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Empower teaching excellence.

Knowledge to Practice: Identifying Dyslexia and Providing Interventions Based on the Science of Teaching Reading

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Today's Learning Objectives

- To explain key characteristic of dyslexia
- To discuss the identification of dyslexia in school settings
- To share a model for Response to Intervention (RTI)/Multi-tiered Systems of Support (MTSS)
- To describe some key instructional strategies for each of the elements of *Structured Literacy* (phonology, sound-symbol associations, syllables, morphology, semantics, and syntax)
- To explain key principles of instruction for students with dyslexia

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Key Characteristics of Good Readers

Good readers

- Can recognize a word in 1/20th of a second.
- Can read 150-250 words per minute.
- Can immediately recognize tens of thousands of words.
- Learn new words very quickly.
- Don't forget the words they learn.

Kilpatrick, 2017

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Dyslexia Defined

Dyslexia is a specific learning disability that is **neurobiological** *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.***"*
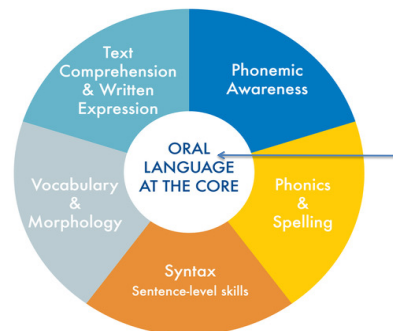
IDA, 2002

Dyslexia: Common Myths

- Dyslexia does not require a medical diagnosis.
- Dyslexia is not a visual problem.
- Dyslexia can and should be 'covered' in the public school.
- Dyslexia should be identified early (i.e., before third grade).
- Dyslexia is ~~not~~ real.
- Dyslexia ~~can be outgrown~~ lasts a lifetime.

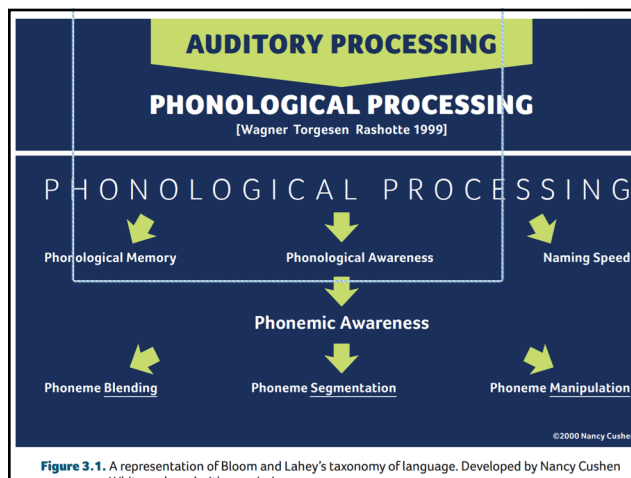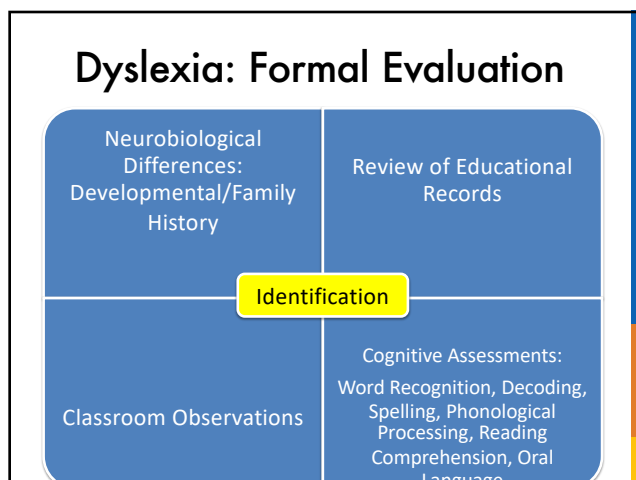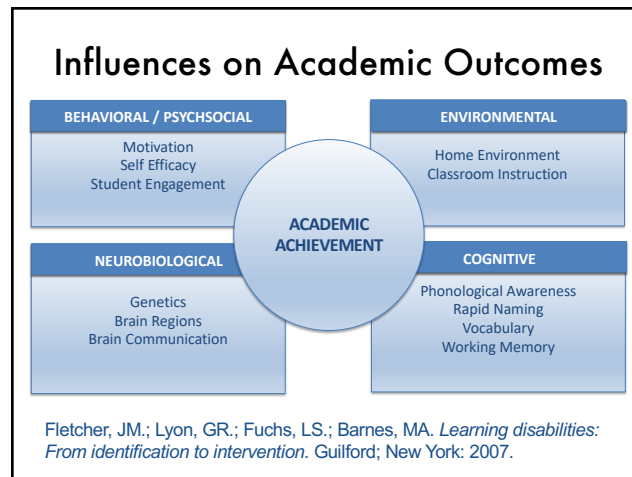© Literacy How, 2018

The Literacy How Reading Wheel

www.literacyhow.com

Indicators: Difficulties with Spoken Language

- 2.5 years: Children produced sentences with simpler syntax and pronounced words less accurately.
- 3-4 years: Deficits in vocabulary and phonology (rhyming, deciding if two words begin or end with the same sound)
- 5 years: Children were impaired on pre-reading skills – knowledge of letters, letter sounds, phonemic awareness – and vocabulary

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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

SYNTACTIC STRUCTURE	VOCABULARY	READING COMPREHENSION	ATTENTION / INHIBITION / WORKING MEMORY / MONITORING / TASK SWITCHING
	MORPHOLOGY		
AUTOMATIC	RAPID AUTOMATIZED NAMING	READING FLUENCY	EXECUTIVE FUNCTION
		WORD READING	
		DECODING	SIGHT WORD
	ACCURATE	LETTER KNOWLEDGE / PHONOLOGICAL AWARENESS	

"that may result in problems in **reading comprehension** and reduced experience that may impede the **growth of vocabulary**"

Tennessee Center for the Study and Treatment of Dyslexia, Middle Tennessee State University

Influences on Academic Outcomes

BEHAVIORAL / PSYCHSOCIAL
Motivation
Self Efficacy
Student Engagement

ENVIRONMENTAL
Home Environment
Classroom Instruction

ACADEMIC ACHIEVEMENT

NEUROBIOLOGICAL
Genetics
Brain Regions
Brain Communication

COGNITIVE
Phonological Awareness
Rapid Naming
Vocabulary
Working Memory

Fletcher, JM.; Lyon, GR.; Fuchs, LS.; Barnes, MA. *Learning disabilities: From identification to intervention*. Guilford; New York: 2007.

Dyslexia: Formal Evaluation

| Neurobiological Differences: Developmental/Family History | Review of Educational Records |
| Classroom Observations | Cognitive Assessments: Word Recognition, Decoding, Spelling, Phonological Processing, Reading Comprehension, Oral Language |

Identification

Identification of Dyslexia

- A family history of reading or language difficulties is a strong risk indicator.
- Dyslexia frequently occurs with other developmental disorders.
- These are co-occurring problems (e.g., inattention, distractibility, working memory, processing speed) that often overlap.
- This 'comorbidity' makes developmental disorders harder to identify. The co-occurring problems can mask an underlying reading problem.

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Universal Screening

- As early as pre-school, universal screeners can identify children at risk for reading difficulties.
- Strongest indicators of *dyslexia* in K are difficulties with: phonemic awareness, learning letter-sound relationships, and learning to decode using phonemic decoding strategies(1st grade)
- It's not always possible to rule out if poor performance is due to dyslexia or other other reasons: poverty, limited exposure to Standard English.
- Examples: **DIBELS, AIMS Web**, easycbm

Screening for Dyslexia

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

Moats and Dakin, 2008

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Need to Dig Deeper

"CBMs are tests that are designed and constructed using classroom materials in the hope of measuring what has actually been taught."
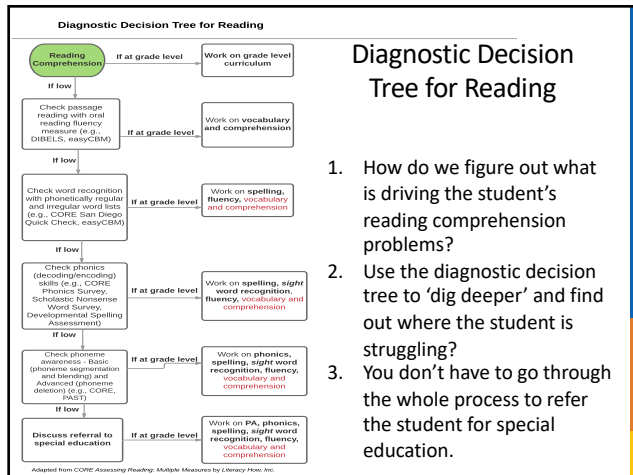
Farrell, 2012

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.

4 Types of 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.**	**"In-depth View"**

Diagnostic Decision Tree for Reading

Diagnostic Decision Tree for Reading

1. How do we figure out what is driving the student's reading comprehension problems?
2. Use the diagnostic decision tree to 'dig deeper' and find out where the student is struggling?
3. You don't have to go through the whole process to refer the student for special education.

How to Assess Word Recognition

- Word Identification –*Wechsler Individual Achievement Test-III (WIAT-III)* Norm-referenced
- *Test of Word Reading Efficiency (TOWRE)*
- *Word Identification and Spelling Test (WIST)*
- *Woodcock Reading Mastery* - Pseudowords
- *Wilson Assessment of Decoding and Encoding (WADE)*
- *Gallistel-Ellis Test of Coding (GE)*
- Sight word recognition (**QRI**); word lists on Informal Reading Inventories
- Word pattern surveys (*CORE, San Diego*)

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Informal/Diagnostic Phonics Assessments

- *Representing Phonemes with Letters* (K- early 1st grade)
- *CORE Phonics* * (K – 5th)
- *Gallistel-Ellis Test of Coding* *
- *Developmental Spelling Assessment (DSA)* (1st – 6rd)
- *Words Their Way* – Spelling Inventory
- Spelling Dictation
- Informal writing Sample
- ❖ **Nonsense Word Tests (best assessment of decoding)**

  *Includes decoding and encoding assessments

How to Assess Phonological Processing

- Phonological (Phonemic) Awareness (PA)
  - *PAST* (Kilpatrick)
  - *CTOPP-2* * (Segmenting, Blending, Elision)
  - *Woodcock Reading Mastery Test*
- Phonological Memory (i.e., Working Memory/Attention) (PM)
  - Sentence recall/ story recall
  - *WISC* – digit span
  - *CTOPP-2* – digit span; nonsense word repetition
- Processing/Naming Speed (PS/NS)
  - Rapid Automatized Naming – objects, colors, letters, numbers (RAN speed) – *CTOPP-2*
  - Word retrieval
  - *CTOPP-2: Comprehensive Test of Phonological Processing-2*

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/

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
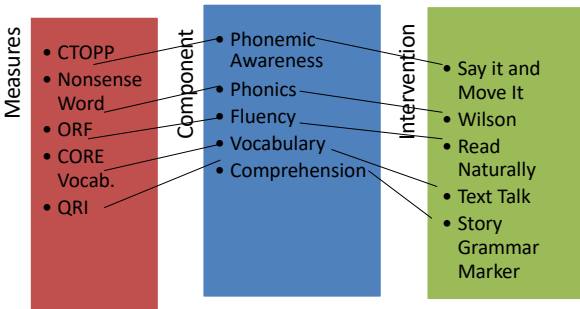
| High | Higher | Highest |

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Essential Components of CT's K-3 Reading Model

1. School literacy leadership team
   - School-wide reading improvement plan
2. Multi-tiered systems of support (MTSS)
   - Evidence-based classroom reading instruction for all students
   - Evidence-based supplemental intensive reading interventions
   - Aligned summer school intervention supports
3. **Ongoing coaching and targeted professional development to support administrator and teacher knowledge of reading research, practices, and systems**
4. Comprehensive literacy assessment system
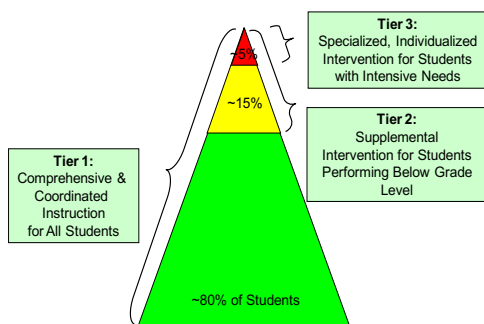5. Parent engagement program

literacyscan.org

District
LITERACY SCAN

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Welcome to the District Literacy Scan

Brought to you with funding from The Grossman Family Foundation, and presented by the Connecticut Association of Schools, Literacy How and HILL for Literacy.

Linking Assessment Data to Reading Interventions

Measures
- CTOPP
- Nonsense Word
- ORF
- CORE Vocab.
- QRI

Component
- Phonemic Awareness
- Phonics
- Fluency
- Vocabulary
- Comprehension

Intervention
- Say it and Move It
- Wilson
- Read Naturally
- Text Talk
- Story Grammar Marker

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			

Response to Intervention (MTSS)

Tier 3:
Specialized, Individualized Intervention for Students with Intensive Needs

Tier 2:
Supplemental Intervention for Students Performing Below Grade Level

Tier 1:
Comprehensive & Coordinated Instruction for All Students

~15%

~80% of Students

Thinking About Intervention Levels/Tiers

	Primary (T1)	Secondary (T2)	Intensive (T3)
Instruction/ Intervention Approach	Comprehensive research-based curriculum	Standardized, targeted small-group instruction	Individualized, based on student data
Group Size	Class-wide (with some small group instruction)	3–7 students	No more than 3 students
Monitor Progress	1x per term	At least 1x per month	Weekly
Population Served	All students	At-risk students	Significant and persistent learning needs

National Center on Intensive Intervention
http://www.intensiveintervention.org/

Intensive Tier 3 Intervention

WORD READING	SPELLING	COMPREHENSION
Letter Knowledge (Accuracy & Automaticity)	Sound – Symbol (Automaticity)	Reading Comprehension Text Reading (at reading level) Vocabulary Comprehension Monitoring Inference Making Text Components
Phonemic Awareness (basic and advanced)	Word Spelling (Accuracy)	
Phonics / Decoding (Accuracy & Automaticity)	Sentence Dictation (Accuracy)	
High Frequency Words (Accuracy & Automaticity)	Morphology	Listening Comprehension Text (above reading level) Vocabulary Comprehension Monitoring Inference Making Text Components
Repeated Accurate Practice (Automaticity) Nonsense & Real Words Phrases, Sentences, Passages		
Morphology		

Structured Literacy Instruction Includes Two Important Components

- Elements of language are taught to address the language basis of the LD/RD – for example, sounds and symbols, meaning (semantics), and sentence structure (syntax).
- Principles of instruction that guide how the elements are taught (for example, explicit, cumulative, and diagnostic teaching).

https://dyslexiaida.org/effective-reading-instruction/

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Elements of Structured Literacy

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.

Phoneme = Speech Sound

• smallest unit of speech sound

• distinguished by a set of articulation features that divide them into **consonant** and **vowel** sounds

• sound is influenced by production of surrounding phonemes in spoken words

Sound Articulation

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

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

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

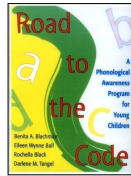 /k/ /r/ /e/ /s/ /t/   c r e s t

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

Effective Literacy Interventions

Phonemic Awareness: Standard Protocol (examples)

- *Lindamood Phonemic Segmentation (LiPS)*
- *Road to the Code**

*Incorporates Phonics

## Effective Literacy Interventions

Phonemic Awareness: Problem-Solving Approach Key Activities

- Multisensory articulation
  - Mirrors-visual
  - Kinesthetic-feeling throat
- Say It and Move It
- Elkonin boxes
- Sound Sorts

Teachers must identify similar features among phonemes, know the articulatory postures, progression of PA, segmenting/blending techniques, phoneme-grapheme correspondences, how determine point of breakdown
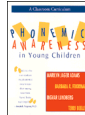
Resources to Teach Phonological Awareness
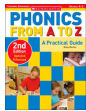
Phonics from A to Z: A practical guide, Blevins.

Phonemic Awareness in Young Children: A classroom curriculum, Adams, et al.

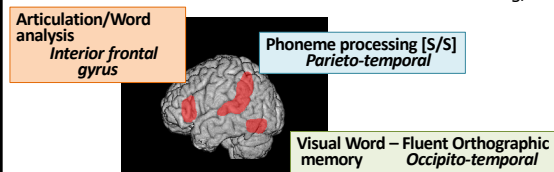Road to the Code: A Phonological Awareness Program for Young Children, Blachman, et al.

Phonemic Awareness and Phonics: Knowledge to Practice, Gillis & Eberhardt

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Dyslexia

"...the debates about whether reading is visual or phonological might have been avoided had we known that orthography and phonology become deeply intertwined at the neural level."

Mark Seidenberg, 2017

Articulation/Word analysis *Interior frontal gyrus*

Phoneme processing [S/S] *Parieto-temporal*

Visual Word – Fluent Orthographic memory *Occipito-temporal*

Grapheme = Letter(s)

- symbols of the writing system (orthography)

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

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

Phonics

Phonics is the study and use of sound/spelling correspondences and syllable patterns to help students read written words.

2. Sound-Symbol Association

- Associations must be known in 2 directions:
  - Sound to symbol (e.g., /k/ = <u>k</u>, <u>c</u>, and <u>ck</u>)
  - Symbol to sound (e.g., <u>c</u> = /k/ and /s/)
- Phonics
  - Decoding (blending)
  - Encoding (segmenting)
- Should be embedded in a rich and deep language context.
- **Must be taught explicitly!!**

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 for multisyllabic reading).
- Reading and spelling are reciprocal skills.

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What Does Spelling Tell Us?

(student work)		
browk	broke
birn	burn
sqoil	spoil
skar	scare
quean	queen
skred	scrub
qude	cube
trane	train
drik	brick
peatch	peach
tite	tight
sheat	sheet
drite	dirt

Sound Letter Maps

- Practice the speech to print match (mapping sounds to letters).
- Begin with the most transparent patterns first (closed syllables).
- Sequentially teach the syllable/vowel patterns to mastery.

s	a	d		
th	i	n		
f	l	u	ff	
s	t	r	ea	m
m	ar	sh		

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

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What is 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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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 Six Syllable Patterns

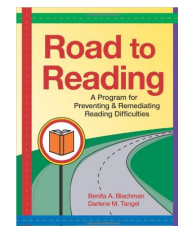| Syllable type	Pattern	Vowel sound	Examples
Closed	VC, CVC	Short vowel	at, Ed, it, on, up; cap, bit, pet, tot, cut
Open	CV	Long vowel	be, I, my
Silent e	VCe	Long vowel	cape, bite, Pete, tote, cute
Vowel teams • Talker pattern • Whiner pattern	VV	Long vowel Vowel sound is neither long nor short but a 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

Syllable Inspectors

Closed: **V**C   CC**V**C   C**V**CC   C**V**C   CC**V**CC

	• 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.

Effective Literacy Interventions

Phonics: Standard Protocol (examples)
- *Road to the Code*
- *Fundations*
- *Wilson Reading System*
- *Preventing Academic Failure (PAF)*
- *Road to Reading*
- *Language!*
- Orton-Gillingham Approach

Road to Reading
A Program for
Preventing & Remediating
Reading Difficulties

Benita A. Blachman
Darlene M. Tangel

Effective Literacy Interventions

B. Phonics: Problem Solving Approach Key Activities

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

Teachers must know how to map phonemes to graphemes, the phases of reading and spelling development, how to sort syllables and divide multisyllabic words, use assessments to determine point of breakdown, the scope and sequence of skills.

Resources to Teach Phonics
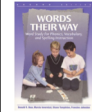
Words Their Way: Word Study for Phonics, Vocabulary, and Spelling, Bear, Invernizzi, et.al.
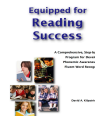
Word Journeys, Ganske
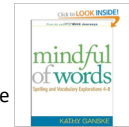
Mindful of Words, Ganske

Unlocking Literacy: Effective Decoding and Spelling Instruction, Henry

Equipped for Reading Success, Kilpatrick

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 acorns throughout the fall.

Problems that Impact Fluency (a broader definition)

- Attention and concentration
- Slow processing speed
- Automaticity of lower-level skills
  - Automatic production of alphabet letters
  - Knowing spelling patterns
  - Word retrieval from lexicon

Effective Literacy Interventions

Fluency: Standard Protocol Examples
- *RAVE-O*
- *Read Naturally*
- *Quick Reads*
- *Rewards*
- *Lexia*
- *Wilson Reading System*

Effective Literacy Interventions

Fluency Problem Solving Approach: Key Activities

- Rapid word recognition charts
- Phrase-cued reading
- Repeated readings, peer reading, student-adult reading
- Timed reading of word lists, sentences, passages
- Wide reading

Teachers must understand how word recognition, reading fluency, and comprehension are related to one another. They must know or have access to research-based fluency standards by grade level. They should understand which students should receive extra practice with fluency development and why.

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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Prefix	1st syll	2nd syll.	Suffix	Whole word
un	zip			unzip
un	like		able	unlikeable
	bar	ter	ing	bartering
pre	or	dain	ed	preordained
dis	trust		ful	distrustful

Literacy How, Inc. 2018

Morphological Problem Solving

TABLE 1. Example of Morphological Problem Solving

Sentence from a middle school student's science book: *Mortality among rats is said to precede the appearance of human plague, but the evidence of this is always **retrospective**.*

Example of problem solving meaning of unknown derived word: **retrospective:**

1) Retro – I've heard or seen that part of the word before in other words, like retroactive – as in, Mom got retroactive pay – that means, money dating back before today. Also, I've heard about retro clothes – those are clothes from the "old days." I'm thinking retro might mean: from before or before?

2) Spect – means like vision or see, like spectacles (glasses), or inspect (look at).

3) Retro-spect(ive) – maybe that means looking back? Let me try that in the sentence.

4) The evidence is always based on looking back? So, it means they don't have the evidence until they look back at the history of what happened. They can't figure it out ahead of time. That fits the sentence and makes sense for meaning!

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5. 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

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Academic Vocabulary

- Language of Instruction
  - Words to teach and learn the lesson content (*strategies, pre-writing, context clues*)
- Language of Text
  - Words related to the content-area, theme, unit, or selection (*habitats, camouflage, prey*)
- Multi-syllabic words with prefixes, suffixes, and Greek and Latin roots
  - Examples: *informational, hopelessness, psychology*
  - Word families: *rely, reliance, reliable*

Brick and Mortar Words

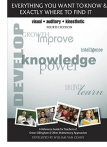| Specialized Academic Vocabulary: **Bricks**	General Academic Vocabulary: **Mortar**
Content Specific/ Technological Words	Words to hold bricks together
democracy, mammal, numerator	*evidence, nevertheless, consequently, dependent*

Dutro and Moran

Academic Vocabulary Word Families

Noun	Verb	Adjective
dependence	depend	dependable
reliance	rely	reliable
enjoyment	enjoy	enjoyable
contribution	contribute	contributable

Multiple Meaning Words

The runaway **bear** entered the tent without warning and ate the camper's supper.

The person on the other end of the phone said, "**Bear** with me a little while longer before doing anything rash".

The man could **bear** it no longer; it was **unbearable**!

Adapted from, Tales of Literacy for the 21st Century, Maryanne Wolf

Multiple-Meaning Map

to go or move to

to recur persistently

to extend or continue

to take part in a race

run

to operate

to be a candidate

to flow

to total

Cardenas-Hagan, Vocabulogic, 2012
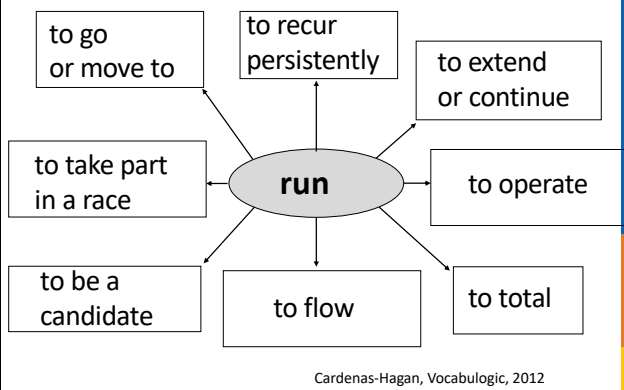
Choose words that are useful in multiple contexts

staple
Quickly **staple** these papers together. [v]
Corn is a **staple** crop for farmers.   [adj]
One wire **staple** held the four sutures.   [n]

multiple
20 is a **multiple** of 5 [n]
The process requires **multiple** steps. [adj]

Word Networks

The more extensive the links, the more rapid and accurate is word retrieval.
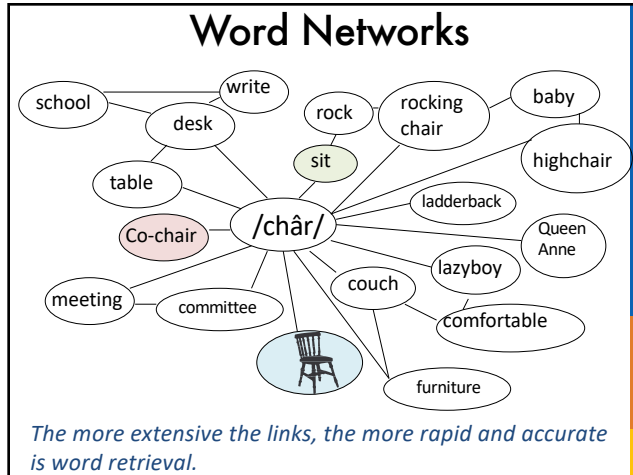
Effective Vocabulary Instruction

1. Present word(s) using user-friendly definitions.
2. Draw attention to orthographic, phonological, and morphemic representations.
3. Engage students in repeated use of word(s) in different contexts.
4. Teach words in categories.
5. Make the word meaning visual.

1. Present child-friendly definitions

determined

If you are ***determined*** to do something, you have made a firm decision to do it and will not let anything stop you.

What's the word? Ask students to repeat the word multiple times!

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2. Draw attention to word structures

phonological, orthographic, and morphemic representations

determined

de   ter mine [e]d

de   ter mi na tion

de   ter mine s

ter mi nal

term

3. Repetition

Engage in repeated use in different forms and contexts.

determined

- I am **_determined_** to learn to play the piano.
- The referee **_determined_** that I was out of bounds.
- Maria showed a lot of **_determination_** when she couldn't learn to read.

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4. Networks and categories

determined – adj./v. *to have a strong feeling about doing something*

stubborn — headstrong — dogged
bent
serious
decided — **determined** — intent on
resolved — bound — set on
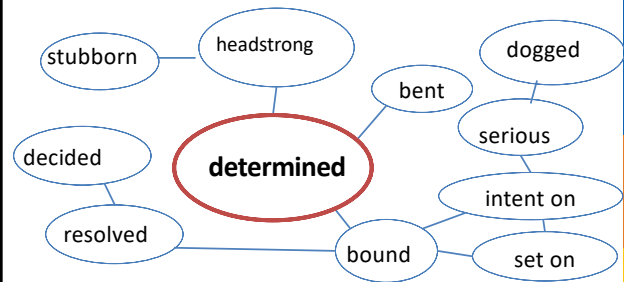
5. Visualization

Make the word meaning visual

The boys are **_determined_** to win tug of war!

Effective Literacy Interventions Standard Protocol Examples

Vocabulary

- *Text Talk*
- *Word Heroes*
- *Word Generation (SERP)*
- *Keys to Literacy,* Vocabulary Routines
- *Lexia*

Morphology

- *PS: Prefixes, Suffixes, and Roots*
- *Megawords*
- *Spellography*
- *WordWorks*

Effective Literacy Interventions
Vocabulary: a Problem Solving Approach: Key Activities

- Explicit lessons to introduce word meanings
- Degrees of Knowing
- Word Categorization (Semantic Feature Analysis, Concept Sorts, Word Webs, Scaling)
- Multiple meaning words
- Figurative Language (idioms)
- Lessons in morphology (word structure)

Teachers must understand how to select high-utility vocabulary words from text and provide explicit instruction and repeated exposure to the words in many contexts. They also must know how to provide systematic and explicit instruction in morphemic analysis. Finally, they should understand which students need to receive extra practice with vocabulary development and why.

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6. 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."

© Literacy How, 2018   *Scott, 2009*

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8 Grammatical Building Blocks

Nouns   Adjectives   Adverbs   Prepositions

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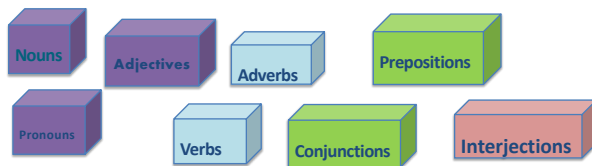
- Each "block" serves a specific, meaning-based function.
- Together, they provide the basis for all of the syntactic structures in English.

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What's a Sentence?

It's a Namer and an Action!

The dog   pants.

The Subject

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Every sentence has a subject.
The subject is who or what is doing the action.
To identify the subject, find the verb and ask:
Who or what _____?

Dogs barked**.**
The caged, lonely, angry dogs in the kennel barked loudly all night long.

The Predicate

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The predicate is what the subject is doing. It is always a verb.
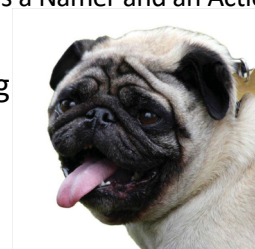
- The dog **barked.**
- The dog **barked ferociously at all the passing cars.**

To find the predicate, ask: What is the namer doing?

Sentence Building

When children read, the goal is for them to use their understanding about the function of words (e.g., *Who did it*? *What did it do*?) to facilitate comprehension.

Effective Literacy Interventions

Syntax & Semantics: Problem Solving Approach Key Activities

- 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

Syntax: Teachers must construct and deconstruct simple, complex, and compound sentences. They must also identify and classify words and their function by their grammatical role in a sentence.

Semantics: Teachers must match or identify examples of word associations, antonyms, synonyms, multiple meanings and uses, semantic overlap, and semantic features analysis.

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).

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What Do We Know About Reading Comprehension?

Proficient comprehension of text is influenced by...

1. Accurate and fluent word reading skills
2. Adequate vocabulary knowledge
3. Adequate syntactic knowledge
4. Knowledge of cohesive cues
5. Reasoning and inferential skills
6. Comprehension monitoring
7. Knowledge of text structure
8. Working memory
9. Relevant background knowledge
10. Motivation to understand *and* interest in task materials

Torgesen, 2007   Cain and Oakhill, 2009

Skilled Comprehenders …

- understand words and integrate their meaning into a **mental model** of the text   *(Perfetti, Stafura, and Adolf, 2013).*

- attend to the content, shift their attention to what is important, connect what they are reading to related content from text or background … striving for **coherence**   *(Beck & McKeown, 2006)*

- use their knowledge of the subject to facilitate comprehension.

- **observe a comprehension process rather than a product.**

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Understanding Sentences and Comprehension Monitoring

- Art's lungs burned and he couldn't catch his breath. John was just a blur in front of him and he could hear Jay and Omar behind him. He was in trouble if they caught up with him.

- He tried to move but his legs felt like lead. He didn't know how much longer he could go on. The sun streaming through the window blinded him every time he looked up. He touched the wall and turned around. He was halfway there! He pushed harder trying to catch up with John.

- He dug his arms into the water and tried to pull harder. He could feel himself pulling closer to John, so he kicked…

Grade 3, Read Works Passage

Text Analysis

In order to scaffold difficult text, the teacher must **FIRST** read the text closely and ask:

- What are some of the challenges that the student(s) might face? Where? Why?
- What scaffolds can I present to support the student(s) understanding of the text?
- What vocabulary words do students need to know BEFORE hearing/reading the text?
- What background knowledge will help students understand the text?

Effective Literacy Interventions

Comprehension: Standard Protocol Examples

- *Questioning the Author*
- *Collaborative Strategic Reading/Now I Get It!*
- *Language!*
- *REWARDS*
- *Making Meaning*
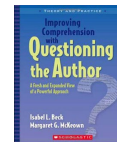
Effective Literacy Interventions

Comprehension: Problem Solving Approach Key Activities

- 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, summarizing.

Teachers must understand factors that contribute to successful comprehension (i.e., mental model). They must know various text structures and genres, understand why and how comprehension has broken down, and what to do to assist students to repair.

Written Expression: A Complex Process

Writing requires the simultaneous and sequential integration of many subprocesses:

- Lower-level skills
  - Handwriting (gross and fine motor)
  - Spelling
- Higher-level (language and higher order cognition)
  - Sentence structure
  - Text structure (narrative vs. expository)
  - Ideation
  - Vocabulary
  - Executive Functions (i.e., attention, organization, working memory, self-monitoring)

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The Writing Process (Executive Function)
- Planning/Organizing
- Drafting
- Revising
- Editing
- Publishing/Presenting

Translation
- Text Generation
  - Discourse Level
  - Sentence Level
  - Word Level
- Transcription
  - Handwriting
  - Keyboarding
  - Spelling
  - Writing Conventions

Self-regulation
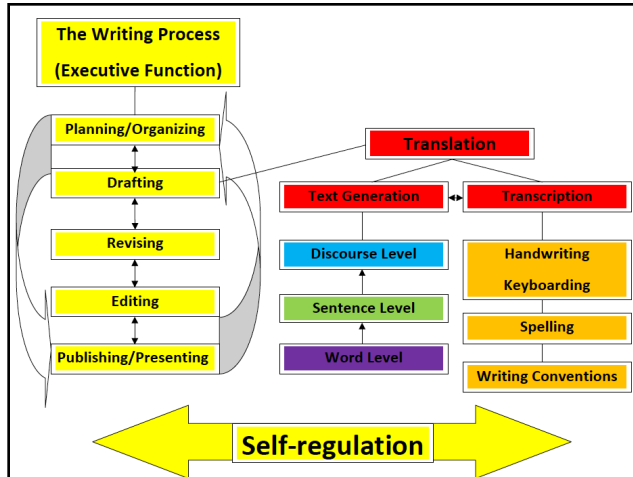
Level One, Narrative: *The Surprise*

Sam, it was his 'birthday in two days. He was turning 7 and he really wanted a Playstation game, a bike, and most of all, a dog . . . a puppy. Then the Dad went to the animal shelter looking for . . . no! The Dad went to the toy store to look for the Playstation. He said it was too expensive. Then he found a red bike but said it was too expensive for him to buy. So then he went to the animal shelter and found the dog and it put the paw on the cage. They put the sign hold. Then, the next two days they brought Sam to the animal shelter. Sam didn't know why he was there. Then the dog came to him and they all said, "Happy Birthday."

KK, Third Grade Boy

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Cognitive Processing: Research Advances

- Cognitive processes are important and relevant for learning.
- Problems with executive function and self-regulation negatively affect student learning.
- Interventions should combine practices that reduce the impact of processing deficits **with** academic content, not treat them in isolation.

Provide frequent opportunities for student practice with feedback

- Frequent student response can assist the teacher in monitoring student understanding.
- Teacher feedback during student practice can be a powerful tool for refining and mastering new skills.
- Feedback prompts students to continue successful practice.
- Quick corrections prevent students from practicing errors.

To Summarize

Students with dyslexia are most likely to succeed when all of these conditions are in place:

- Early identification
- Explicit, systematic instruction
- Progress-monitoring and evaluation of response to intervention
- Comprehensive programming, to include all components of literacy instruction and a complete curriculum that develops strengths
- Student self-advocacy and family support

Resources

- www.fcrr.org Florida Center for Reading Research
- www.interdys.org International Dyslexia Association
- www.literacyhow.com Literacy How, Inc.
- www.nifl.gov National Institute for Literacy
- www.nationalreadingpanel.org National Reading Panel
- www.readingrockets.org Reading Rockets
- www.centeroninstruction.org. Center on Instruction
- www.dyslexiahelp.umich.edu Dyslexia Help at the U of Michigan

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Thank You!

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STRANDS OF EARLY LITERACY DEVELOPMENT

LANGUAGE COMPREHENSION LC

BACKGROUND KNOWLEDGE
(facts, concepts, etc.)

VOCABULARY
(breadth, precision, ...ks, etc.)

LANGUAGE STRUCTURES
(syntax, semantics, etc.)

VERBAL REASONING
(inference, metaphor, etc.)

LITERACY KNOWLEDGE
(print concepts, genres, etc.)

increasingly strategic

SKILLED READING:
Fluent execution and coordination of word recognition and text comprehension.

WORD RECOGNITION D

RC

PHONOLOGICAL AWARENESS
(syllables, phonemes, etc.)

DECODING (alphabetic principle,
spelling-sound correspondences)

SIGHT RECOGNITION
(of familiar words)

increasingly automatic

Birth - K   1   2   3   4   5   6   7   8

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

Diagnostic Decision Tree for Reading

Reading Comprehension — **If at grade level** → **Work on grade level curriculum**

If low ↓

Check passage reading with oral reading fluency measure (e.g., DIBELS, easyCBM) — **If at grade level** → Work on **vocabulary and comprehension**

If low ↓

Check word recognition with phonetically regular and irregular word lists (e.g., CORE San Diego Quick Check, easyCBM) — **If at grade level** → Work on **spelling, fluency,** vocabulary and comprehension

If low ↓

Check phonics (decoding/encoding) skills (e.g., CORE Phonics Survey, Scholastic Nonsense Word Survey, Developmental Spelling Assessment) — **If at grade level** → Work on **spelling,** *sight* **word recognition, fluency,** vocabulary and comprehension

If low ↓

Check phoneme awareness - Basic (phoneme segmentation and blending) and Advanced (phoneme deletion) (e.g., CORE, PAST) — **If at grade level** → Work on **phonics, spelling,** *sight* **word recognition, fluency,** vocabulary and comprehension

If low ↓

Discuss referral to special education — **If at grade level** → Work on **PA, phonics, spelling,** *sight* **word recognition, fluency,** vocabulary and comprehension

Adapted from *CORE Assessing Reading: Multiple Measures* by *Literacy How, Inc.*