doesn't understand rhyme why not work on it right there at that moment? Why wait until they are 9, 10, or 11 years old to decide it's a problem?!

My goal for this session is to provide a broad overview and roadmap for typical reading development, that can guide the expectations for parents and educators to act with decision when kids are struggling with reading skills.

I hope that this session is an opportunity to see these milestones differently. Then, after we have dug into the universal screening tools, in the next session, you'll feel empowered to make moves early and to make them fast for the kids you know are struggling.



We looked at this in the last session, let's talk through this again...

A typical reading journey starts at a **pre-reading or pseudo-reading stage** where toddlers are starting to mimic reading. They are opening books and pretending to tell a story. This includes tasks of **Phonological Awareness - the awareness of and ability to work with sounds in spoken language including skills like rhyme, alliteration, syllables, and blending and segmenting sounds.** Essentially setting the stage for decoding, blending, and, ultimately, word reading. This phase begins at birth when we are talking to our babies and they are absorbing our language, mimicking our language, and acquiring spoken words. These oral language skills are typically fully developed by age 5.

Initial Reading & Decoding is a primitive reading stage where kids are making letter-sound connections and using DECODABLE books to read simple stories. Decodable books are crucial in reading development. It empowers kids to read independently! This includes Alphabetic Principle - the awareness that spoken sounds have correlating shapes or letters, this is typically mastered by age 7.

Fluency is the stage where a child can read almost anything presented whether it has meaning to them or not. Fluency reading is defined as reading with enough accuracy and at a rate that supports comprehension.

The reading-for-learning stage is a stage where kids are starting to build visual pictures and make associations between words and meanings. They are capable of reading a passage independently and gaining new learning from it.

Complexity and analysis are higher-order skills where a student can take away deeper meaning, thinking poetry, similes, metaphors, etc... students at this level can use written text to understand various viewpoints and form opinions.

The Dyslexia Connection - Struggling readers will struggle to gain fluency without explicit and intentional instruction.

NOTES

Pre-Reading:

WHAT SHOULD WE EXPECT FROM OUR READERS...

Pre- K/ Kinder...

Pre-reading/oral language development

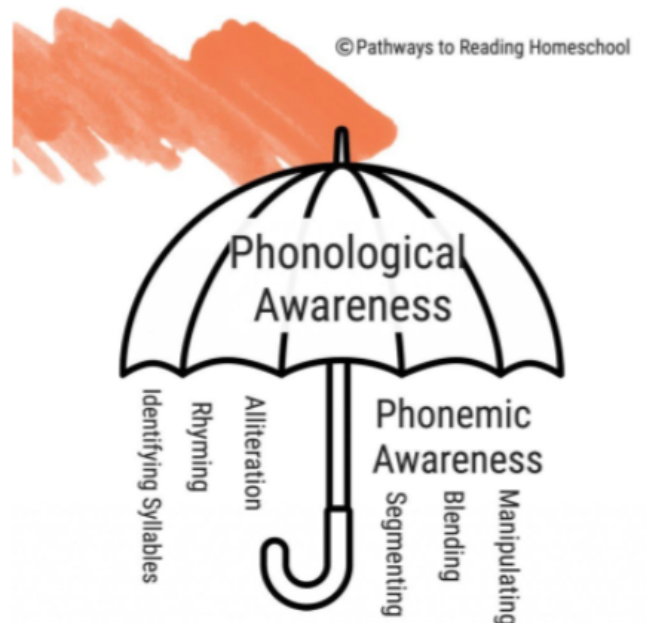
Some knowledge of print/able to write name/pretend reading

Decoding/initial reading

age 3: Rhyming by pattern
alliteration

age 4: Syllable counting (50% of
4-year olds)

age 5: Syllable counting (90% of
5-year olds) Phoneme counting (>50% of
5-year olds)



We know Dyslexia can be identified incredibly early! Brain scans of young children have shown differences in brain activity when presented with reading tasks. While this is outside of my pay grade to dive into deep details, we know that there are structural and functional brain differences. These differences can be noted as early as 6 months old. When a group of kids were followed as part of a brain scan study, the team was able to link differences in brain activity patterns to later struggles. While brain imaging is not reliable enough for diagnosis, it validates that Dyslexia is real!

Dyslexia in an educational setting can also be picked up early through universal screening. (More on this in the next session). We also know that dyslexia runs in families. When parents are aware of this, taking action early to seek reading help can save a child a lifetime of struggle and self-doubt. There are many early childhood delays and issues that get a lot of attention, but for some reason components of early reading are overlooked. Often times being dismissed as developmental.

It is a travesty that we have not prepared teachers with the formal instruction to understand reading development, nor have we equipped them with the proper tools to measure and identify early indicators of reading difficulties. If educators we are prepared with the proper tools, it is possible that more kids would get the support they need before it hit the crisis point.

The phonological awareness graphic shows us that pseudo-reading or pre-reading skills are developing through age 5.

Kids are starting to engage in conversations, make associations between words and objects, and between words and print.

Some kids may have memorized a favorite story word for word, leading you to believe that they are in fact, reading.

At this level kids are acquiring **Phonological Awareness Skills**.

Phonological Awareness is an umbrella term that includes the skills of rhyming, alliteration, identification of syllables, and phonemic awareness.

Phonemic Awareness can be drilled down even further into the components of blending, segmenting, and the ability to identify and manipulate individual sounds (phonemes) in spoken words. Wordplay is so important at this level!

Counting sounds in words, sounding words out to make a child say the word, and playing games with rhyme are some of the most important work a child can do in a day. At this level, all (or most) reading instruction is done orally.

Once a child has an understanding and mastery of phonemic awareness, ALL other reading skills will make sense!

Phonemic Awareness difficulties are a strong indicator of a dyslexia profile or future reading difficulties.

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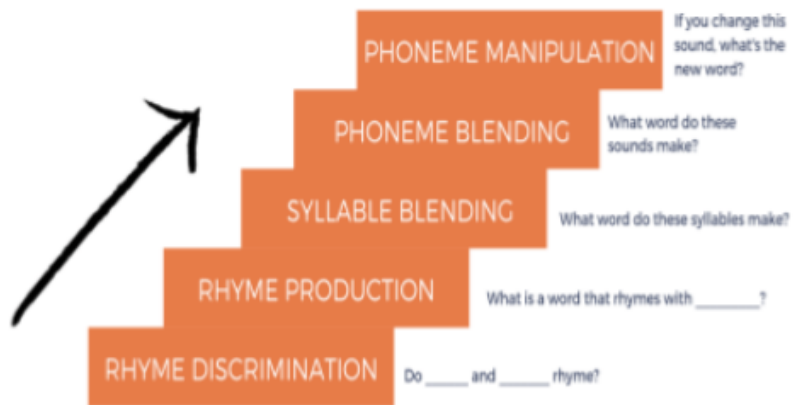
Initial Reading, Decoding, and Fluency:

Grades 1 and 2:

Alphabetic Principle /
Sound-Symbol
Relationships/ Initial
Reading and Decoding.

PHONOLOGICAL AWARENESS Reading Progression

Age 6: Initial consonant matching, Blending 2-3 phonemes, Phoneme counting, Onset-rime division.



Age 7: Blending 3 phonemes, Phoneme deletion, Segmentation of 3-4 phonemes, Phonetic spelling.

As we get into early elementary... 1st and 2nd grade, this expands upon the skills from Kinder. Applying phonological awareness skills to Alphabetic Principle - the awareness that spoken sounds have correlating shapes or letters.

Once a child has a strong understanding of the oral language, and can manipulate our spoken language through those essential phonological awareness skills, we introduce graphemes or phonograms (written symbols).

Teaching kids to match graphemes (letters or letter combos) to phonemes (sounds). Kids can start blending 2-3 phonograms, counting phonograms (Surprise! Some words have more graphemes than phonemes!), writing short words, and even sentences.

Moving into the decoding stage we introduce decodable readers. Kids need a variety of books. Both, high-interest books with beautiful pictures that make reading intriguing and fun, and they also need instructional, decodable books. These decodable books allow kids to flex their little reading muscles, and find their independence and success in reading them!

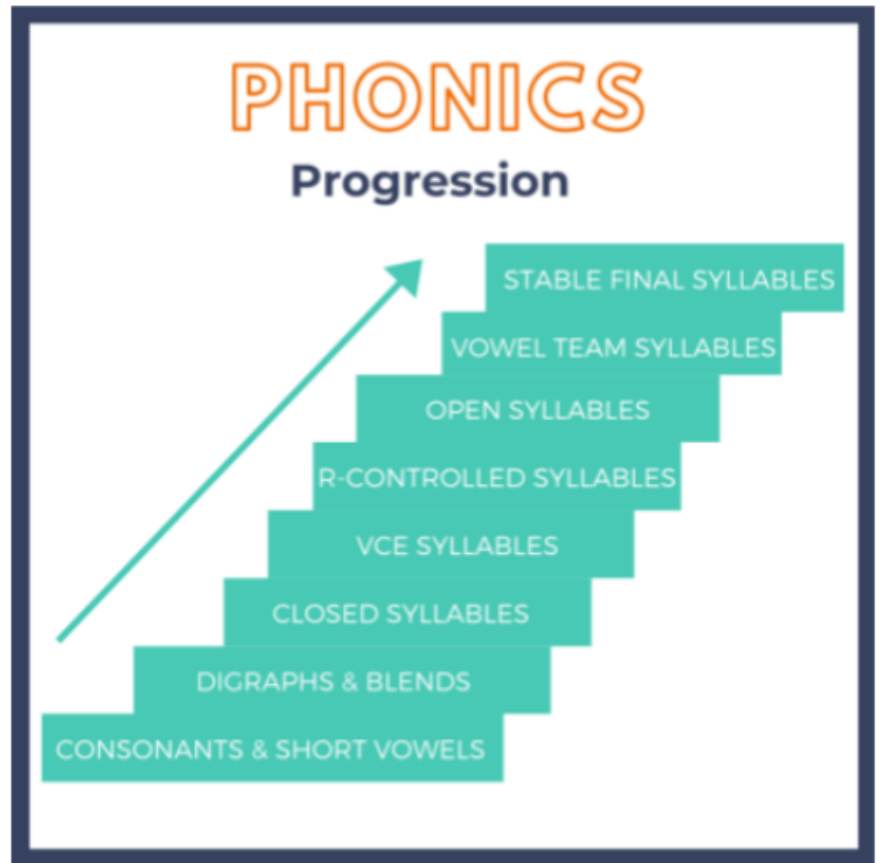
Facilitating reading at this level allows the reading to become an enjoyable INDEPENDENT activity. With proper support kids should be mastering and applying the skills of decoding and encoding by age 7.

Grades 2 and 3:

Additional Strategies/
Fluency/ Further
Decoding/ Reading to
learn.

Age 8: Consonant
cluster segmentation,
Deletion within
clusters.

...and this is where both
developmental and
academic shifts from
foundational skills to
academic application.



3rd grade is a pivotal year in literacy development. This is the age when any recognized developmental delays should have worked out. **READING DELAYS ARE NOT DEVELOPMENTAL DELAYS!** This is the age where schools are moving towards special education referrals and evaluations for learning disabilities.

This is a point of no return for many kids...

At this point, instruction should have already been introducing phonics concepts, and kids should be moving into reading for learning...

We know that 1 in 5 kids struggle to read. We know that prisons project their staffing and population numbers on the literacy statistics of 3rd graders. We know that if a kid makes it to 3rd grade and cannot read, we are facing an uphill battle to change their future.

Typical students should be working through phonics skills, and gaining fluency. Students, by age 8, are applying strategies that allow for decoding of larger words, reading to learn/learning new things, asking critical questions about rogue spelling patterns, and using skills in morphology & syllabication. It would be reasonable to expect kids to be working with consonant clusters - segmenting and deleting sounds. The bulk of our spelling patterns could be introduced at this point. We teach skills in order from simplest and predictable to more difficult and less predictable, as seen in the progression chart on the previous graphic.

By age 8, there is both a developmental and an academic shift from foundational skills to academic application.

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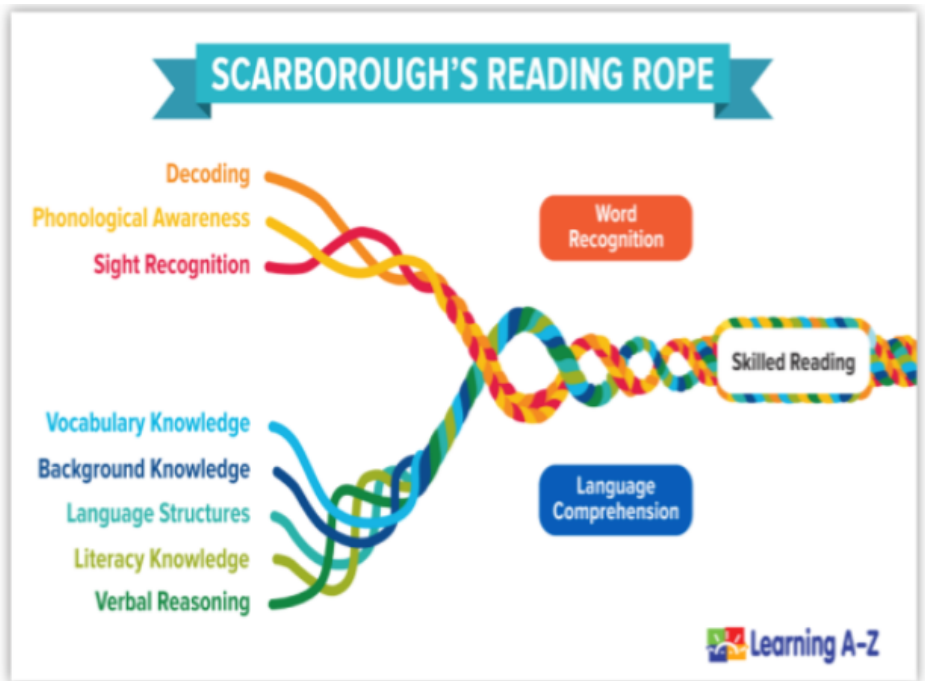
4th Grade and Beyond:

Grades 4-8:

Informational/
Vocabulary/ Genres/
Experiences, multiple
viewpoints.

Grades 9-12:

Increasing language/
cognitive demands,
construction and
reconstruction.



College and Beyond:

Information for individual
purposes.

So while a reader progresses through steps as quickly or slowly as they do, there are academic benchmarks that make decisions for us. We can expect that by 4th-grade kids are well into confirmation of skills, fluency in decoding and encoding, essentially reading for learning and reading for deeper meanings (like hyperbole, etc).

Recalling what we know of the Simple View of Reading formula, strong reading comprehension cannot occur unless both decoding skills and language comprehension abilities are developed.

- We must teach students to decode text expertly as early as possible. When students can decode expertly, their reading comprehension capabilities equal their language comprehension abilities.
- We must provide students with strong content knowledge in many domains at all grade.

Appropriate K-2 instruction will focus on the top of the rope. Building skills in phonological awareness, decoding, and working on sight recognition of words. Really, this is the science of reading! This is the foundation for the rest of a child's academic career.

Moving into 3rd grade and beyond, instruction shifts to gaining knowledge and understanding. Explicitly teaching content vocabulary, while allowing exposure to higher-level word work like morphology - prefixes & suffixes, word origins, grammar, and writing are all appropriate focuses for kids who have achieved reading and writing fluency.

In a typical reading journey, kids are learning from their environment and gaining a rich vocabulary through oral instruction. They are relating this learning to their environment, and seeking understanding by reading.

Notes:

Warning Signs of Dyslexia:

Common Signs of Dyslexia

Kindergarten – 2nd grade

- Trouble segmenting & blending sounds
- Poor letter-sound recall
- Poor application of phonics
- Inconsistent memory for words in lists
- Mispronouncing words
- Inability to spell phonetically

Grades 3-4

- Phonic decoding is a struggle
- Inconsistent word recognition
- Difficulty reading math problems
- Over reliance on context and guessing
- Oral reading-choppy & labored

We tend to focus on reading decoding skills as the first signs of a problem, but it shows up so much sooner than that! Dyslexia impacts a student's ability to understand and manipulate individual phonemes in words leading to mispronounced words, difficulties with rhyme, and trouble segmenting and blending sounds.

Dyslexia impacts more than reading and often shows up more readily in spelling (encoding) and writing, especially with older students.

Spelling involves the opposite process of reading and dyslexia affects both decoding and encoding as well as grammar, punctuation, and organization of written thought.

Some professions utilize the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). Under the DSM-5, there is one overarching category of Specific Learning Disability (SLD) with specifiers to characterize learning difficulty in three major academic domains, namely reading (dyslexia), writing (dysgraphia), and mathematics (dyscalculia). Dyslexia is a comprehensive, integrative diagnosis encompassing all three.

As of the most recent DSM manual, IQ scores are no longer necessary for determining eligibility for a Dyslexia "diagnosis" or profile.

Dyslexia is a language-based disorder that affects reading, but also spelling, and writing. Spelling and writing correspond to reading as the applied process. What we know about dyslexic brains is that there are 3 areas of the brain that all work together to support reading fluency, and a person with dyslexia has 2 underdeveloped areas, and 1 overdeveloped area. They literally think differently.

So knowing what we know about typical reading development let's apply that to what can be interpreted as a warning sign...

While kids can break down and struggle at any point in the first few steps of reading - Phonological Awareness, Alphabetic Principle, or even at the decoding/ encoding stage - Your first indicators are the struggles with oral literacy tasks listed under the Phonological Awareness umbrella, most specifically the phonemic awareness skills.

Grades K-2 Symptoms: Trouble segmenting and blending sounds, Poor letter-sound recall, Poor application of phonics, Inconsistent memory for words and lists, Mispronouncing words, Inability to spell phonetically.

Grades 3-4 Symptoms: Phonic decoding is a struggle with inconsistent word recognition, Poor spelling, Over-reliance on context and guessing, Trouble learning new words (spoken), Confusion about other symbols.

Grades 5-6, Symptoms: Poor spelling, Poor punctuation, Reverts to manuscript from cursive, Organization of writing is difficult, Decodes laboriously, Skips unknown words, Avoids reading, Vocabulary declines.

Grades 7-8 Symptoms: Slow reading, Loss of the meaning of words, Persistent phonological weaknesses, Less obvious poor spelling and writing, Confusion of similar words, Does better with structured and explicit teaching of language.

Grades 9+ Symptoms: Trouble with foreign language study, Writing and spelling problems persist, Reading is slow and labored, Longer writing assignments are very difficult, Can often cope when given extra time, study strategies, and structured language teaching.

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Prevalence of Dyslexia and Comorbidities with Dyslexia:

"Dyslexia is persistent: A student who fails to read adequately in first grade has a 90% probability of reading poorly in fourth grade and a 75% probability of reading poorly in high school." (Gabrieli, 2009).

Those with Dyslexia also have occurrences of:

- Impairments in executive functions. (Executive functions are the ability to use a set of problem-solving skills to attain goals).
- Memory impairments.
- Problems with mathematics.
- Emotional and behavioral disorders.

Source: UofMHealth.org

Dyslexia exists all over the world, and in all languages. There is no IQ correlation, and while illiteracy can lead to poverty, poverty is not a cause of Dyslexia. Dyslexia affects more than just tasks of reading and writing. As many as 1 in 5 people struggle with Dyslexia.

Notes:

As many as 30% of our population struggles with Dyslexia!

- ADHD: Up to 4 in 10 people with Dyslexia
- Anxiety: Up to 29%
- Impaired balance: up to half of children, and 1 in 5 adults with Dyslexia
- Dyspraxia: Up to 85%
- Dysgraphia: Not clear
- Oppositional Defiant Disorder: 17%
- 2E Dyslexia and Gifted: Up to 1 in 20 school age children
- Amusia (tone deafness)

Dyslexia is a neuro-divergence, and it affects things like executive function, working memory, and attention to detail.

But there are also a lot of strengths to celebrate!

- A high learning capability
- A noticeable improvement when given additional time on multiple choice exams
- Noticeable excellence when focused on a highly specialized area such as medicine, law, public policy, finance, architecture, or basic science
- Excellence in writing when the content rather than the spelling is important
- A noticeable articulateness in the expression of ideas and feelings
- Exceptional empathy and warmth for others
- A talent for high-level conceptualization and the ability to come up with original insights

Digging a little more!

The term dyslexia refers to a reading problem characterized by inaccurate and/or slow development of skills in printed-word reading and spelling. The origins of dyslexia are typically within one's ability to process the language. There are very specific skills that are difficult for those with dyslexia to understand. AND! There are very specific and known areas that allow for this decoding deficiency, including Phonological processing, rapid automatic naming, auditory working memory, and orthographic processing...

Phonological Processing: The use of the sounds of one's language (i.e., phonemes) to process spoken and written language (Wagner & Torgesen, 1987).

Rapid Automatic Naming: Rapid automatic naming (RAN) is the ability to quickly name aloud a series of familiar items.

Auditory Working Memory: Is a virtual 'workspace' in our mind. It's where we temporarily store sounds we hear as we try to make sense of them. This working memory is crucial in so many daily tasks like solving problems, learning, following instructions, and more.

Orthographic Processing: The ability to visually recognize and remember written words and parts of words. It includes the ability to immediately recognize letter sequences and patterns and to spell phonetically irregular words.

Wrapping it up!

Because reading affects all other academic achievements and is associated with social, emotional, economic, and physical health. This has been the most researched aspect of human cognition. It becomes the most fundamental responsibility of schools.

About half of the students with dyslexia or word-level reading problems experience other problems with language comprehension and use.

About 10 percent of all weak readers demonstrate a specific weakness in language comprehension even though their word recognition skills are strong.

Unlike spoken language, which is learned with almost any kind of contextual exposure, reading is an acquired skill. If learning to read were as natural as acquiring spoken language, everyone would learn reading as easily as ducks learn to swim.

Although surrounding children with books will support reading development, and a "literature-rich environment" is highly desirable, it is not sufficient for learning to read. Neither will exposure to print ordinarily be sufficient for learning to spell unless an organized practice is provided. Thus, teachers must be reflective, knowledgeable, and intentional about the content they are teaching – that is, the symbol system (orthography) itself and its relationship to meaning.



Consider this!



Degrees of Dyslexia

"Dyslexia is not an all-or-none phenomenon but, like other disorders, occurs in degrees." (Shaywitz, 1992)

"Reading ability and reading disability occur along a continuum; reading disability is represented within lower tail of a normal bell shaped distribution of reading ability." (American Academy of Pediatrics, 2011).

"Dyslexia is referred to as a learning disability because Dyslexia can make it very difficult for a student to succeed academically in the typical instructional environment." (International Dyslexia Association, 2022).