

Clinical Assessment of Grade-Level Reading Abilities: Focus on Fluency and Comprehension

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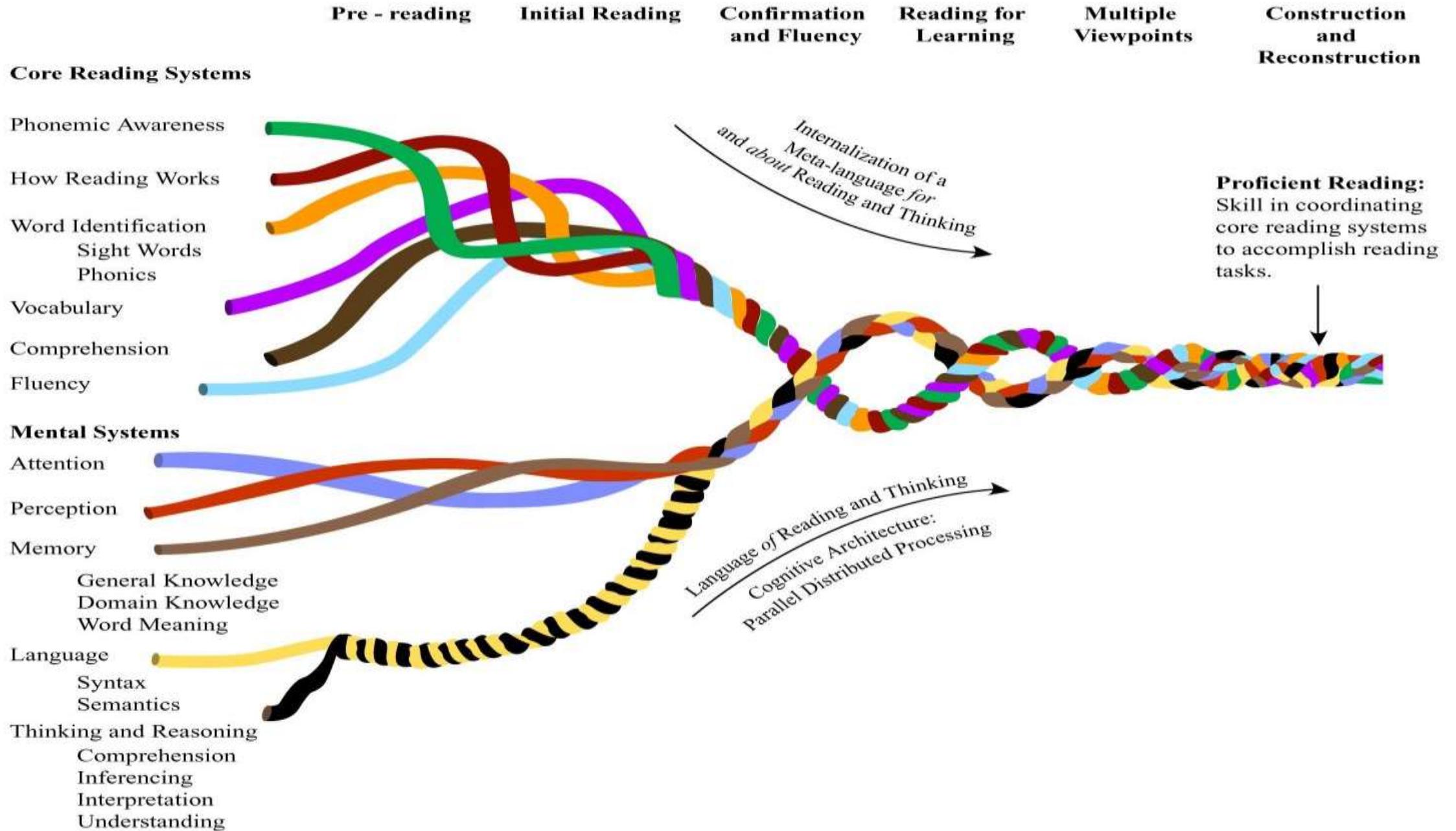
Overview

- This webinar describes how to perform clinical assessments of grade-level reading fluency and reading comprehension of elementary aged and adolescent students. It provides information regarding how professionals can conduct a thorough analysis of the student's reading rate, accuracy, and prosody. It also reviews in detail appropriate text selection for reading fluency and comprehension purposes as well as discusses the type of questions professionals can create based on text content in order to perform a deep assessment of reading comprehension abilities.

Learning Objectives

- At the end of this webinar learners will be able to:
 1. Conduct thorough grade level assessments of reading fluency and comprehension of elementary aged and adolescent aged students
 2. Appropriately select text complexity based on the students' grades
 3. Calculate reading fluency rates based on the latest reading fluency data (Hasbrouck and Tindal, 2017 ORF Measures)
 4. Analyze reading fluency error types for intervention purposes
 5. Determine the students' reading comprehension error types for intervention purposes

Reading Stages



Reading Fluency

- Fluent reading is an essential academic skill that serves as a foundation for many other aspects of learning, including comprehension of written language in academic textbooks, as well as fiction and non-fiction texts.
- Fluent word recognition requires automatic word recognition of orthographic patterns, including patterns in words with irregular spellings.
- Fluent reading is accomplished without hesitations, omissions, repetitions, additions, fillers, rereading of words or any other forms of inaccuracies.
- Fluent reading can be separated into two basic categories:
 - Simple meaningful syntactic context (basic reading competence)
 - ***Reading of complex grade level texts (incl. esoteric vocabulary, orthographically opaque words, etc.)**
- **Reading fluency is not enough - as it is only the foundational basis for reading comprehension**
 - **It is necessary but not sufficient for the comprehension of text (Jan Hasbrouck)**

Reading and Cognition: Memory

- Working memory (WM) is the memory used for temporarily storing and manipulating information so we can perform a particular task. Subcomponents are
 - Phonological loop that stores verbal information
 - Visuospatial 'sketchpad' stores visual and spatial information ([Baddeley & Hitch, 1974](#)).
 - Responsible for the acquisition of sound-letter correspondence, phonemic awareness, and ultimately reading comprehension
- Students with poor working memory will expend all their capacity on basic tasks such as decoding, which leaves them with very little capacity to devote to the [comprehension of read text \(Nouwens, Groen, & Verhoeven, 2017\)](#)
 - Following directions tasks of tests such as TILLS correlate with working memory functioning and are sensitive to reading deficits (Lahey & Bloom, 1994; Cowan, 1996; Baddeley, 2003)

Reading and Cognition: Attention

- If one “zones out” during reading tasks, becomes distracted, and attends poorly to text, their comprehension of read text will be adversely affected.
- Studies on reading abilities of children with ADHD consistently identify their reading comprehension abilities as being poorer as compared to peers without the ADHD diagnosis (Miller et al, 2013)

Reading and Cognition: Processing Speed

- Rapid automatized naming (RAN) (rapidly naming colors, numbers, letters) has been found to be a consistent predictor of reading fluency in all orthographies ([Landerl, et al, 2019](#))
 - Children with slow processing speed may take a significantly longer time [decoding text](#) ([Landerl et al, 2018](#))
- Poor rapid automatized naming abilities (on alphanumeric and non-alphanumeric tasks) have been found to be a long-term and universal symptom of reading deficits ([Araújo & Faísca, 2019](#))
- Can be assessed via:
 - **RAN/RAS**
 - **CTOPP-2 (portions)**
 - [Arkansas Rapid Naming Screener](#) (FREE)

Fluent Readers (NAEP)

“Naturalness” of reading

- A. Grouping or **phrasing** of words as revealed through the intonation, stress, and pauses exhibited by readers
- B. Adherence to author's **syntax** &
- C. **Expressiveness** of the oral reading—interjecting a sense of feeling, anticipation, or characterization

Fluent	Level 4	Reads primarily in larger, meaningful phrase groups. Although some regressions, repetitions, and deviations from text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some or most of the story is read with expressive interpretation.
	Level 3	Reads primarily in three- or four-word phrase groups. Some small groupings may be present. However, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present.
Nonfluent	Level 2	Reads primarily in two-word phrases with some three- or four-word groupings. Some word-by-word reading may be present. Word groupings may seem awkward and unrelated to larger context of sentence or passage.
	Level 1	Reads primarily word-by-word. Occasional two-word or three-word phrases may occur—but these are infrequent and/or they do not preserve meaningful syntax.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2002 Oral Reading Study.

Calculating Oral Reading Fluency (ORF) ([Hasbrouck & Tindal, 2017](#))

- To obtain a words-correct-per-minute (WCPM) score, students are assessed individually as they read aloud for one minute from an unpracticed passage of grade-level text.
- To calculate the WCPM score, the examiner subtracts the total number of errors from the total number of words read in one minute.
 - Errors are words that are omitted, misread, or substituted for other words.
 - Word transpositions in a phrase count as two errors (e.g., reading "worked and studied" instead of "studied and worked").
 - Each time a word is read incorrectly it is counted as an error.
 - *Word repetitions, self-corrections, as well as word insertions (words which do not appear in the text) are not counted.
 - *Dialectal mispronunciations and speech production deficits are not counted as errors
 - *Hesitations, repetitions, lack of pausing for punctuation, etc., do affect reading prosody and do impact the final WCPM score because they (1) slow the student down and, (2) reduce the number of words that are read correctly in one minute (Shinn, 1989).

COMPILED ORF NORMS

Hasbrouck & Tindal (2017)

From Hasbrouck, J. & Tindal, G. (2017). An update to compiled ORF norms (Technical Report No. 1702). Eugene, OR. Behavioral Research and Teaching, University of Oregon.

Grade	Percentile	Fall WCPM*	Winter WCPM*	Spring WCPM*
1	90		97	116
	75		59	91
	50		29	60
	25		16	34
	10		9	18
2	90	111	131	148
	75	84	109	124
	50	50	84	100
	25	36	59	72
	10	23	35	43
3	90	134	161	166
	75	104	137	139
	50	83	97	112
	25	59	79	91
	10	40	62	63

Grade	Percentile	Fall WCPM*	Winter WCPM*	Spring WCPM*
4	90	153	168	184
	75	125	143	160
	50	94	120	133
	25	75	95	105
	10	60	71	83
5	90	179	183	195
	75	153	160	169
	50	121	133	146
	25	87	109	119
	10	64	84	102
6	90	185	195	204
	75	159	166	173
	50	132	145	146
	25	112	116	122
	10	89	91	91

*WCPM = Words Correct Per Minute

How Fast is Fast Enough?

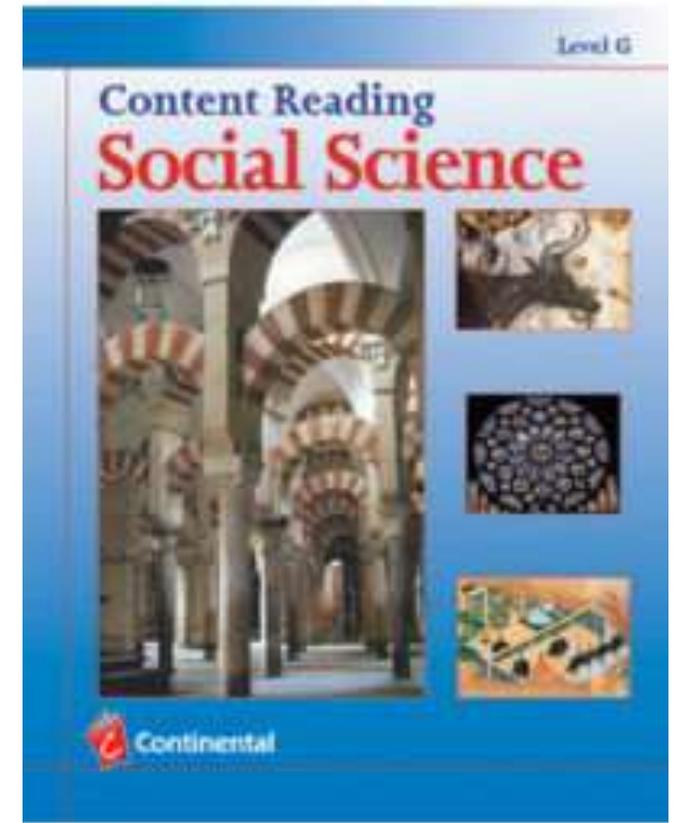
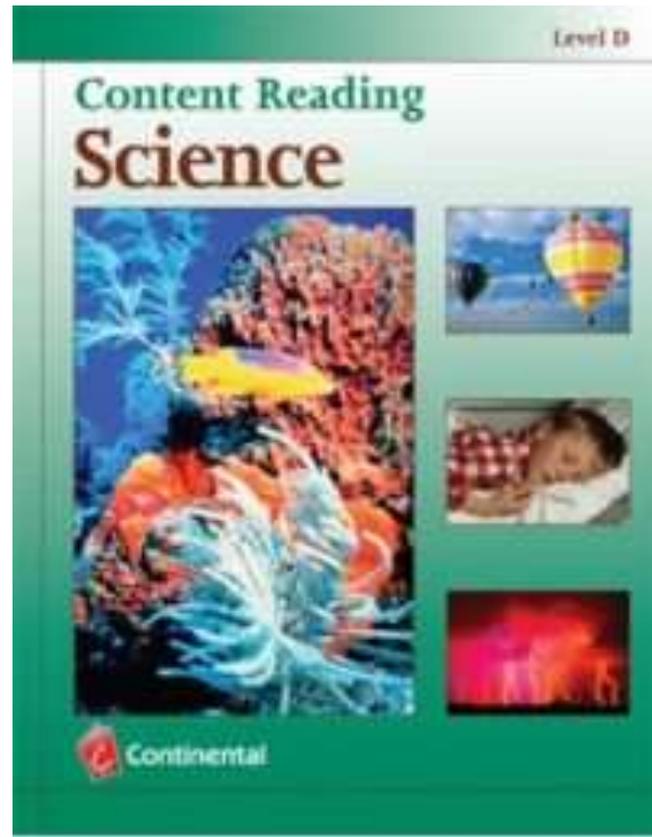
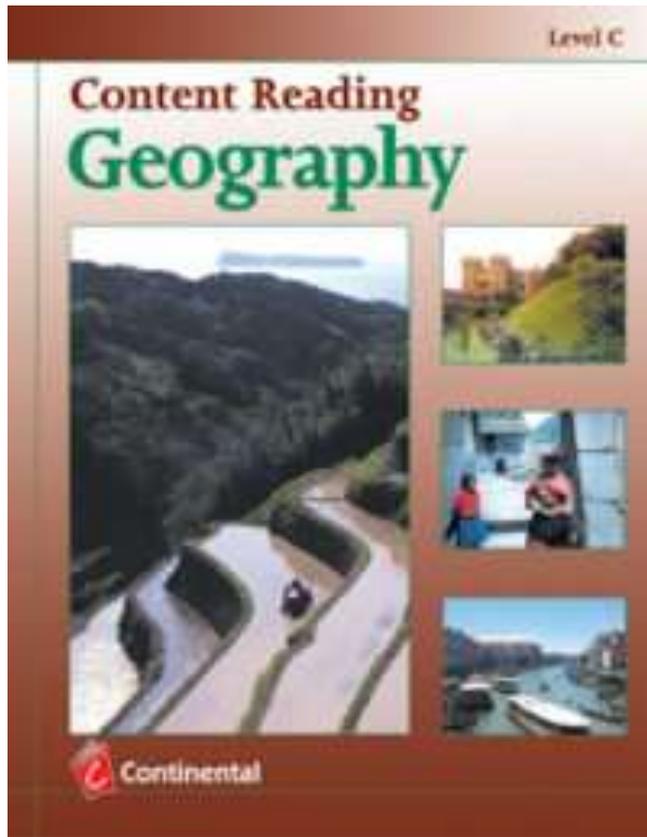
[Recent research on reading fluency](#) has indicated that as early as by 4th grade reading faster than 90 WCPM will not generate increases in comprehension for struggling readers (O'Connor, 2017)

The Role of Reading Prosody in Reading Comprehension

- Prosody reflects linguistic features (sentence structure) and text features (punctuation)
 - Pauses at commas, sentence boundaries, raising pitch at questions, lowering it at the end of declarative sentences, etc.
 - Pauses need to reflect text grammar ([Miller & Schwanenflugel, 2006](#))
- [Miller and Schwanenflugel \(2008\)](#) compared students' reading prosody in first and second grades with their reading comprehension at the end of third grade and found that, "early acquisition of an adult-like intonation contour predicted better comprehension"
- [Álvarez-Cañizo, Suárez-Coalla, & Cuetos, 2015](#) found that children with poorer reading comprehension make:
 - Inappropriate pauses (including inter-sentential pauses before comma)
 - Made more mistakes on content words (as compared to peers with good reading fluency)
 - Struggle with using appropriate pitch at the end of sentences (e.g., pitch declination in declarative sentences)
 - Prosody plays an important part not just on reading fluency but also reading comprehension
- [Schwanenflugel, Hamilton, Wisenbaker, Kuhn, & Stahl, 2004](#) found that Inefficient word reading is a major barrier to attaining good prosody for most young readers

Reading Prosody Checklist ([Hudson, Lane and Pullen, 2005, p. 707](#))

1. Student placed vocal emphasis on appropriate words.
2. Student's voice tone rose and fell at appropriate points in the text.
3. Student's inflection reflected the punctuation in the text (e.g., voice tone rose near the end of a question).
4. In narrative text with dialogue, student used appropriate vocal tone to represent characters' mental states, such as excitement, sadness, fear, or confidence.
5. Student used punctuation to pause appropriately at phrase boundaries.
6. Student used prepositional phrases to pause appropriately at phrase boundaries.
7. Student used subject-verb divisions to pause appropriately at phrase boundaries.
8. Student used conjunctions to pause appropriately at phrase boundaries.



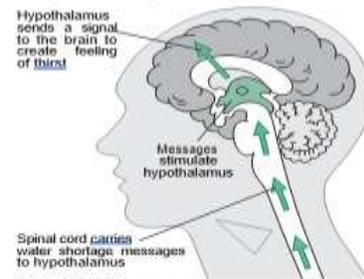
Text Selection

Text Complexity

Tracking Your Thirst

It's a hot summer day and you've just been out mowing the lawn and working up a good sweat. Nothing would taste better than a tall, cool drink of water. But have you ever wondered why you feel this way? When you get thirsty, your body is telling you it needs to replace the fluids you have lost.

Our bodies are up to 75 percent water and need certain amounts of water and salt in order to work properly. Too much or too little water or salt can damage and destroy cells. The amount of water and salt inside and outside the body's cells must be balanced. A part of the brain stem called the hypothalamus (HY•poh•THAL•ah•mus) detects this balance. The hypothalamus responds to changes in the amount of salt in the blood. When the amount of salt in the blood is high, the amount of water is low. The hypothalamus responds to a shortage of water by sending a signal to the brain. That is the feeling you get when you are thirsty.



THE PROCESS OF THIRST

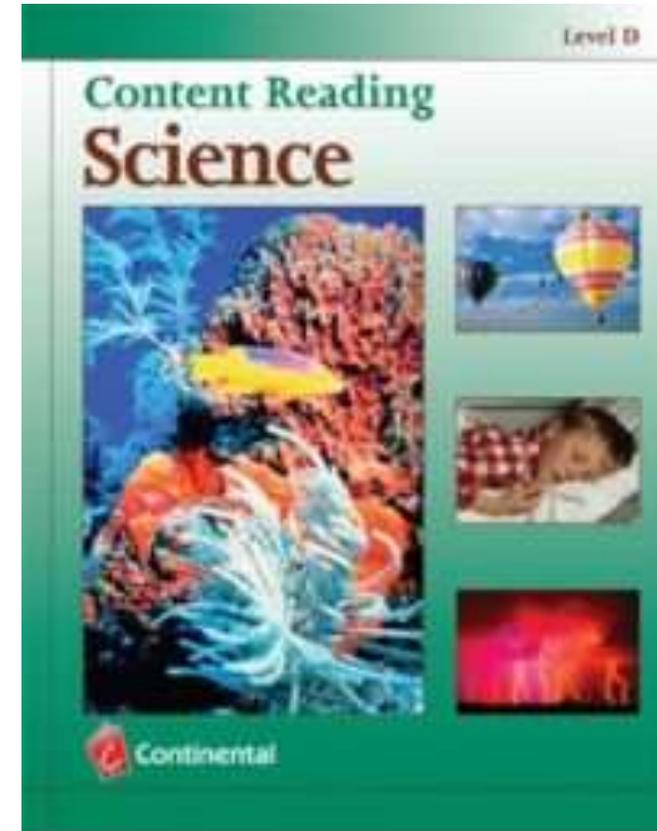
It's important, however, not to let yourself get too thirsty. By that time, you are probably way too low on water. It's also important to



remember that our bodies can lose just as much fluid in cold weather as they do in hot weather. You sweat just as much in the cold, but you may not realize it because the sweat **evaporates** rapidly or is absorbed by heavy layers of clothing. A recent study found that your body does not get as thirsty in the cold weather because when the body senses cold air, the blood vessels constrict. Blood is then pushed to the body's **core** to preserve heat. The extra blood in your trunk fools the hypothalamus into thinking the body has enough fluids even when it does not. **So** it's important to make sure you get enough to drink when the weather is cold.

Water helps to regulate our body temperature and also transports oxygen and nutrients throughout our bodies. Colds and flu can lead to **dehydration**, so it's important to drink as much water as you can when you're sick so your body can replace the fluids it has lost and **heal** properly.

You also want to remember not to drink your water too fast. It's best to take small, frequent sips. Why not enjoy every minute of refreshment that you can?



Analyzing Error Types: Word Level

Phonological

- Omissions and/or additions of sounds
- Omission of letters that represent less salient sounds (e.g., unstressed syllables)
- Letter reversals when reading (e.g., reads 'fold' as 'flod', etc.)

Decoding

- Impaired knowledge of letter-sound relationships
- Difficulty blending sounds (vowel and consonant digraphs; diphthongs, consonant clusters, etc.) to form disyllabic and multisyllabic words

Semantic

- Vocabulary substitutions such as 'father' for 'dad'

Morphological

- Alteration of affixes: prefixes and suffixes
- Inflectional (time/quantity but doesn't change words) and derivational morphemes (change word meaning/word class)

Mental Graphemic Representations

- Opaque/Nontransparent

Reading Fluency Case Study 1: 12-5-year-Old Male

- Reading rate 106 WCPM in 15th percentile bracket for the 6th Grade Spring WCPM ([Hasbrouck & Tindall, 2017](#))
- Research on reading fluency has indicated that as early as 4th grade reading faster than 90 WCPM **will not generate increases in comprehension for struggling readers** ([O'Connor, 2017](#))
- **Increase in rate is not merited (focus on prosody, accuracy, comprehension)**
- Lack of pausing for punctuation
- Same word rereading
- Word reading hesitations
- Intrasentential pauses
- Insertions of extra words in text (e.g., read “moved west” as “moved out west”)
- Addition of morphological word endings (e.g., added –s to the word ‘folk’; {‘folks’})
- Substitutions of similar looking words in text (e.g., read ‘for’ as ‘of’; ‘Northeast’ as ‘Northwest’, ‘this’ as ‘his’, ‘had’ as ‘has’, etc.)
- Omission of words from text (e.g., read the “New York game” as the New game”)
- False starts (typically marked by reading the first syllable of an unfamiliar word before reading the word again in its entirety correctly such as ‘Pur’ in ‘Puritans’, etc.)



reread false starts
Intrasentential pauses

The year 1876 saw the birth of a new organization. That February, a group of businessmen met in Chicago. They formed the National League of Professional Base Ball Clubs. In April, league play began in 12 cities. Crowds of ten thousand or more paid 25 cents each to watch young men play a game. Even before the Civil War, that game was being called “the national pastime.”

106 WCPM
doesn't pause for punctuation

Americans had always enjoyed playing sports. In the 1870s, more and more people were watching them as well. The sport that drew the greatest number of spectators was horse racing. It had been brought to Virginia in colonial times. As Americans moved west, the sport moved with them. It was a feature of frontier gatherings and county fairs. Rich

Reading Comprehension Skills

- Not a unitary skill but rather a [collection of skills](#) (Gray, 2017)
- Solid reading comprehension abilities are heavily reliant [phonology](#), [morphology](#), [syntax](#), [semantics](#), and [pragmatics](#)
- Studies show that students diagnosed with [Developmental Language Disorder \(DLD\)](#) [show reading comprehension weaknesses](#), which is why it would be important to improve reading comprehension explicitly in the context of language and literacy therapy services ([Gough Kenyon, Palikara, & Lucas 2018](#))

Impact of Oral Language on Reading Comprehension

- Strong **discourse and narrative** abilities significantly positively correlate with reading comprehension abilities ([Catts, Fey, Tomblin, & Zhang 2002](#); [Dickinson & McCabe, 2001](#); [Griffin, Hemphill, Camp, & Wolf, 2004](#))
- Knowledge of **literate vocabulary words** ([abstract nouns](#), [metacognitive verbs](#), etc.), in isolation and in context of read text ([Nippold, Hegel, & Sohlberg 1999](#); Nippold, 2006) is very important as well as
- **Semantic Awareness** (Taylor, Duff, Woollams, Monaghan, & Ricketts, 2015)
 - Semantic processes are associated with word reading skills, namely children read words better when they know their meanings
- **Morphological Awareness** (James, Currie, Xiuli Tong, & Cain, 2020)
 - Plays a crucial role in supporting higher-level text processing
 - It is partly mediated by vocabulary knowledge
 - Becomes an increasingly important predictor of reading comprehension between 6 and 11 years of age
 - Makes a unique contribution to reading comprehension ability beyond oral vocabulary and word reading skill

Types of Oral Language Deficits

Phonology (understanding and use of speech sounds -phonemes)

Morphology (understanding and use of word parts including morphemes, affixes, etc.)

Vocabulary and Semantics (understanding how to define and manipulate words)

Syntax (understanding and use of complex sentence structures)

Pragmatics (understanding and use of language in social contexts)

Children with reading deficits can have difficulties in some or all of the above areas

Research indicates that oral language deficits place children at a higher risk for dyslexia (Catts et al, 2005; Adlof et al, 2017). Research also shows that having a Developmental Language Disorder (DLD) places children at a high risk of developing reading deficits (Adlof, 2017).

***This is why a comprehensive language assessment should be a necessary component of all literacy evaluations ([SOR Certificate in Literacy](#))**

The Role of Pragmatics in Reading Comprehension

Children with language based literacy deficits are impaired in multiple areas of language including their effective use and interpretation of language in written texts

Studies have found that children with language disorders present with difficulty understanding and using abstract, ambiguous, as well as figurative language during speaking, reading, and writing tasks (Bühler, Perovic, & Pouscoulous, 2018; Freed, Adams, & Lockton, 2011; Troia, 2011).

Impaired abstract emotion comprehension as well as ability to describe mental states in stories has also been reported (Ford & Milosky, 2003; Brinton, Fujiki, & Asai, 2019).

Children with pragmatic difficulties will exhibit poorer comprehension of read text

Effect of Impaired Pragmatics on Reading Comprehension

Comprehension of central themes and main ideas

Effective summarization of read text

Interpretation of abstract language and double meaning of texts

Interpretation of ambiguous and figurative language

Analysis of author's tone as related to story development

Comprehension of different types of irony (verbal including sarcasm, situational, dramatic)

Comprehension of paronomasias (puns/play on words) metaphors, and exaggeration

Comprehension of metonymy (use of linked terms to substitute for objects/concepts such as crown=king; suit= business executive, etc.)

Comprehension of twist endings and dramatic story plots

Multiple interpretations of text meaning

Difficulty engaging in text analysis and evaluation

Difficulty working with a variety of complex literary texts (e.g., poetry, prose, comedies, dramas, etc.)

The Role of Inference Making in Reading Comprehension

“Inference making is the process of integrating information within text and between the text and one’s general knowledge of the topic” ([O’Brien, Cook, & Lorch, 2015](#) in [Barth & Elleman, 2017](#), pg. 31)

Good readers make two types of inferences during reading to help them fill the gaps in text.

Text-based inferences link current information to previously read information

Knowledge-based inferences integrate currently read information with one’s prior knowledge of the topic ([Barth & Elleman, 2017](#), pg. 31).

Making inferences also allows readers to make sense of adjacent sentences as well as of the overall text (local and global coherence respectively) ([Kendeou, 2015](#); [McNamara & Magliano, 2009](#) in [Barth & Elleman, 2017](#), pg. 31)

Students with difficulties in the areas of inference making are at a [significant disadvantage with respect to comprehension of read text](#) ([Cain & Oakhill, 1999](#)).

Background Knowledge and Reading Comprehension

- The knowledge threshold or “precisely how much knowledge is necessary to understand a text and whether there is a specific amount of knowledge required before understanding is compromised” ([O’Reilly, Wang & Sabatini, 2019, p. 1](#))
 - Identified that 59% correct on a knowledge test “resulted in a qualitative change in the relationship between background knowledge and reading comprehension” (pg. 5)
 - Found that certain vocabulary words (activation words) were more predictive of exceeding the knowledge threshold than others.
 - Students who attained the highest, above threshold scores, had knowledge of all the activation words, which the authors hypothesized “activated information described previously in the text as well as relevant background knowledge not included in the texts” (pg. 6).
 - Interpret with significant caution
 - Study limitations
 - Tested students on only one topic (ecology) (What about other topics?)
 - Student performance was measured only by “topical-vocabulary choice and factual multiple choice” questions
 - Concern because given certain texts and tasks, even students who perform poorly on tests of reading comprehension can perform well.
 - If poor readers are asked to take a multiple-choice test about a passage they are familiar with; poor readers can perform better than good readers who are asked to read and summarize a topic they know nothing about (e.g., [Recht & Leslie, 1988](#) in [Catts & Kamhi, 2014](#)).

Gestalt Processing and Reading Comprehension

- The ability to coherently and cohesively state the main ideas of read texts, as well as cogently summarize read texts.
- Monumental area of difficulty for children with language as well as [social communication disorders](#) (Fitch, Fein, & Eigsti, 2015) secondary to deficits in the area of Gestalt Processing (the ability to grasp the “big picture” vs. over-focusing on irrelevant details) ([Brosnan et al, 2004](#))
- Grade level text difference fourth grade-level language arts passages may contain far simpler literate vocabulary words as compared to social studies and science texts containing esoteric vocabulary and explaining technical topics (e.g., electricity)
- Not all fictional texts are alike
- Poetry contains numerous literary devices and as such is much more difficult to analyze than a simpler fictional text.

Clinical Assessment of Reading Comprehension

- Allows the clinicians to determine the student's reading abilities on a deep vs. shallow level
- Term coined by Sven Birkerts in *The Gutenberg Elegies* (1994)
- Includes inferential and deductive reasoning, analogical skills, critical analysis, reflection, and insight
 - Rereading of text
 - Making it comprehensible (e.g., writing on margins)
 - Ask questions about text
 - Form opinions about text
 - Link texts to other texts or personal experiences
 - Source: <https://www.thoughtco.com/what-is-deep-reading-1690373>

Types of Questions

- Questions assessing deep text knowledge
 - Ask abstract verbal reasoning questions
 - Ask to define literate vocabulary words
 - Ask to state the main idea of the passage
 - Ask to summarize the passage
- Questions assessing shallow text knowledge
 - Multiple-choice questions
 - Factual open-ended questions
 - Yes/no questions
 - Result in an illusion that the student understands the passage, but are not adequate enough to ascertain true comprehension of passage content

Hierarchy of Question Complexity

- Basic/concrete questions (who, what, where, when)
- Vocabulary questions (Definitions, synonyms, antonyms, idioms, multi-meaning words, etc.)
 - Concrete vs. literate
- Abstract/thinking questions (answer requires advanced thinking- why, how)
- Gestalt processing (main ideas of paragraphs, summary of passage)
- Analysis Questions (compare and contrast, what evidence can you cite, can you classify these, etc.)
- Synthesis questions (combine info, solutions, predictions)
- Evaluative questions (agree/disagree due to..., the most important thing..., etc.)
- Hypothetical questions (responses require justification and elaboration)

Reading Comprehension Sample Questions and Answers: Part I

- 17-6 Year old in 11th Grade – Fiction Text: “Hearts and Hands” by O’Henry
 - When asked to discuss the character traits of the real marshal (“glum faced man”) and criminal (Mr. Easton), student stated that Mr. Easton is prideful, and noble and that the marshal is quiet and disinterested. However, the correct answer needed to reference that Mr. Easton is ambitious and reckless and will readily commit a crime to gain money. In contrast, the marshal is very humane with a deep sympathy for others, including his own prisoner.
- 12-5 year old in 6th Grade – Nonfiction Text: “*The Sporting Life*” by Continental Press
 - When asked to identify the main idea of the text, student vaguely stated, “*That um, I think the main ah I think the main idea was um sports like once they were created they were ah very like ah they were like very popular immediately and are still today so its very consistent I guess.*” The correct response needed to coherently and cohesively reflect that the story tells about the evolution of sports in United States beginning with the formation of professional baseball clubs in 1876.
- 10-7 year old in 4th grade- Nonfiction Text “*The Great San Francisco Earthquake*” by Continental Press
 - When asked, ‘*Why do you think the earthquake destroyed so much property?*’ student incorrectly responded, ‘*Because they probably weren’t thinking they get an earthquake there.*’ However, the correct response needed to reflect that the houses of San Francisco were build out of wood, and thus easily destroyed.

Reading Comprehension Sample Questions and Answers: Part II

- 10-8 year old in 5th grade- Nonfiction Text *“The Power of the Printed Word”* by Continental Press
 - When asked, *‘What did the President Lincoln mean by the words: “So this is the little lady who started this big war?”* Student imprecisely responded, *“Um, I think he he meant like he meant it like in a mean way”*. However, a correct response needed to allude to the powerful effect of the book on its readers and how it was one of the contributing factors to the start of the Civil War.
- 7-10 year old in 2nd grade- Nonfiction Text *“Why Cities Build Skyscrapers”* by Continental Press
 - When asked, *“What was the main (big) idea of this story?”* student nonspecifically stated, *“Skyscrapers and tall buildings.”* The correct response needed to include the reasons why cities started to build skyscrapers.
- 13-11 year old in 7th grade – Nonfiction **3rd grade Text**: *“The Story of Rome”* by Continental Press
 - When asked, (9) *How did the Trojan War affect the building of Rome?* student replied, *“Ah, (pause) I don’t know.”* The correct response needed to reflect that it was because of the Trojan War that Aeneas left Troy and traveled to Italy to (supposedly) build Rome.

Creating Targeted Goals for Intervention Purposes

- Do not make broad statements “The student has dyslexia”
 - Label means different things to different professionals and does not inform treatment
 - See CEU Smart Hub webinar entitled: “**A Reading Program is NOT Enough: A Deep Dive into the Dyslexia Diagnosis**” (Available after 8/25/21)
- Analyze available assessment data with respect to affected areas and error types
 - Student’s **phonemic awareness** and **phonics related deficits** are characterized by weaknesses in the areas of phoneme isolation, segmentation and substitution, as well as inconsistent alphabetic knowledge for more complex consonant and vowel digraphs and trigraphs.
 - Student’s **reading fluency deficits** are characterized by impaired prosody, rate, and accuracy, as well as decreased orthographic, semantic and morphological competence.
 - Student’s **reading comprehension** difficulties are characterized by impaired ability to comprehend pragmatically related nuances of age/grade level texts including ambiguously phrased information, puns and double meanings, irony and sarcasm, advanced figurative language, as well as grasp gestalt ideas and subtle messages of texts.
- Prioritize goal selection (e.g., focus on the underlying skills affecting fluency and comprehension- PA, OK, MA, etc.)
- **Long Term Goals (sample):** Student will improve his **reading comprehension** abilities for academic and social purposes.
 1. Student will improve his reading accuracy for academic purposes (self-monitor for errors)
 2. Student will effectively define literate, text-embedded vocabulary (abstract nouns and metacognitive verbs) using text context
 3. Student will identify main ideas in read text.
 4. Student will improve his morphological awareness abilities via effective recognition of stems and affixes (prefixes and suffixes) of presented words
 5. Student will answer abstract reading comprehension questions pertaining to the presented text (make text based and knowledge based inferences)

Conclusion

- Because students with reading difficulties continue to be underserved in the schools it is highly important to assess not just their basic reading competence but also their grade-level comprehension of both fiction and non-fiction texts
- Clinical reading assessments appropriately reflect the learner's difficulties in school setting
 - Ability to independently read, comprehend and engage with text in an age appropriate manner such as write book reports, provide verbal summaries, answer abstract questions etc.
- For children who struggle with reading but who pass common standardized reading tests (e.g., TORC-4, GORT-5, etc.) clinical assessments will yield diagnostic information needed to formulate relevant and targeted treatment goals
- Students with reading related deficits no matter how young or old (from kindergarten through 12th grade) need to receive fair and appropriate literacy assessments which will result in targeted and relevant therapeutic services
- Anything less is a denial of [Free Appropriate Public Education \(FAPE\)](#) to which all students are entitled to
- It is NEVER too late to help!

References

- Arnold, E. M., Goldston, D. B., Walsh, A. K., et al. (2005). Severity of emotional and behavioral problems among poor and typical readers. *Journal of Abnormal Child Psychology* 33(2):205-217.
- Baddeley AD, Hitch GJ. (1974). Working memory. In *The Psychology of Learning and Motivation: Advances in Research and Theory*, ed. GA Bower, pp. 47–89. New York: Academic
- Barth, A.E., & Elleman, A.M. (2017). Evaluating the Impact of a Multistrategy Inference Intervention for Middle-Grade Struggling Readers. *Language, speech, and hearing services in schools*, 48 1, 31-41 .
- Boyes, M.E., Leitao, S., Claessen, M., Badcock, N.A., & Nayton, M. (2016). Why are reading difficulties associated with mental health problems? *Dyslexia*, 22, 263–266.
- Brosnan MJ, Scott FJ, Fox S, Pye J (2004). Gestalt processing in autism: Failure to process perceptual relationships and the implications for contextual understanding. *Journal of Child Psychology and Psychiatry*. 45(3):459–469.
- Cain, K., & Oakhill, J. V. (1999). Inference making ability and its relation to comprehension failure in young children. *Reading and Writing: An Interdisciplinary Journal*, 11(5-6), 489–503.
- Catts, H.W., & Kamhi, A.G. (2014). Prologue: Reading Comprehension Is Not a Single Ability. *Language, speech, and hearing services in schools*, 48 2, 73-76 .
- Catts, H.W. , Fey, M.E. , Tomblin, J.B. , & Zhang, X. (2002). A longitudinal investigation of reading outcomes in children with language impairments. *Journal of Speech, Language, and Hearing Research*, 45, 1142–1157.
- Clarke, P.J., Snowling, M.J., Truelove, E., & Hulme, C. (2010). Ameliorating children’s reading-comprehension difficulties: a randomized controlled trial. *Psychological science*, 21 8, 1106-16 .
- Dickinson, D. K., & McCabe, A. (2001). Bringing It All Together: The Multiple Origins, Skills, and Environmental Supports of Early Literacy. *Learning Disabilities Research and Practice*, 16, 186-202
- Duke, N. K., Pearson, P. D., Strachan, S. L., & Billman, A. K. (2011). Essential elements of fostering and teaching reading comprehension. In S. J. Samuels, & A. E. Farstrup (Eds.), *What research has to say about reading instruction* (4th ed., pp. 51-93. Newark, DE: International Reading Association.
- Edmonds, M. S., Vaughn, S., Wexler, J., Reutebach, C., Cable, A., Tackett, K. K., & Schnakenber, J. W. (2009). A synthesis of reading interventions and effects on reading comprehension outcomes for older struggling readers. *Review of Educational Research*, 79(1), 262-300. doi:10.3102/0034654308325998
- Fitch, A., Fein, D., & Eigsti, I. (2015). Detail and Gestalt Focus in Individuals with Optimal Outcomes from Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders*, 45, 1887-1896.

References (cont.)

- Gajria, M., & Salvia, J. (1992). The effects of summarization instruction on text comprehension of students with learning disabilities. *Exceptional Children*, 58, 508-516.
- Gajria, M., Jitendra, A. K., Sood, S., & Sacks, G. (2007). Improving comprehension of expository text in students with LD: A research synthesis. *Journal of Learning Disabilities*, 40(3), 210-225.
- Garwood, J. D., Brunsting, N. C., & Fox, L. C. (2014). Improving reading comprehension and fluency outcomes for adolescents with emotional-behavioral disorders: Recent research synthesized. *Remedial and Special Education*, 35, 181-194.
- Gersten, R., Fuchs, L. S., Williams, J. P., & Baker, S. (2001). Teaching reading comprehension strategies to students with learning disabilities: A review of research. *Review of Educational Research*, 71(2), 279-320. doi:10.3102/00346543071002279
- Gough Kenyon, S. M., Palikara, O., & Lucas, R. M. (2018). Explaining reading comprehension in children with developmental language disorder: The importance of elaborative inferencing. *Journal of Speech, Language, and Hearing Research*, 61, 2517-2531
- Gray, S. (2017). Introduction to the clinical forum: Reading comprehension is not a single ability. *Language, Speech, and Hearing Services in Schools*, 48(2), 71-72.
- Griffin T, Hemphill L, Camp L, Wolf D. (2004) Oral discourse in the preschool years and later literacy skills. *First Language*. 24(2):123-147.
- Huc Chabrolle M, Barthez MA, Tripi G, Barthelemy C, Bonnet-Brilhault F (2010) Psychocognitive and psychiatric disorders associated with developmental dyslexia: A clinical and scientific issue. *Encéphale*. 36 (Suppl 2): 172-9.
- Kempe, C., Gustafson, S., & Samuelsson, S. (2011). A longitudinal study of early reading difficulties and subsequent problem behaviors. *Scandinavian journal of psychology*, 52 3, 242-50 .
- Keenan, J, Betjemann, R & Olson, R (2008) Reading Comprehension Tests Vary in the Skills They Assess: Differential Dependence on Decoding and Oral Comprehension, *Scientific Studies of Reading*, 12:3, 281-300,
- Kendeou P. (2015). A general inference skill. In O'Brien E., Cook A., & Lorch R. (Eds.), *Inferences during reading*, (pp. 160-181). New York, NY: Cambridge University Press.
- Kintsch, W. (2004). The construction-integration model of text comprehension and its implications for instruction. In R. Ruddell, & N. Unrau (Eds.), *Theoretical models and processes of reading* (5th ed., pp. 1270-1324). Newark, DE: International Reading Association.
- Kintsch, W. (2013). Revisiting the construction-integration model of text comprehension and its implications for instruction. In D. E. Alvermann, N. J. Unrau, & R. B. Ruddell (Eds.), *Theoretical models and processes of reading* (6th ed., pp. 807- 839). Newark, DE: International Reading Association.
- Knivsberg, A. M. and Andreassen, A. B. (2008). Behaviour, attention and cognition in severe dyslexia. *Nordic Journal of Psychiatry* 62(1):59-65
- Landi, N., & Ryherd, K. (2017). Understanding specific reading comprehension deficit: A review. *Language and linguistics compass*, 11 2.
- Landerl, K., Freudenthaler, H.H., Heene, M., Jong, P.F., Desrochers, A., Manolitsis, G., Parrila, R., & Georgiou, G.K. (2019). Phonological Awareness and Rapid Automatized Naming as Longitudinal Predictors of Reading in Five Alphabetic Orthographies with Varying Degrees of Consistency.
- Livingston, E, Siegel, L & Ribary, U (2018) Developmental dyslexia: emotional impact and consequences, *Australian Journal of Learning Difficulties*, 23:2, 107-135
- McNamara D. S., & Magliano J. (2009). Toward a comprehensive model of comprehension. *The Psychology of Learning and Motivation*, 51, 297-384.
- Miller, A.C., Keenan, J.M., Betjemann, R.S., Willcutt, E.G., Pennington, B.F., & Olson, R.K. (2013). Reading Comprehension in Children with ADHD: Cognitive Underpinnings of the Centrality Deficit. *Journal of Abnormal Child Psychology*, 41, 473-483.

References (cont.)

- Nippold, M.A., Hegel, S.L., & Sohlberg, M.M. (1999). Defining abstract entities: development in pre-adolescents, adolescents, and young adults. *Journal of speech, language, and hearing research : JSLHR*, 42 2, 473-81 .
- Nouwens, S., Groen, M.A., & Verhoeven, L. (2017). How working memory relates to children's reading comprehension: the importance of domain-specificity in storage and processing. *Reading and writing*.
- O'Brien, E. J., Cook, A. E., & Lorch, R. F., Jr. (Eds.). (2015). *Inferences during reading*. Cambridge, United Kingdom: Cambridge University Press.
- O'Reilly, T., Wang, Z., & Sabatini, J. (2019). How Much Knowledge Is Too Little? When a Lack of Knowledge Becomes a Barrier to Comprehension. *Psychological Science*, 30(9), 1344–1351.
- Ouellette GP, Shaw E. Oral vocabulary and reading comprehension: An intricate affair. *L'Année psychologique*. 2014;114:623–645.
- Rabiner, D., J.D. (2000). Early attention problems and children's reading achievement: a longitudinal investigation. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39(7),859- 867
- Recht D., & Leslie L. (1988).*Effect of prior knowledge on good and poor readers' memory of text*. *Journal of Educational Psychology*, 80, 16–20.
- Roehling, J. V., Hebert, M., Nelson, J. R., & Bohaty, J. J. (2017). Text Structure Strategies for Improving Expository Reading Comprehension. *Reading Teacher*, 71(1), 71–82.
- Scammacca, N. Roberts, G., Vaughn, S., Edmonds, M., Wexler, J., Reutebuch, C. K. & Torgesen, J. K. (2007). *Interventions for adolescent struggling readers: A metaanalysis with implications for practice*. Portsmouth, NH: RMC Research Corporation, Center on Instruction.
- Smallwood, J., Mc Spadden, M., & Schooler, J. W. (2008). When attention matters: The curious incident of the wandering mind. *Memory & Cognition*, 36(6), 1144-1150.
- Snow, C., Burns, S., & Griffin, P. (Eds.). *Committee on the Prevention of Reading Difficulties in Young Children*. National Research Council. (2001). *Preventing reading difficulties in young children* (Sixth printing). Washington, DC: National Academy Press
- Solis, M., Ciullo, S., Vaughn, S., Pyle, N., Hassaram, B., & Leroux, A. (2012). Reading comprehension interventions for middle school students with learning disabilities: A synthesis of 30 years of research. *Journal of Learning Disabilities*, 45(4), 327- 340.
- Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21, 360–407.
- Sun, L & Wallach G (2014) Language Disorders Are Learning Disabilities: Challenges on the Divergent and Diverse Paths to Language Learning Disability. *Topics in Language Disorders*, Vol. 34; (1), pp 25–38.
- Zipoli, R (2017) Unraveling Difficult Sentences: Strategies to Support Reading Comprehension. *Intervention in School and Clinic*, Vol. 52(4) 218–227

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