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Empower teaching excellence.

DECODING DYSLEXIA

Dyslexia Guidelines and Teaching Strategies for Students with Dyslexia

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Literacy**how**

Empower teaching excellence.

Our Mission is to
EMPOWER TEACHERS
to ensure that every child learns
to read by third grade.

Our model is research based.
Our approach is values driven.

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Literacy**how**

Empower teaching excellence.

Literacy is the language of opportunity.

Children are at the heart of all we do.
We believe that every child has the right to read.

We know that 95% can be taught to read.

We believe that teachers—not programs or products—teach students
to read, write and spell.

So we empower teachers with the best ways to teach.

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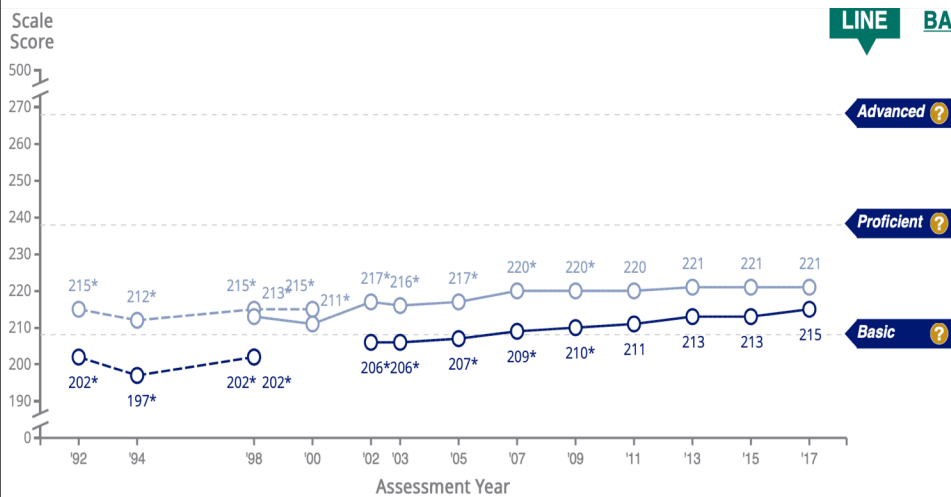
Most Children in Our Country Read Below Grade Level

64% of the Nation's 4th graders read **below grade** level.

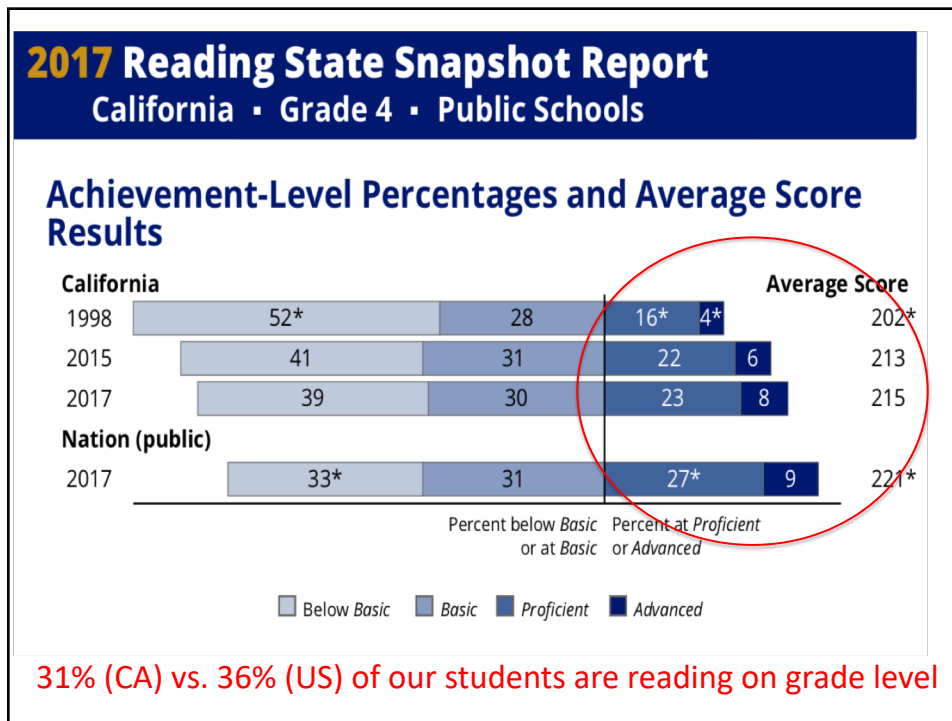**Yet 95% of ALL children can learn to read!** *(Torgesen, 2004)*

http://nces.ed.gov/nationsreportcard/naepdata/

© Literacy How, 2019

California and National NAEP 4th Gr Trend Scores

National Assessment of Educational Progress (NAEP)

2017 Reading State Snapshot Report
California · Grade 4 · Public Schools

Achievement-Level Percentages and Average Score Results

California | | | | | | Average Score
1998 | 52* | 28 | 16* | 4* | | 202*
2015 | 41 | 31 | 22 | 6 | | 213
2017 | 39 | 30 | 23 | 8 | | 215

Nation (public)
2017 | 33* | 31 | 27* | 9 | | 221*

Percent below *Basic* or at *Basic*   Percent at *Proficient* or *Advanced*

☐ Below *Basic*   ☐ *Basic*   ■ *Proficient*   ■ *Advanced*

31% (CA) vs. 36% (US) of our students are reading on grade level

Today's Learning Objectives

1. To present the science of the reading brain

2. To describe the core components of comprehensive literacy (phonemic awareness, phonics (decoding and encoding/spelling), reading fluency, vocabulary, text comprehension (syntax too!) and written expression and present teaching strategies for these components

3. To present student data that shows how to use a diagnostic decision tree for early id of students with dyslexia and other reading disabilities

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The First Literacy How Reading Wheel
National Reading Panel Report (2000)

Text Comprehension & Written Expression

Phoneme Awareness

Vocabulary

ORAL LANGUAGE AT THE CORE

Phonics (decoding & encoding/ spelling)
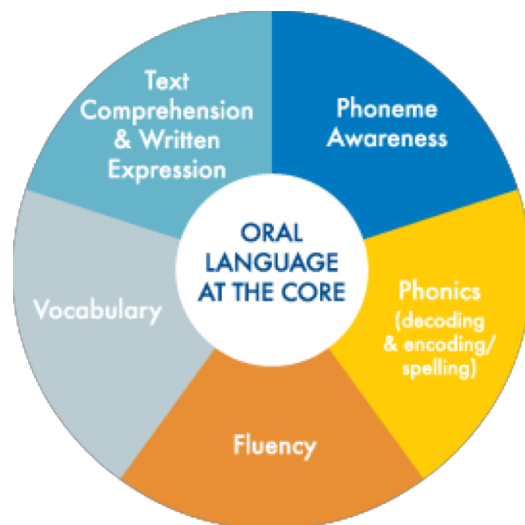
Fluency

© Literacy How, 2019

5 Big Ideas:
- Phonemic Awareness
- Phonics
- Fluency
- Vocabulary
- Comprehension

The Reading Brain

"Each new reader comes to reading with a 'fresh' brain -- one that is programmed to speak, see, and think, but not read. Reading requires the brain to rearrange its original parts to learn something new."

(Maryanne Wolf)

"Teaching reading is rocket science."

(Louisa Moats)

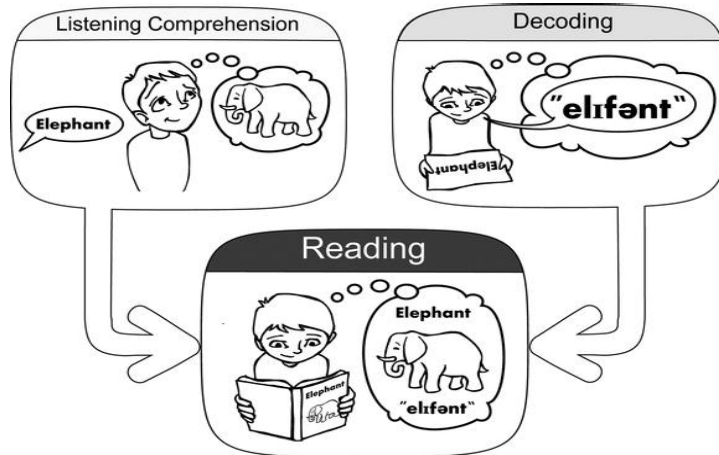**All** students need to know the structure of English – that is, our language is based on an alphabet (phonemic) and meaning (morpho). English is *morphophonemic.* Example: health is pronounced /h/ /e/ /l/ /th/ but is spelled with an *ea* because it has the root *heal* in it.
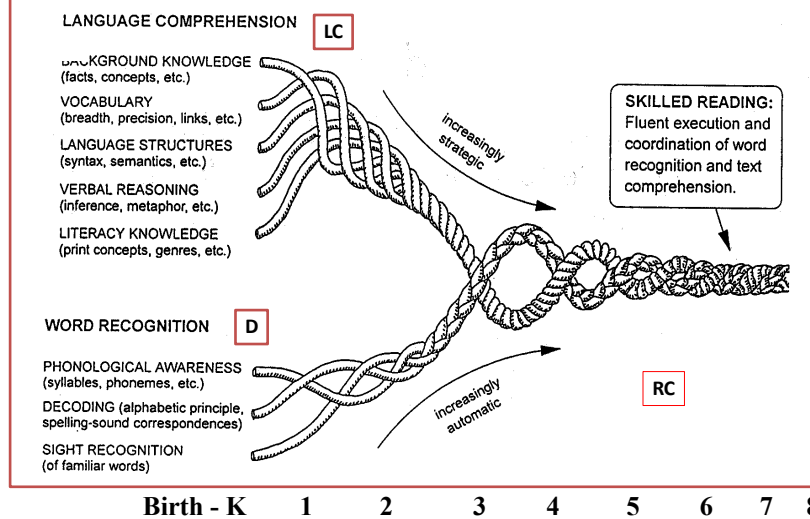
© Literacy How, 2019

The Simple View of Reading
(Gough & Tunmer, 1986)

LC X D = RC

© Literacy How, 2019

STRANDS OF EARLY LITERACY DEVELOPMENT

Source: Neuman, Susan B. and Dickinson, David K., "Handbook of Early Literacy Research" Adapted from the work of Hollis Scarborough, 2001

Simple View of Reading (D x LC = RC)
(Gough & Tunmer, 1986)

Phonological Skills

	Poor Word Reading	*Good Word Reading*
Poor Comprehension **Nonphonological Language Skills**	**Mixed Reading Disability** (weak phonological processing AND comprehension-related issues)	**Specific Comprehension Deficit** (weak vocab, morphology, syntax, discourse-level processing & comp strategies)
Good Comprehension	**Dyslexic/RD** (phonological processing problems - including difficulties with decoding and encoding)	Skilled readers

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Three Types of Reading Difficulties

Specific Word Decoding Difficulties	Specific Reading Comprehension Difficulties	Mixed Reading Difficulties
• Nonalphabetic Word Reader • Inaccurate Word Reader • Nonautomatic Word Reader	• Nonstrategic Comprehender • Suboptimal Comprehender	• Mix of Both Word Recognition and Comprehension Difficulties

RTI and Reading Profiles, Spear-Swerling, 2015

© Literacy How, 2019

Each Profile of Reading Difficulties:

- Has different intervention needs (e.g., Aaron et al., 2008; Spear-Swerling, 2015)
- Has different needs for progress-monitoring (e.g., Spear-Swerling, 2015)
- Tends to benefit from different types of assistive technology (Erickson, 2013)
- May be associated with a variety of underlying causes (e.g., intrinsic learning disabilities, inadequate instruction, limited exposure to English language/literacy)
- **Children with all profiles of reading difficulty, including those with SLD, can be helped with good instruction and intervention**
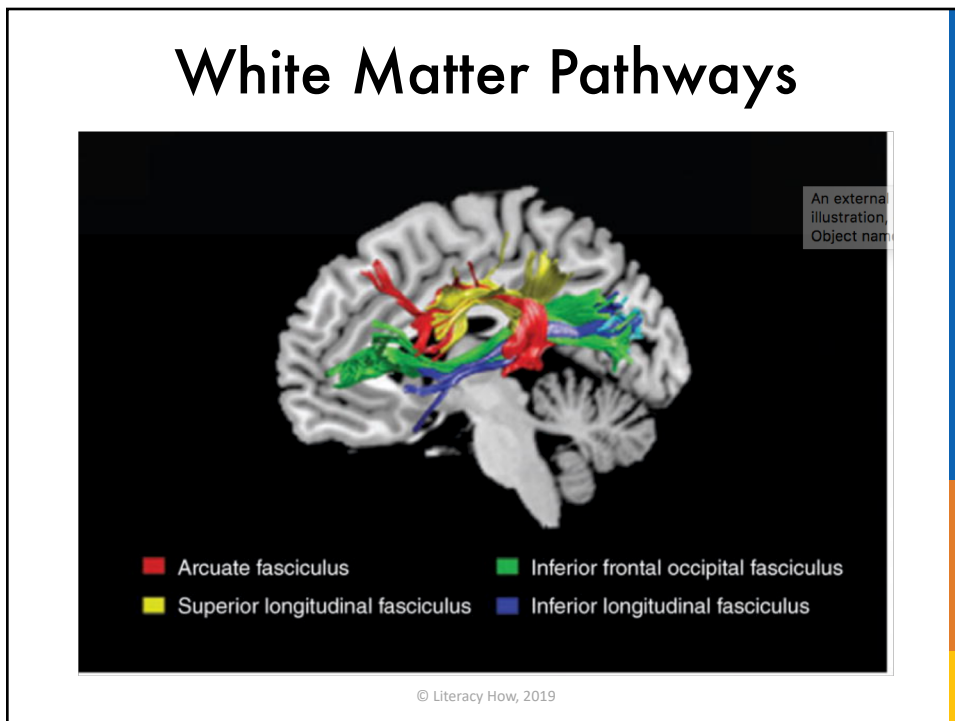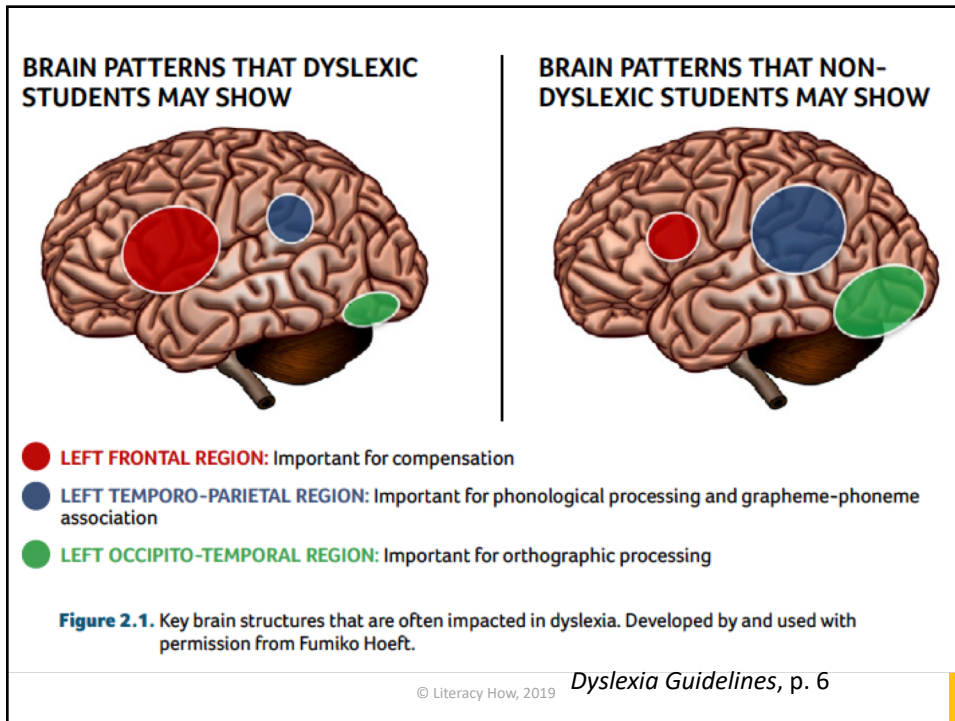
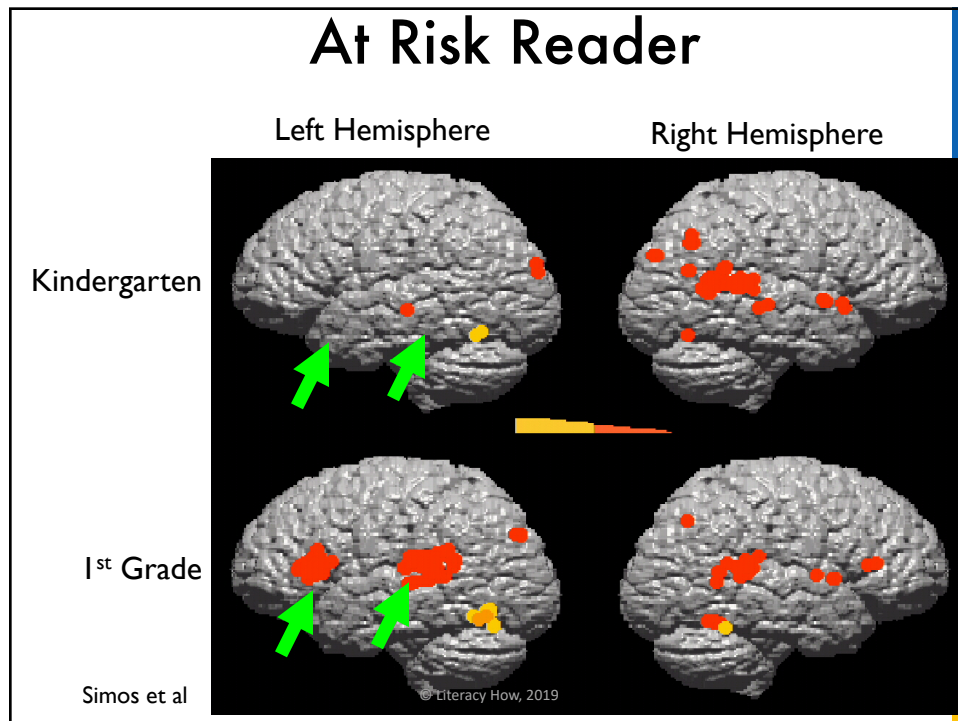*Louise Spear-Swerling, 2016*

© Literacy How, 2019

Specific Word Reading Difficulty Subgroup

- Otherwise known as *dyslexia*
- Most common and best understood type of learning disability because they can be identified early
- Primary difficulty is in the phonological component of language
  - Problems with word recognition that are rooted in difficulties with PA; impact on decoding, encoding (spelling), and fluency (inaccurate reading and/or non-automatic reading)
- Other components of language system are usually intact (e.g., syntax, semantics); listening comp and oral vocabulary is at least average
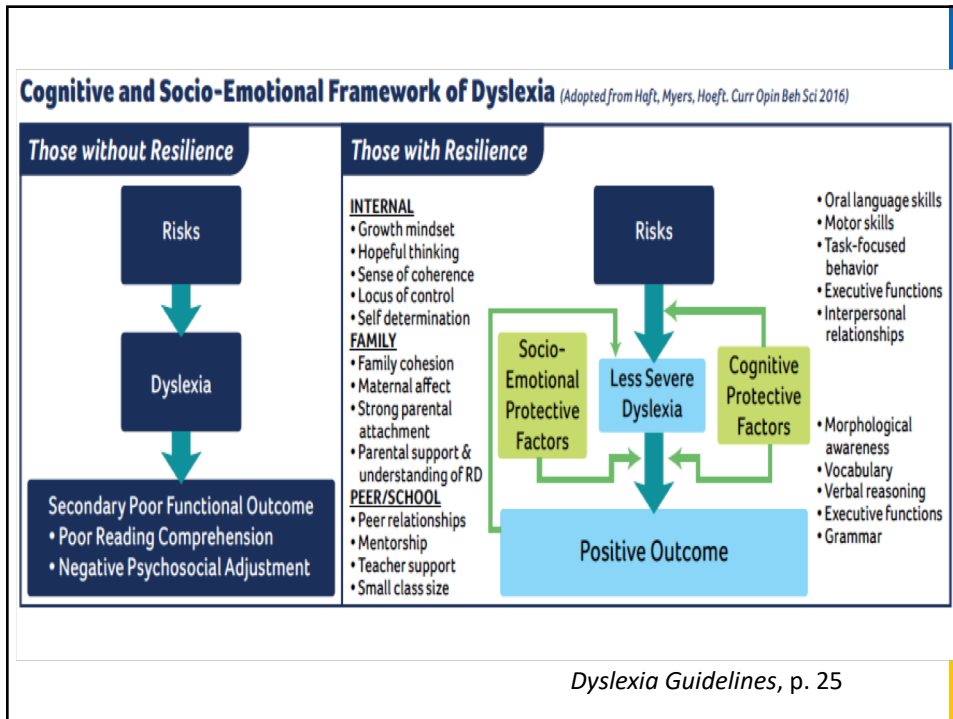
© Literacy How, 2019

BRAIN PATTERNS THAT DYSLEXIC STUDENTS MAY SHOW

BRAIN PATTERNS THAT NON-DYSLEXIC STUDENTS MAY SHOW

🔴 **LEFT FRONTAL REGION:** Important for compensation

🔵 **LEFT TEMPORO-PARIETAL REGION:** Important for phonological processing and grapheme-phoneme association

🟢 **LEFT OCCIPITO-TEMPORAL REGION:** Important for orthographic processing

Figure 2.1. Key brain structures that are often impacted in dyslexia. Developed by and used with permission from Fumiko Hoeft.

© Literacy How, 2019   *Dyslexia Guidelines*, p. 6

White Matter Pathways

An external illustration, Object nam

🟥 Arcuate fasciculus   🟩 Inferior frontal occipital fasciculus

🟨 Superior longitudinal fasciculus   🟦 Inferior longitudinal fasciculus

© Literacy How, 2019

At Risk Reader

Left Hemisphere   Right Hemisphere

Kindergarten

1st Grade

Simos et al

© Literacy How, 2019

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 growth of vocabulary and background knowledge.

International Dyslexia Association Definition

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Cognitive and Socio-Emotional Framework of Dyslexia *(Adopted from Haft, Myers, Hoeft. Curr Opin Beh Sci 2016)*

Those without Resilience

Risks
↓
Dyslexia
↓
Secondary Poor Functional Outcome
• Poor Reading Comprehension
• Negative Psychosocial Adjustment

Those with Resilience

INTERNAL
• Growth mindset
• Hopeful thinking
• Sense of coherence
• Locus of control
• Self determination
FAMILY
• Family cohesion
• Maternal affect
• Strong parental attachment
• Parental support & understanding of RD
PEER/SCHOOL
• Peer relationships
• Mentorship
• Teacher support
• Small class size

Risks
↓
Socio-Emotional Protective Factors → Less Severe Dyslexia ← Cognitive Protective Factors
↓
Positive Outcome

• Oral language skills
• Motor skills
• Task-focused behavior
• Executive functions
• Interpersonal relationships

• Morphological awareness
• Vocabulary
• Verbal reasoning
• Executive functions
• Grammar

Dyslexia Guidelines, p. 25

Students with Reading Difficulties:
A **Continuum** of Severity ….

Mild ▸ Moderate ▸ Severe

…that requires a **continuum** of instruction

Tier 1 ▸ Tier 2 ▸ Tier 3

…and increasing amounts of teacher knowledge and expertise

High ▸ Higher ▸ Highest

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Comprehensive Literacy Instruction

NRP (2000)	Literacy How Reading Wheel (2009)	CCSS (2010)	Structured Literacy (IDA) (2015)
Phonemic Awareness	Phonemic Awareness	Foundational Skills (PA)	Phonology
Phonics	Phonics/ Spelling	Foundational Skills (Phonics)	Sound-Symbols Syllable Instruction
Fluency	Syntax (in lieu of Fluency)	Foundational Skills/Language	Syntax
Vocabulary	Vocabulary and Morphology	Language/ Foundational Skills	Morphology Semantics
Comprehension	Comprehension Written Expression	Reading Literature and Informational Text Writing	Semantics
	Oral Language	Speaking and Listening	All instruction is based on rich OL

The Literacy How Reading Wheel
The Core Components of Comprehensive Literacy Instruction

www.literacyhow.com
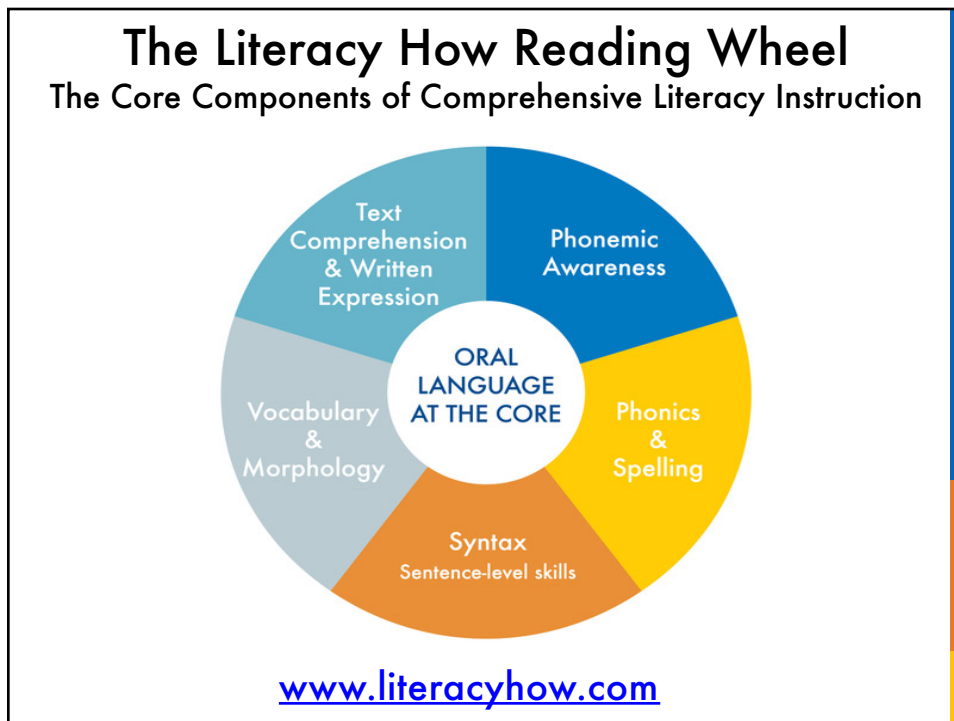
Standard Treatment Protocol

- A single, consistent intervention is used
- This ensures accurate implementation – that is, treatment fidelity.
- The interventionists must receive comprehensive training.
- 'They also need to receive ongoing support and professional development while delivering the standard treatment protocol procedures to ensure that the intervention is delivered correctly.'

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Key Questions About the Secondary Intervention

- Has the student been taught using an evidence-based secondary intervention program (if available) that is appropriate for his or her needs?
- Has the program been implemented with fidelity?
  - Content
  - Dosage/schedule
  - Group size
- Has the program been implemented for a sufficient amount of time to determine response?

http://www.intensiveintervention.org

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Problem-Solving Approach

The student intervention teams meet to discuss what will work best for the individual student. This team will use a menu of intervention options that begins with assessment data that is diagnostic in nature so that the student will receive an intervention that is matched to his/her profile and academic needs.

'**… the quality of the instruction depends on the skills, knowledge, and training of the team personnel who plan each individualized program**.'
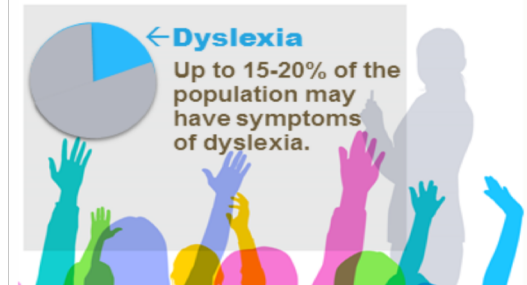
http://iris.peabody.vanderbilt.edu/module/rti01-overview/cresource/q2/p05/ © Literacy How, 2019

Establish a Menu of Interventions (an EXAMPLE)

Phonemic Awareness	Phonics	Fluency	Vocabulary	Text Comprehension
Road to the Code	Guided reading w/ decodable text	Repeated Reading	Intentional word selection	Text Structure *SGM/Braidy*
Say It and Move It	*Lexia*	Words and Phrases	*Word Heroes*	*Questioning the Author*
Phoneme Grapheme Mapping	Phoneme Grapheme Mapping	*RAVE-O*	Lexia	Reciprocal Teaching (Strategies)
LiPS	Word Sorts	*Read Naturally*	*Word Gen*	*Making Meaning*
	Wilson	© Literacy How, 2019		

Structured Literacy Instruction

Children with dyslexia are in nearly every classroom—but effective reading instruction is NOT.

- Elements of language
- Principles of instruction

←Dyslexia
Up to 15-20% of the population may have symptoms of dyslexia.

https://dyslexiaida.org/knowledge-and-practices/

Dyslexia Guidelines, Chapter 8 and 11

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Principles of Structured Literacy

SYSTEMATIC & CUMULATIVE

EXPLICIT

DIAGNOSTIC
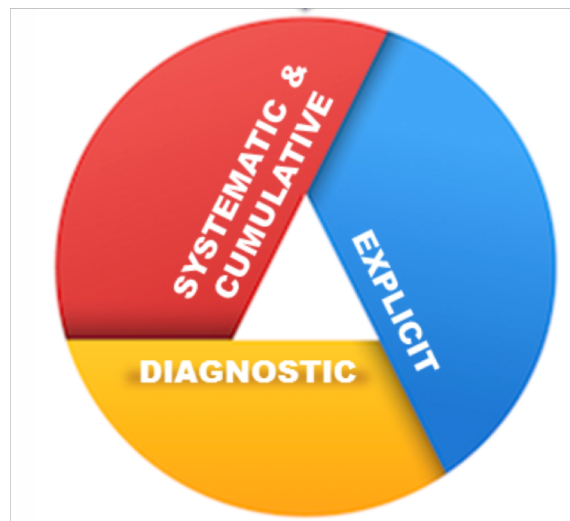
Principles of Instruction

- **Explicit**: Deliberate teaching of all concepts with continuous student-teacher interaction
- **Systematic**: Material follows the logical order of the language from easier to more difficult and each skill/step requires mastery before moving on
- **Cumulative**: Each step is based on previously learned concepts
- **Diagnostic:** Instruction is individualized based on formal and informal data including observation of reading behaviors
- **Prescriptive**: Scaffolds used to manage the level of difficulty and corrective feedback is given so students know how monitor their reading errors

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Elements of Structured Literacy
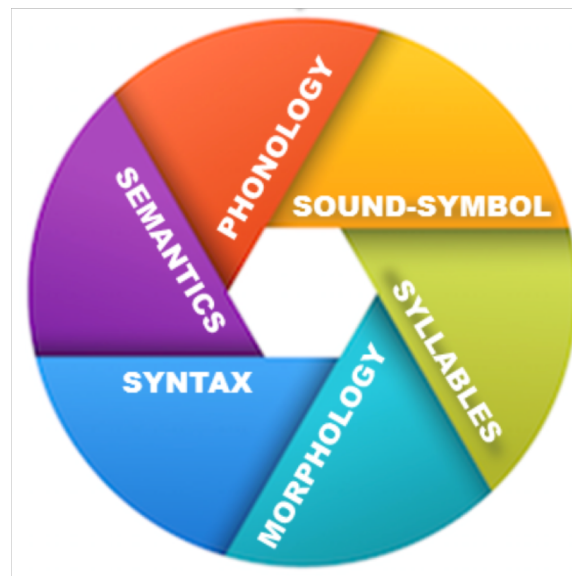
- **Phonology**-say *bloom* Now say it again, but don't say /m/….don't say /l/
- **Sound-Symbo**l-How many sounds in the following word? How many letters represent those sounds?
- **Syllables**- *literacy*
- **Morphology-** intro <u>spect</u> ive
- **Semantics**- Here are tips that safety experts say could help you ***survive*** some tight spots.
- **Syntax**- *The dog who ran to the kitchen door and who barked furiously at the cat had thick dark brown fur.*

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4 Types of Reading Assessments

TYPE	DESCRIPTION/USE	PURPOSE
Outcome (Summative) Formal	Evaluate success of a program or a school based on student performance after instruction is completed (standardized).	"Reaching our goals"
Universal Screening (Formative) Formal	Identify students who need more intense assessment to determine the potential for intervention. External benchmarks or norms are used.	"First Alert"
Progress Monitoring (Formative) Formal	Determine student progress over time as compared to a validated trajectory and to plan differentiated instruction.	"Growth Charts"
Diagnostic (Formative) Formal or informal	Understand student performance in authentic context, especially to inform instruction and intervention strategies. These are most closely aligned with instruction. © Literacy How, 2019	"In-depth View"

3 Types of Assessments

TYPE	When?	PURPOSE
Diagnostic	Before	Identify skill strengths and weaknesses
Formative	During	Assessment **for** learning
Summative	After	Assessment **of** learning

Dyslexia Guidelines, Appendix A

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Need to Dig Deeper

"Curriculum Based Measures (CBM) are tests that are designed and constructed using classroom materials in the hope of measuring what has actually been taught."

Farrall, 2012

However, CBMs don't tell us everything we need to know – especially if a student is at risk.

Diagnostic assessments can tell us WHY a student is struggling by providing information on specific skills that a student may or may not have mastered.

They also tell us what intervention is most suitable for the student.

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Diagnostic Decision Tree: Check Reading Fluency First

Oral Reading Fluency: Reading text with sufficient speed, accuracy and expression to support comprehension

What it takes to be a fluent reader:

- Accuracy: know the orthographic/spelling patterns of the words
- Automaticity: recognize and apply the patterns in words instantly – i.e., less than one second
- Phrasing: group the words in grammatical entities – i.e., elaborated noun phrases, prepositional phrases, verb + adverb phrases
- Intonation: read the text as though you're telling someone a story or conveying information

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Meet Jessica

Jessica is a first grade student who was identified in kindergarten as needing support.

She began to receive Tier 2 support in the fall of first grade.

Her recent universal screening results are shown here.

DIBELS Next Winter/Middle of Year:
- Oral Reading Fluency
  - Fluency – 10 (Goal is 23)
  - Accuracy – 29% (Goal is 78%)
- Nonsense Word Fluency NWF)
  - Correct Letter Sounds (CLS) – 7 (Goal is 43)
  - Whole Words Read (WWR) – 1 (Goal is 8)
- Phoneme Segmentation Fluency (PSF) (off-grade level)
  - 15 (Goal for BOY is 40)

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Jessica's Oral Reading Fluency

Actual Text: *CORE MASI-R Oral Reading Fluency Measures*

First Grade Passage

Part of the park is for play. Some parts are not for play. Cars drive down the street. Don't play there.

What She Read

/p/… from.. for… the /p/ is for /p/. So /p/ /a//r/ /no/ for

Score: 4 WCPM
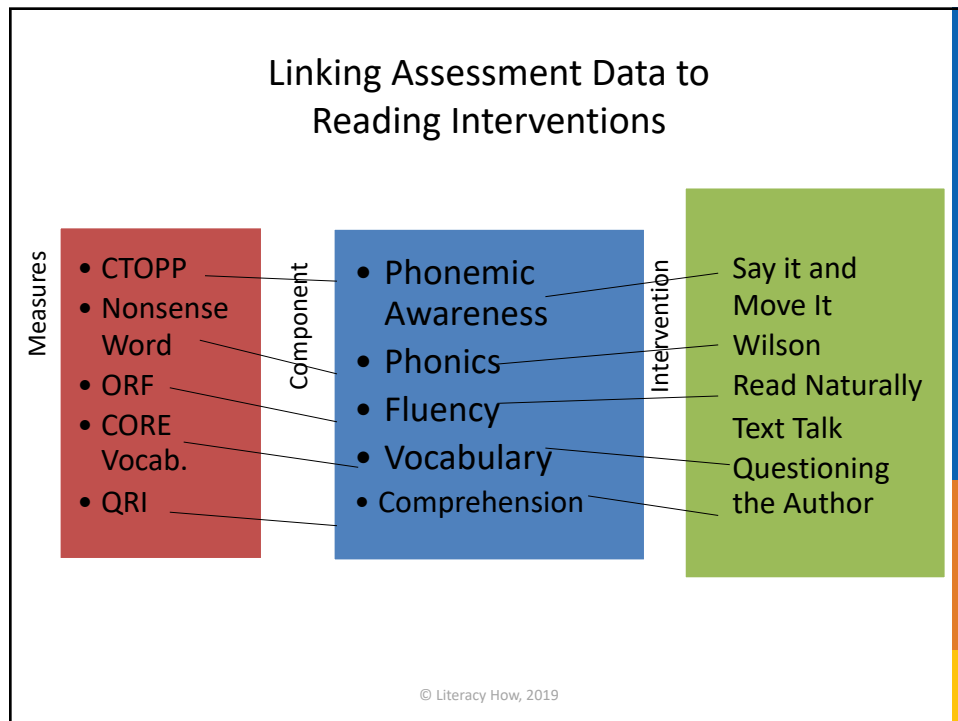*10th Percentile for Winter is 6 WCPM*

Jessica's Recent Running Record

Actual Text

I lost my cat.

Where was she?

I looked inside the house.

I looked under the bed.

What She Read

I . . . lost my cat.

Where, where, was, where, where, /wh/ . . . /w/ . . /a/ . . /s/, where was . . . hold on . . . I lost my cat. Where was she? I look . . . no . . look . . /ed/ . . everywhere . . . in . . . in yeah I don't know this. The hos . . . I don't know that word. I look . . . /ed/ . . . everywhere . . . the . . . ummm . . . /un/ . . /der/ . . .

Linking Assessment Data to Reading Interventions

Measures		Component		Intervention
• CTOPP • Nonsense Word • ORF • CORE Vocab. • QRI		• Phonemic Awareness • Phonics • Fluency • Vocabulary • Comprehension		Say it and Move It Wilson Read Naturally Text Talk Questioning the Author

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For Students with Word Level Reading Difficulties

Interventions that are most effective include three key elements:

A. Eliminating the phonological awareness deficits and teaching awareness to the advanced level.

B. Teaching and reinforcing phonics skills and phonic decoding.

C. Providing opportunities for students to apply these developing skills to reading connected text (i.e., authentic reading).

David Kilpatrick, 2015

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The Alphabetic Principle

- Chinese writing (logographic) vs. alphabetic writing
- We don't write words! We write sequences of phonemes in spoken words.
- Poor access to the phonemes makes reading alphabetic languages very difficult.
- Phoneme skills are needed for BOTH sounding out new words AND remembering the words we read.
- Orthographic processing involves unlocking language from vision which is ALSO needed to read words.

David Kilpatrick, 2018

© Literacy How, 2019

1. Phonology (Speech Sound System)

The study of sound structure of spoken words (i.e., how sounds are identified, pronounced, classified and compared)

Phoneme awareness is an awareness of and the ability to manipulate the individual sounds (phonemes) in spoken words.

All students benefit from explicit instruction in phoneme awareness, segmenting and blending the sounds in words.

The Phonological Umbrella

"There may be several types of phonological deficits, and dyslexia may have other, nonphonological causes as well. But 'phonology' is a big umbrella covering all of the ways in which knowledge derived from pronunciation and sounds is used in reading, speaking, and other tasks. Impaired phonology jeopardizes performance on all of them."

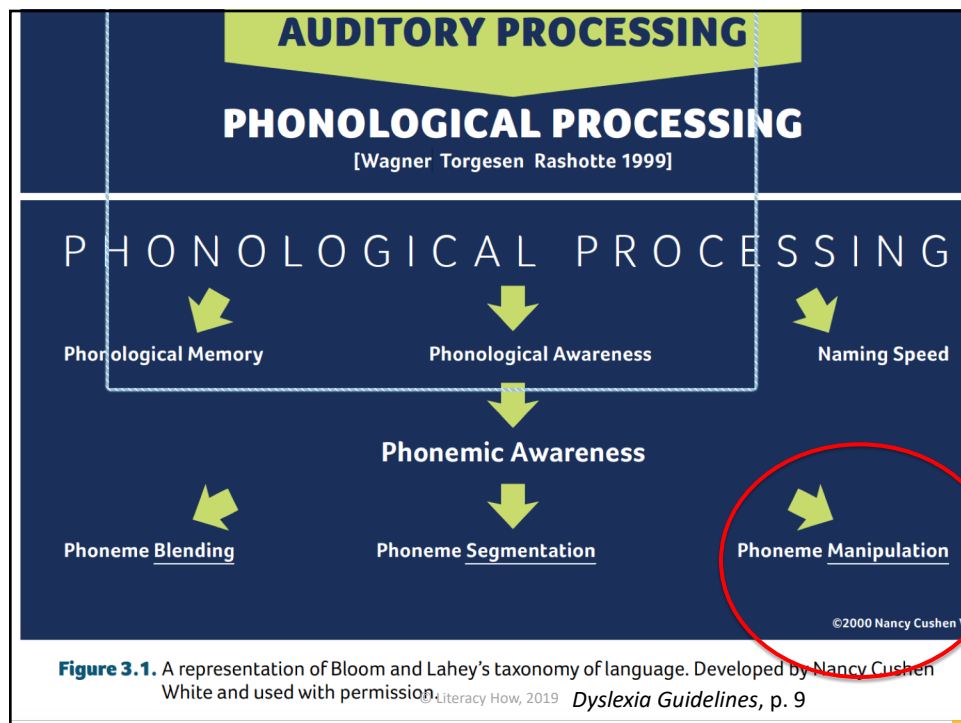*Mark Seidenberg, 2017*

THE PROGRESSION OF PHONOLOGICAL AWARENESS

Phonological Awareness develops sequentially, so we begin where the student is in that progression.

Jessica's Phonological Awareness Diagnostic Data

CORE Phonological Segmentation Test

- Sentences into Words – 2/5

- Words into Syllables – 4/8

- Words into Phonemes – 1/10

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Figure 3.1. A representation of Bloom and Lahey's taxonomy of language. Developed by Nancy Cushen White and used with permission. *Dyslexia Guidelines*, p. 9

Three Aspects of Phonological Processing

- Phonological (Phonemic) Awareness (PA)
  - *Phonological Awareness Screening Test (PAST)*
  - *Comprehensive Test of Phonological Processing-2 (CTOPP-2)* (Segmenting, Blending, Elision)
  - *Woodcock-Johnson*
- Phonological Memory (i.e., Working Memory / Attention) (PM)
  - Sentence recall/ story recall
  - *WISC* – digit span
  - *CTOPP-2* – digit span
- Processing/Naming Speed (PS/NS)
  - *Rapid Automatized Naming (RAN) – CTOPP-2*
  - Word retrieval

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Levels of Phonological Awareness

Phonological Awareness Level	Typically Achieving Readers	Low Achieving Readers
1. Syllable Level (alliteration & rhyme)	Pre-K to K	Pre-K to 2nd Grade
2. Onset-Rime Level	Early K to Early 1st Grade	Late K to 2nd Grade
3. Basic Phoneme Level	Mid 1st Grade to Early 2nd Grade	Early 2nd to 4th or never
Advanced Phoneme Level	Late First Grade to Third Grade	Often never

Kilpatrick, 2017

© Literacy How, 2019

Jessica's Phonological Awareness Data

Phonological Awareness Screening Test

Rhyme Recognition	*1/6*
Rhyme Production	*0/6*
Syllable Blending	*4/6*
Syllable Segmentation	*3/6*
Syllable Deletion	*0/6*
Phoneme Isolation – Initial Sounds	*3/6*
Phoneme Isolation – Final Sounds	*1/6*
Phoneme Blending	*1/6*
Phoneme Segmentation	*0/6*

Sound Articulation

- Should be clear and precise
- Consonants should be pure sounds without an added vowel or /uh/

Practice: Segment the sounds in <u>crest</u>

/k/ /r/ /e/ /s/ /t/   c r e s t

/kuh//ruh//e//suh//tuh/   = cŭ rŭ esŭ tŭ

A. Intervention for PA/Phonological Processing

Eliminating the phonological awareness deficits and teaching awareness to the advanced level.

- Multisensory articulation - ***Activity: Sound Scientist (https://www.youtube.com/watch?v=p8d1eEhH8NI)***
  - Mirrors-visual
  - Kinesthetic-feeling throat
- Say It and Move It (using discs for concrete representation of sounds)
- Elkonin boxes (using boxes to indicate number of sounds in each word)
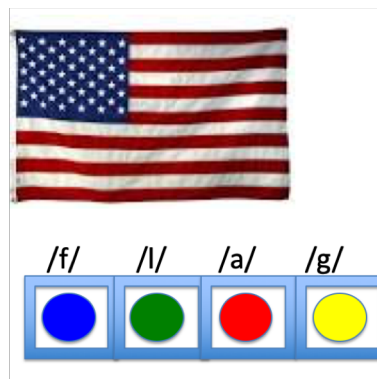- Sound Sorts (initial, final, medial)

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Two Key Methods

Say It and Move It　　　**Sound Boxes**

/f/　　/l/　　/a/　　/g/
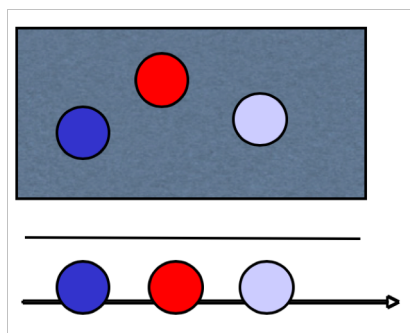
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Phonics – the study and use of sound/spelling correspondences and syllable patterns to help students read written words

Myth

The English language is so irregular and inconsistent in its spellings, it is unnecessary to teach children the letter-sound correspondences that form the basis of phonics instruction - and it is a waste of time to teach the rules of the language.

Reality

Within syllables, vowel spellings conform with seven vowel patterns (Henry, 1993; Chaney & Cohen, 1999). Five of those vowel syllable patterns effectively predict vowels in about 85% of English words (May, 1998).

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Jessica's Word Identification Diagnostic Data

Preprimer List

- see   see
- play   /p/… /l/
- me   me
- at   at
- run   ran
- go   go
- and   and
- look   look
- can   can
- here   here

2 errors (Instructional Level)

Primer List

- you   you
- come   come
- not   no
- with   /wi/
- jump   /ju/
- help   /hep/
- is   is
- work   walk
- are   /a/ /r/
- this   /t/ is

7 errors (Frustration Level)

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What Is Required for Word Recognition*?

- Phonological awareness (Basic and Advanced)
- *Letter-sound knowledge*
- *Phonological blending (i.e., decoding accuracy)*
- *Automaticity – 'sight word' recognition (Orthographic Mapping/Phonological long term memory)*

Instant and effortless recall of familiar words (regular and irregular words)

© Literacy How, 2019   *David A. Kilpatrick, 2015*

Letter-sound Knowledge

- Students must first know the letters of the alphabet (instant letter recognition).
- They must also know the sounds of each letter – most common sound first (g = /g/); but eventually must know that some letters have more than one sound (g = /j/).
- This phenomenon of letters representing more than one sound is especially important when learning the vowel sounds.
- This knowledge is assessed in isolation first (e.g., *CORE Phonics Survey*) and then applied in a blending task (e.g., *DIBELS – NWF; CLS*)*

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Grapheme = Letter(s)

- symbols of the writing system

- one or more letters that represent one speech sound or phoneme

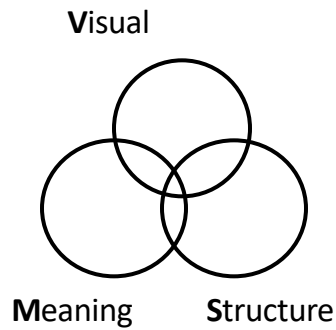- categorized as **consonants** and **vowels**

© Literacy How, 2019
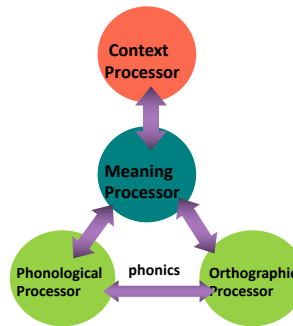
2. Sound-Symbol Association

- Associations must be known in 2 directions:
  - Sound to symbol (e.g., /k/ = k, c, and ck)
  - Symbol to sound (e.g., c = /k/ and /s/)
- Phonics
  - Decoding
  - Encoding
- Should be embedded in a rich and deep language context.
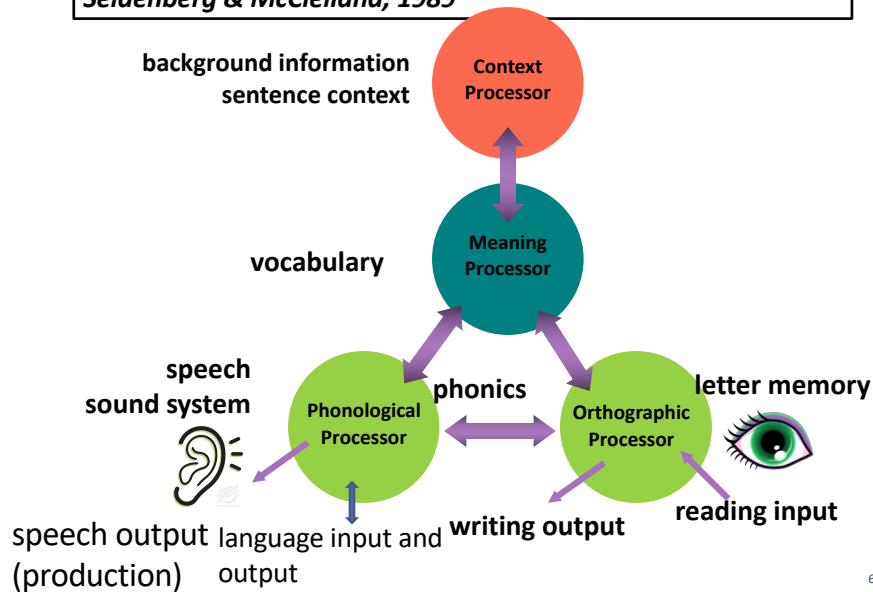
A Look at Two Systems

Three Cueing Systems: MSV

Visual

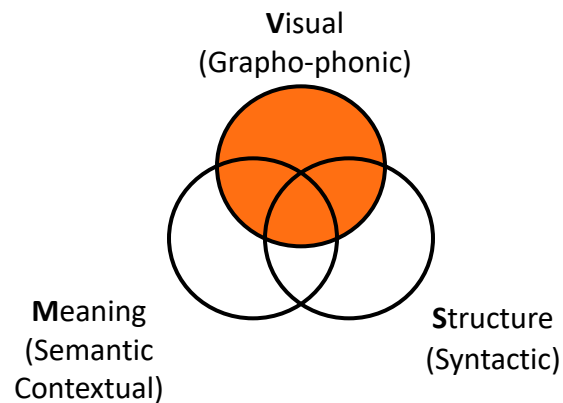**M**eaning **S**tructure

Four Processing Systems

Context Processor

Meaning Processor

Phonological Processor — *phonics* — Orthographic Processor

Four Processing Systems
Seidenberg & McClelland, 1989

background information
sentence context

Context Processor

vocabulary

Meaning Processor

speech
sound system

Phonological Processor — *phonics* — Orthographic Processor

letter memory

speech output (production)

language input and output

writing output

reading input

Three Cueing Systems

Visual
(Grapho-phonic)

Meaning
(Semantic
Contextual)

Structure
(Syntactic)

The three systems are not equally important.

*Context should become a child's last resort – not the first!*

Teaching Phonics or "The Code"

- Reading or "Decoding" is applying sound-symbol associations and blending sounds together.
  - Begin with VC words (most transparent pattern)
- Spelling or "Encoding" is segmenting words by sounds and applying sound-symbol correspondences (upper levels apply spelling patterns and rules).
- Reading and spelling are reciprocal skills.

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Jessica's Spelling and Writing Samples

6. cat
7. in
8. be
9. game
10. fix
11. cake
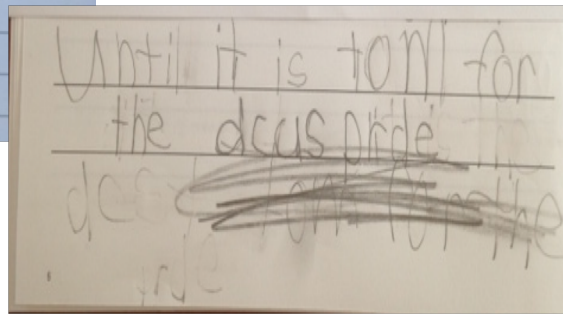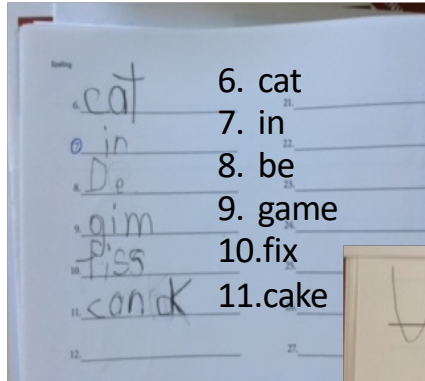
© Literacy How, 2019

Jessica's Phonics Diagnostic Data

CORE Letter Sounds
- 12/21 Consonant sounds
- 1/5 Long vowel sounds
- 2/5 Short vowel sounds

CORE Reading and Decoding

Short vowel sounds in CVC Words
- 1/10 Real words
- 0/5 Nonsense words

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Jessica's Developmental Spelling Assessment (DSA) Letter Name results (October 2016)

	LN		Jessica		LN		Jessica
1	jet	D		13	that	B	
2	ship	B		14	slid	B	
3	bet	C		15	mud	C	
4	got	A		16	grab	B	
5	cap	C		17	chop	D	
6	drum	D		18	fast	E	
7	bump	E		19	dish	E	
8	much	D		20	went	E	
9	with	E		21	win	A	
10	map	A		22	fed	A	
11	hop	C		23	trip	D	
12	plan	B		24	rub	A	
				25	fit	C	

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Effective Reading Instruction for Students with Reading Difficulties

- The foundation of reading is *oral language*.
- Students with the 3 different profiles will need a different instructional focus depending on their diagnostic assessment data.
- While some students with reading difficulties have comprehension strengths, they do not find reading enjoyable so they do not practice applying those comprehension skills to what they read. As a result, *vocabulary and reading comprehension* often suffer…..
- which means, *all components* of reading instruction **may need** to be addressed.

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B. Intervention for Phonics Skills (i.e., Decoding and Encoding)

- Explicit instruction in letter sound correspondences
- Decoding and encoding taught as reciprocal skills
- Sound-Letter Mapping/Word Chains
- Word Sorts
- High Frequency Word Charts
- Syllable types and blending syllables in multisyllabic words
- Explicit instruction in the meanings of roots and affixes to analyze the relationship of spelling to meaning of complex words (advanced phonics/morphology

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Systematic Phonics Instruction

Scope and Sequence for Phonetic/Morphemic Elements

Phonetic/Morphemic Element	Spelling Stage*	Grade Level	
		Reading	Spelling
Identifies most common sound for single-letter **Consonants** and **Consonant Digraphs** (*sh, ch, th, wh, ng*)	LN	K	K
Short & Long vowel sounds (*a, e, i, o, u*)	LN	K	K
Closed Syllables (VC, CVC)	LN	K	K
Open Syllables (CV) e.g. we, hi, go, my, ba-by (*y* says long *i* at the end of one-syllable words; y usually says long *e* at the end of multisyllable words)	LN	K (one-syll. words) Gr. 2 (two-syll. words)	K (one-syll. words) Gr. 3 and up (multisyllable words)
Identifies the base word in frequently occurring inflected forms (e.g. looks, looked, looking)		K/Gr. 1	
Knows two sounds for the following consonants: *s* may be pronounced /s/ or /z/; *g* may be pronounced /g/ or /j/; *c* may be pronounced /k/ or /s/		Gr. 1	
Understands *y* can function as either a consonant or a vowel: *y* is a consonant when it begins a word or syllable (*yoyo*); final *y* is a vowel (*fly, candy)*; *y* may be part of a vowel team (*stay, boy, key*) (sometimes *y* acts as a suffix e.g. dirty)		Gr. 1 (one-syllable words) Gr. 2 (final *y* in two-syllable words)	Gr. 1 (consonantal *y*, final *y* in one-syllable word, *ay*)

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6/8/12

Every Word Becomes a *Sight Word*

- A word that is recognized instantly regardless of whether or not it is phonetically regular or irregular. It is known as a familiar word rather than an unfamiliar word.
- An unfamiliar 'sight word' is one that children either try to sound out or guess.
- A sight vocabulary is a pool of words that an individual can instantly and effortlessly recognize.
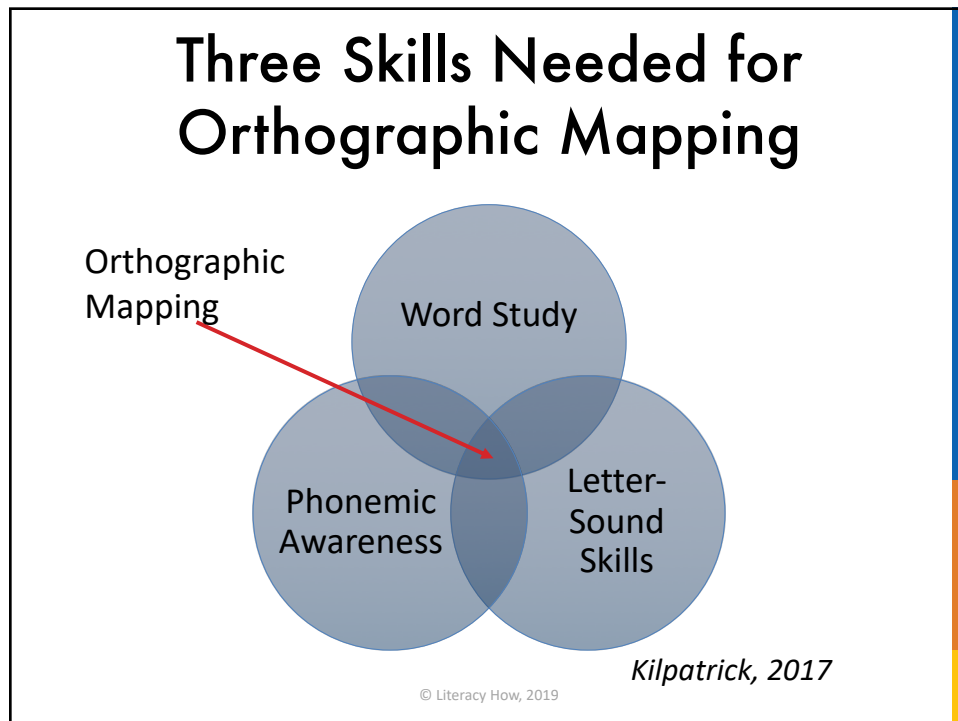
David A. Kilpatrick, 2015

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Orthographic Mapping

The process readers use to store written words for immediate, effortless retrieval. It is the means by which readers turn unfamiliar written words into familiar, instantaneously accessible sight words.
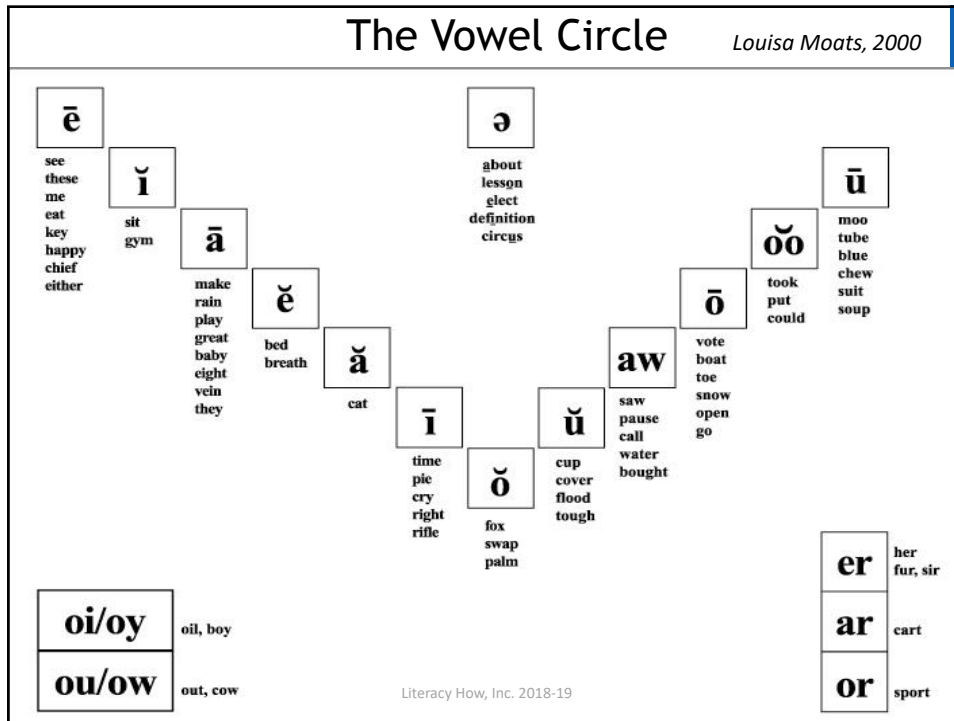
This explains how readers build a **sight vocabulary**.

David A. Kilpatrick, 2015

© Literacy How, 2019

Three Skills Needed for Orthographic Mapping

Orthographic Mapping

Word Study

Phonemic Awareness

Letter-Sound Skills

Kilpatrick, 2017

© Literacy How, 2019

3. Syllable Instruction

- Concept of a syllable – one vowel sound
- Six basic syllable types
- Key to determining the sound of the vowel in each syllable
- Syllable division rules support multisyllabic reading accuracy and automaticity.

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The Vowel Circle — *Louisa Moats, 2000*

ē	see, these, me, eat, key, happy, chief, either	
ĭ	sit, gym	
ā	make, rain, play, great, baby, eight, vein, they	
ĕ	bed, breath	
ă	cat	
ī	time, pie, cry, right, rifle	
ŏ	fox, swap, palm	
ŭ	cup, cover, flood, tough	
aw	saw, pause, call, water, bought	
ō	vote, boat, toe, snow, open, go	
oŏ	took, put, could	
ū	moo, tube, blue, chew, suit, soup	
ə	about, lesson, elect, definition, circus	
oi/oy	oil, boy	
ou/ow	out, cow	
er	her, fur, sir	
ar	cart	
or	sport	

Literacy How, Inc. 2018-19

Design instruction that targets prescribed decoding/encoding goals

- Review of sound/symbol correspondences reading/spelling
- Practice the speech to print mapping
- Incorporate irregular word teaching
- Sequentially teach the syllable patterns *to mastery*

g	a	ng		
p	i	nn	ed	
b	l	a	d e	
l	oo	s e		
s	c	r	ea	m
f	r	**ie**	n	d

'Reading acquisition depends at its core on the brain's initial ability to integrate information about the letter or grapheme with information about the sound or phoneme (*Wolf*, 2016).

Sound-Letter Mapping

The Six Syllable Patterns

Syllable type	Pattern	Vowel sound	Examples
Closed	VC, CVC	Short vowel	at, Ed, it, on, up; cap, bit, pet, tot, cut
Open	CV	Long vowel	be, I, my
Silent e	VCe	Long vowel	cape, bite, Pete, tote, cute
Vowel teams • **Talker pattern** • **Whiner pattern**	VV	Long vowel Vowel sound is neither long nor short but a different sound called a diphthong	rain, boat, free boil, boy; out, down
R-controlled	Vr	Vowel sound is neither long nor short but is influenced by r that follows the vowel letter	far, for, her, fir, fur
Consonant-le	C-le	Vowel sound is schwa	candle, table, gurgle

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Activity: Syllable Inspectors

	Closed: **VC CCVC CVCC CVC CCVCC**
👁	• One (1) vowel, followed by
👁	• One (1) or more consonants
👂	• The short sound of the vowel

Teaching the vowel syllable patterns of English so students will know how to read single syllable *and* multisyllabic words.

https://www.youtube.com/watch?v=RE0eXl62OkQ&list=PLoIKwySDkhzesXDTjo8wUWiA46KaWPdqB

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Syllable Review

Syllable:	closed	open	silent-e	vowel team	r-controlled	consonant-le
Label:	**vc**	**cv**	**vce**	**vv**	**vr**	**_le**

princi**ple**	simi**lar**	in**sight**	ma**jor**	**main**tain	**ve**hicle
pro**ceed**	ap**proach**	availa**ble**	distri**bute**	**sec**tion	au**thor**ity
ex**port**	indi**cate**	**cre**ate	per**i**od	flexi**ble**	legis**late**
poli**cy**	i**tem**	cy**cle**	inter**pret**	re**quire**	per**sist**

joancohen@literacyhow.com

The Literacy How Reading Wheel

Vocabulary refers to the body of words and their meanings that students must understand to comprehend text.
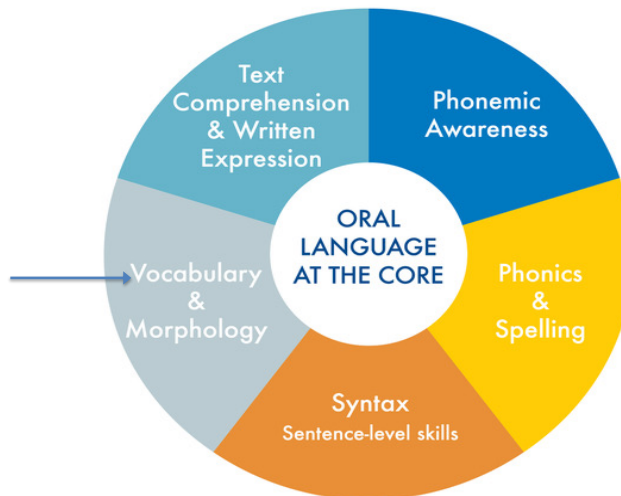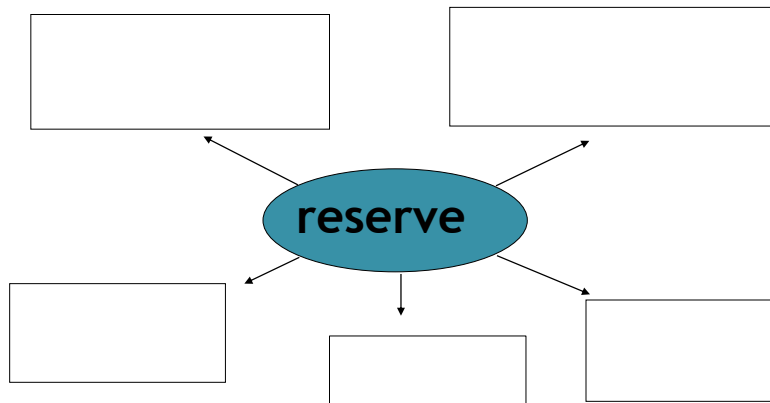

Comprehension Depends on Knowing Word Meanings

- Vocabulary knowledge is strongly related to overall reading comprehension.

- If a word is decoded and pronounced but the meaning is not recognized, comprehension will be impaired.

- Knowledge of a word's meaning also facilitates accurate word recognition.

Multiple-Meaning Map

reserve

Brick and Mortar Words
(Dutro and Moran, 2003)

Specialized Academic Vocabulary: Bricks	General Academic Vocabulary: Mortar
Content Specific/ Technological Words	**Utility words to hold bricks together**
democracy, mammal, numerator	*evidence, nevertheless, consequently, dependent*
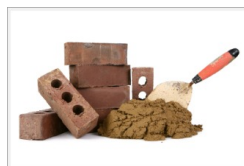
Brick Words

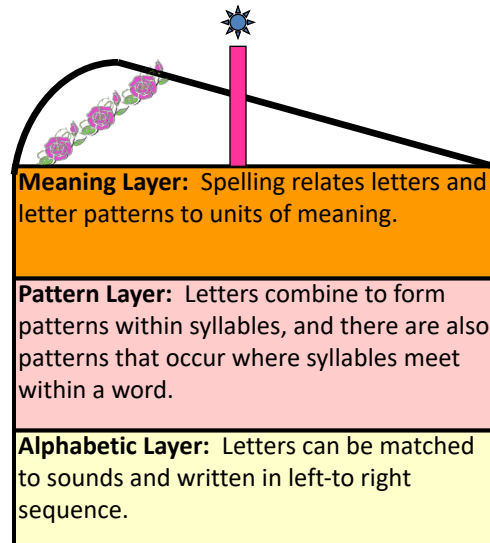| Content (Brick) Words		
Multiple Meaning (Polysemy)	Morphological Elements	Word Networks
bat (animal, action, sport equipment)	**bat/bats**	**bat**, mammal, habitat, sonar[3]
season (time of year, flavoring for food)	**seasons**, **seasoning**, **seasoned**, **season**	**season**, climate, weather, environment, temperature, geography
bat, as part of common phrases or idioms (e.g., ***bat your eyes***, *go to* ***bat*** *for someone*) **blue** (a color, a feeling of dejection) and as part of a common phrase or idiom (e.g., *out of the* ***blue***, meaning suddenly)	**seasonal (-al)**, **batty (-y)**, **unlock (un-)**, **reread (re-)**, **bluest (-est)**[6] **evaporate, -s, -ed, -ion** for evaporates, evaporated, and evaporation	**evaporation**, liquid, gas, atmosphere, moisture

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Principles of Effective Vocabulary Instruction

- Present word(s) using child-friendly definitions.
- Draw attention to orthographic (spelling) and phonological (sound) representation.
- Engage students in repeated use of word(s) in different contexts.
- Teach words in categories.
- Make the word meaning visual.

Four Processing Systems
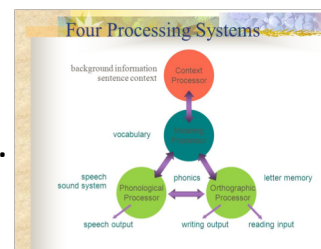
© Literacy How, 2019

English Orthography: 3 layers

Meaning Layer: Spelling relates letters and letter patterns to units of meaning.

Pattern Layer: Letters combine to form patterns within syllables, and there are also patterns that occur where syllables meet within a word.

Alphabetic Layer: Letters can be matched to sounds and written in left-to right sequence.

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4. Morphology

morphe = form -logy = to study

Morphology: The study of meaningful units of language and how those units are combined in words

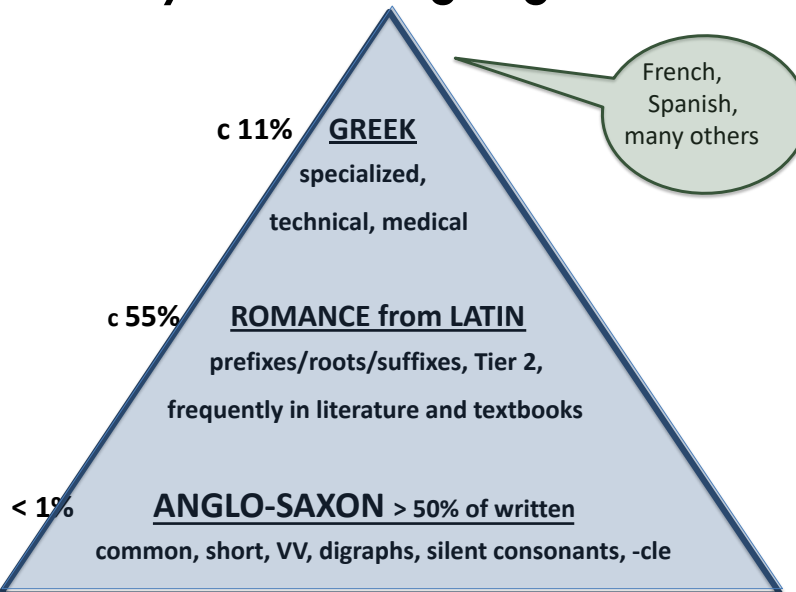**Morpheme**: A morpheme is the smallest meaningful unit or form in a language.

The goal of morphology instruction is to improve word identification, spelling, and vocabulary.

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Word Origin and Word Structure Matrix (Henry, 2003)

	Letter-Sound Correspondences	Syllables	Morphemes
Anglo-Saxon	Consonants: bid, step, that Vowels: mad/made, barn, boat	Closed: bat Open: baby VCE (vowel consonant e): made Vowel digraph: boat Consonant-le: tumbler-controlled: barn	Compounds: hardware, shipyard Affixes: read, reread, rereading;bid, forbid, forbidden
Latin	Same as Anglo-Saxon but few vowel digraphs Use of schwa/ə/: direction, spatial, excellent	Closed: spect VCE: scribe r-controlled: port, form	Affixes: construction, erupting, conductor
Greek	ph for /f/ - phonograph ch for /k/ - chorus y for /ĭ/ - sympathy	Closed: graphOpen: photoUnstable digraph: create	Compounds:microscope, chloroplast, physiology

Layers of Language

c 11% GREEK
specialized,
technical, medical

French, Spanish, many others

c 55%   ROMANCE from LATIN
prefixes/roots/suffixes, Tier 2,
frequently in literature and textbooks

< 1%   ANGLO-SAXON > 50% of written
**common, short, VV, digraphs, silent consonants, -cle**

Tier 2 Intervention for Vocabulary

- Explicit lessons to introduce word meanings including student-friendly definitions

- Word consciousness – Degrees of 'knowing a word'

- Word Categorization (Semantic Feature Analysis, Concept Sorts, Word Webs, Scaling)

- Multiple meaning words

- Figurative Language (idioms)

- Explicit lessons to introduce word structure (i.e., morphological elements)

- Morpheme categorization (i.e., prefixes, suffixes, roots)

- Word networks

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The First Literacy How Reading Wheel National Reading Panel Report (2000)
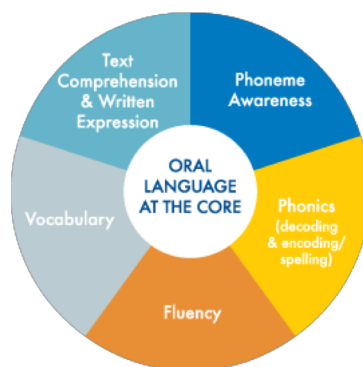
5 Big Ideas:
- Phonemic Awareness
- Phonics
- **Fluency**
- Vocabulary
- Comprehension

© Literacy How, 2019

Fluency – Reading text with sufficient *speed, accuracy* and *expression* to support comprehension
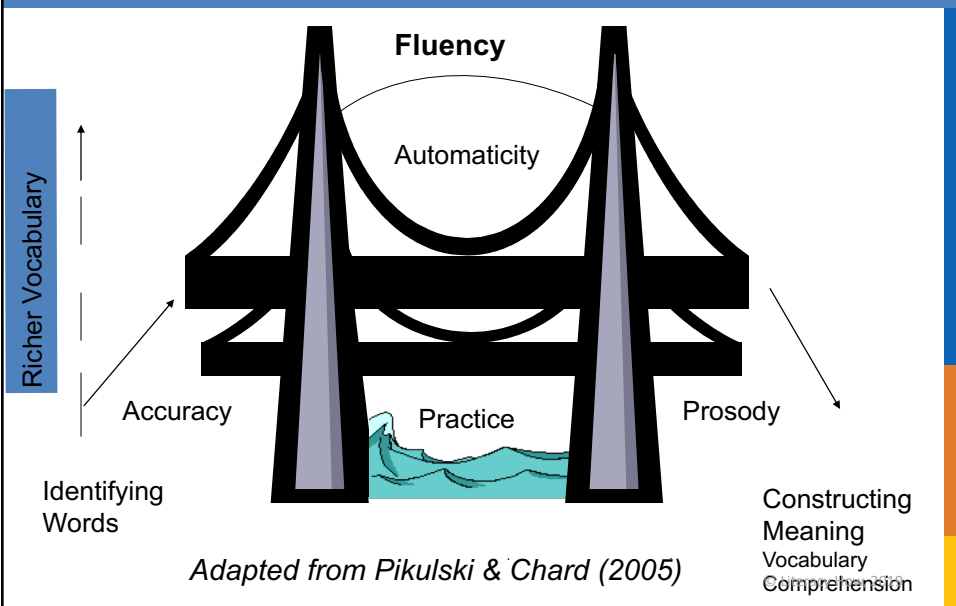
Myth

Fluent readers skim words as they read, predicting what will come next based on the context of the passage.

Reality

- Good readers read every word and can recognize a word both in and out of context.
- Fluent readers decode every word automatically and monitor comprehension.
- Unskilled readers with weak decoding skills over-rely on context.

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Fluency is the bridge between the ability to identify words and the ability to comprehend text.

Fluency

Automaticity

Richer Vocabulary

Accuracy

Practice

Prosody

Identifying Words

Constructing Meaning
Vocabulary
Comprehension

Adapted from Pikulski & Chard (2005)

What It Takes to Be a Fluent Reader

- Accuracy (know the spelling patterns)
- Automaticity (recognize and apply the patterns in words instantly – i.e., less than one second)
- Phrasing (group the words in grammatical entities – i.e., elaborated noun phrases, prepositional phrases, verb + adverb phrases)
- Intonation (read it as though you're telling someone a story or conveying information)

A gigantic oak tree in my back yard was covered with snow after the blizzard.

Jessica's Oral Reading Fluency

Actual Text: *CORE MASI-R Oral Reading Fluency Measures*

First Grade Passage

Part of the park is for play. Some parts are not for play. Cars drive down the street. Don't play there.

What She Read

/p/… from.. for… the /p/ is for /p/. So /p/ /a//r/ /no/ for

Score: 4 WCPM
10th Percentile for Winter is 6 WCPM

C. Intervention for Reading Connected Text

- Review the phonics skill/phonetic element(s) before reading.
- Create word lists and phrases for students to read before they read the text.
- Choose texts with ample representations of the phonetic element(s).
- Plan a dictation of words and sentences containing the phonetic element to practice spelling words in and out of text.

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Dyslexia and Fluency

What To Do

Develop accurate reading using decodable text.

Use repeated reading to develop prosody.

Understand that oral reading is difficult for most students.

What Not To Do

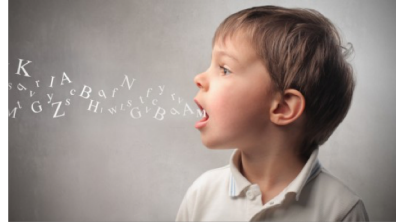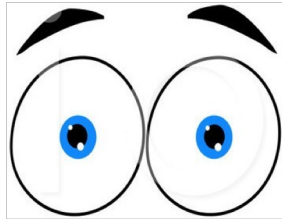Promote memorization of sight words.

Emphasize speed.

Use the 3 Cueing System model.

Drill and kill.

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Naming Speed = Slow Word Perception
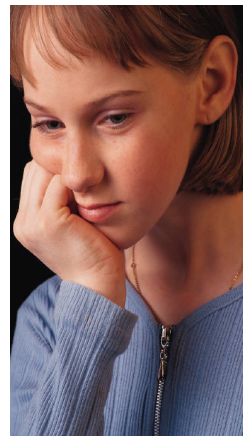

Slow Visual – Verbal Highway

Martha Denckla
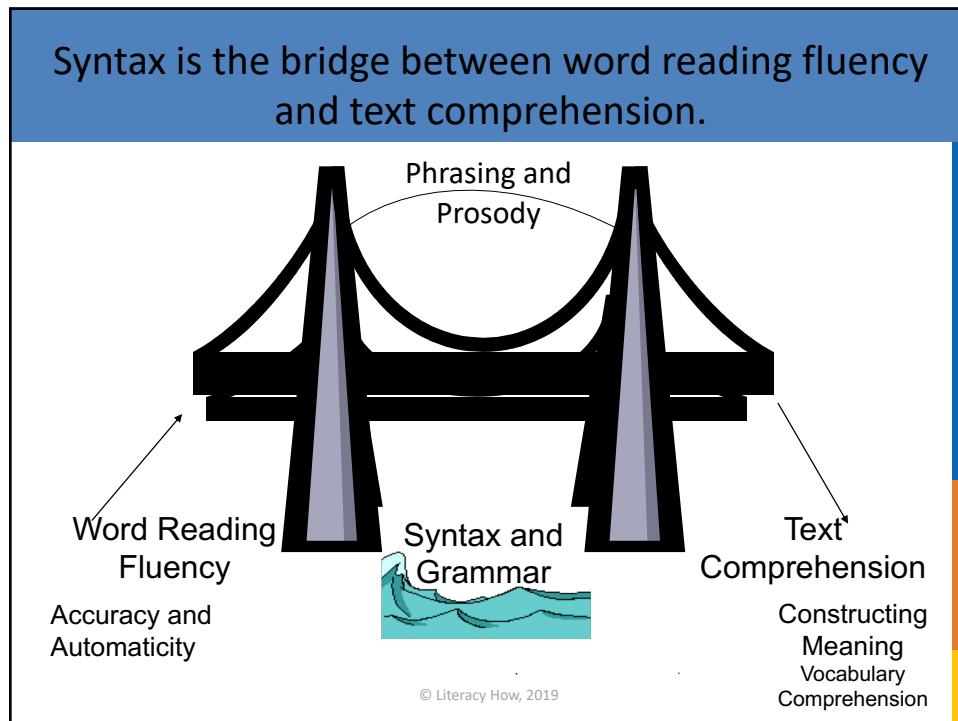
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Double Deficit Hypothesis

- Deficit in phonemic awareness

- Deficit in automatic retrieval of sounds and words, called rapid automatic naming

Maryanne Wolf

© Literacy How, 2019

Syntax is the bridge between word reading fluency and text comprehension.

Phrasing and Prosody

Word Reading Fluency
Accuracy and Automaticity

Syntax and Grammar

Text Comprehension
Constructing Meaning
Vocabulary
Comprehension

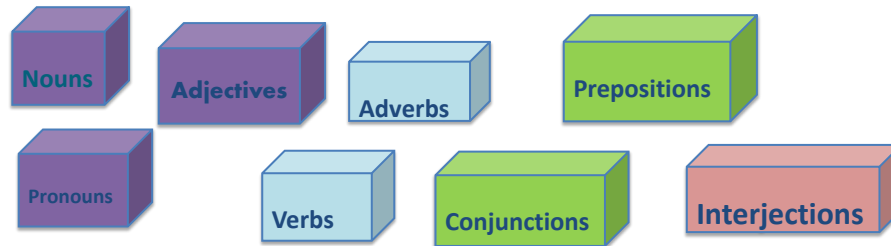© Literacy How, 2019

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5. Syntax

- Sentence structure: words, phrases and clauses (independent and dependent)
- The set of principles that dictate the sequence and function of words in a sentence in order to convey meaning
- Includes grammar, sentence variation, and mechanics of language

"If a reader can not derive meaning from individual sentences that make up a text, that is going to be a major obstacle in text-level comprehension."

Scott, 2009

© Literacy How, 2019

8 Grammatical Building Blocks

- Each "block" serves a specific, meaning-based function.
- Together, they provide the basis for all of the syntactic structures in English.

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6. Semantics

"The semantic system refers to all that is involved in the conceptual meanings conveyed by words and sentences that help us understand our world."

This includes :

- the way words refer to specific objects and concepts
- the way words and their referents can be understood in their contexts
- understanding words with multiple meanings
- understanding metaphorical expressions
- the role of background knowledge/content schema
- word relationships

Tales of Literacy for the 21st Century, Maryanne Wolf

© Literacy How, 2017

8. Semantic Feature Analysis

Concept Types	nonalcoholic	hot	alcoholic	caffeinic	sparkling
HerbTea	x	x			
Coffee	x	x		x	
MineralWater	x				x
Wine			x		
Beer			x		x
Cola	x			x	x
Champagne			x		x

Text Comprehension

Text comprehension, the ability to make meaning, is the ultimate goal of reading. It requires specific skills and strategies, vocabulary, background knowledge and verbal reasoning skills (Hollis Scarborough's Braid).

"…reading comprehension is not a single entity that can be explained by a unified cognitive model. Instead, it is the orchestrated product of a set of linguistic and cognitive processes operating on text and interacting with background knowledge, features of the text, and the purpose and goals of the reading situation.'

Castles, Rastle, and Nation, 2018

Dyslexia and ELs:
Indicators of SLD/Dyslexia in ELs

Word Reading

- Difficulty remembering or naming letters, sounds, and/or sight words
- Lack of progress despite targeted instruction in word reading

Geva, Fraser, & Weiner, 2014

Dyslexia Guidelines, Chapter 7

E. EDUCATION   107

Dyslexia and ELs:
Indicators of SLD/Dyslexia in ELs

Reading Fluency

- Native Spanish-speaking Spanish reading
  - *Adequate word decoding* in Spanish
  - Poor text reading fluency in Spanish

Serrano & Defior, 2008

- Both monolingual and bilingual students with SLD/Dyslexia
  - Poor decoding of single words and pseudowords in English
  - Weak single word and text reading fluency

EQUITY. EXCELLENCE. EDUCATION   108

Dyslexia and ELs:
Indicators of SLD/Dyslexia in ELs

Spelling

- Persistent spelling errors that have not resolved despite tiered intervention

- Spelling errors not attributed to the influence of the first language

- Difficulty remembering how common words are spelled

Adelson, Geva, & Fraser, 2014

EQUITY. EXCELLENCE. EDUCATION

109

Dyslexia and ELs:
Indicators of SLD/Dyslexia in ELs

Reading and Listening Comprehension

- Both monolingual students and ELs – reading comprehension impeded by decoding difficulties and lack of fluency
- Monolingual learners with SLD/Dyslexia – listening comprehension stronger than reading comprehension
- ELs with SLD/Dyslexia – listening comprehension generally commensurate with English oral language proficiency

EQUITY. EXCELLENCE. EDUCATION

110

Dyslexia and ELs: Key Points

- In reading and writing, make sure we are separating language skills from reading skills
- ELs can learn to decode at approximately the same rate as monolinguals, if they receive comprehensible, systematic, explicit instruction.
- ELs will continue to need academic language instruction after decoding has been mastered
- It is important and possible that there be an *early* identification of dyslexia in ELs

EQUITY. EXCELLENCE. EDUCATION   111

Tier 2 Intervention for Reading Comprehension

- Explicit lessons to teach how words, phrases, and clauses function in the sentence.
- Explicit lessons to show students how to combine clauses with conjunctions to create compound and complex sentences.
- Use of graphic and semantic organizers to show word functions, the relationship between words, phrases, and clauses, and how words are related through word networks
- Explicitly teach text structure
- Teach inferencing
- Teach students to answer and generate questions, giving ample opportunities to engage in discussions relating to the meanings of text
- Teach strategies including comprehension monitoring and summarizing

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Technology: The Great Equalizer

- CAST is an educational research & development organization that works to expand learning opportunities for all individuals through Universal Design for Learning (UDL). *www.cast.org*
- Bookshare provides a free library of over 475,000 titles (*www.bookshare.org)*
- Learning Ally (Reading for the Blind and Dyslexia) provides audiobooks and textbooks to students with LD (*www.learningally.org)*
- *http://readeasy.si.edu/*

Reading Process Supports

- Electronic Text
- Text to Speech
- Scan to Read/OCR

Dyslexia Guidelines, Chapter 12

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Motivation to Read

"One clear and achievable means of maximizing motivation is to ensure that children have solid basic skills and consider being "a reader" a key part of their identities."

Castles, Rastle, and Nation, 2018

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Expert Teaching is the Treatment

"One of the most important conclusions from research is that for children with learning problems, learning is hard work. A corollary to this finding is that for their teachers, instruction is very hard work and requires an enormous amount of training and support. Children who have difficulty learning to read or completing mathematics problems will likely not benefit from 'more of the same' but require an **alternative method of teaching** to assist their learning."

Semrud-Clikeman, 2005

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