

Reading Foundation Skills

Update on Research-Validated Practices

1

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2

Reading Foundation Skills –

Update on Research-Validated Practices

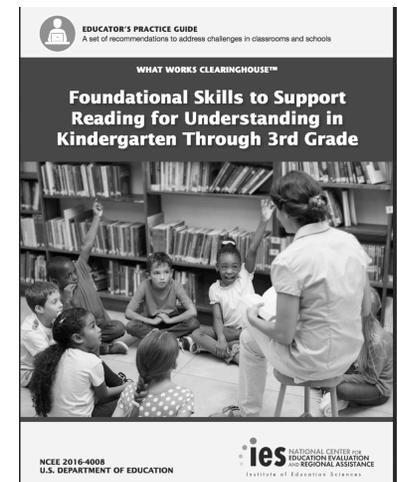
In this session, Dr. Archer will review current research on the importance of establishing a strong reading foundation in the primary grades including instruction on print concepts, phonological awareness, decoding, sight vocabulary and fluency.

3

Recommended IES Practice Guide

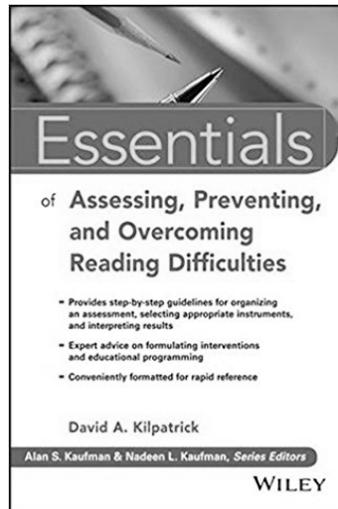
Foundational Skills to Support Reading for Understanding in Kindergarten Through 3rd Grade

Available online



Recommended Book

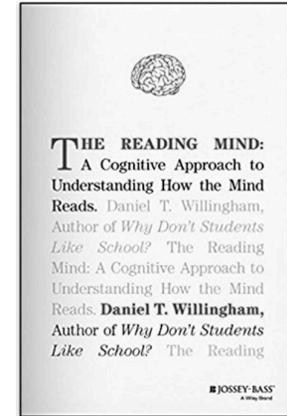
Kilpatrick, D. A. (2015). *Essentials of assessing, preventing, and overcoming reading difficulties*. Hoboken, New Jersey: John Wiley & Sons.



5

Recommended Book

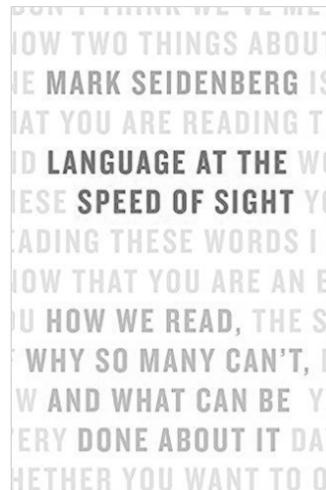
Willingham, D. T. (2017). *The Reading Mind: A cognitive approach to understanding how the mind reads*. San Francisco, California: Jossey-Bass.



6

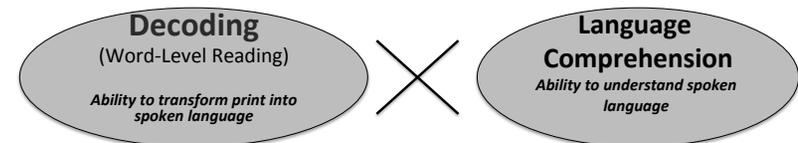
Recommended Book

Seidenberg, M. (2017). *Language at the speed of sight*. New York: Basic Books.



7

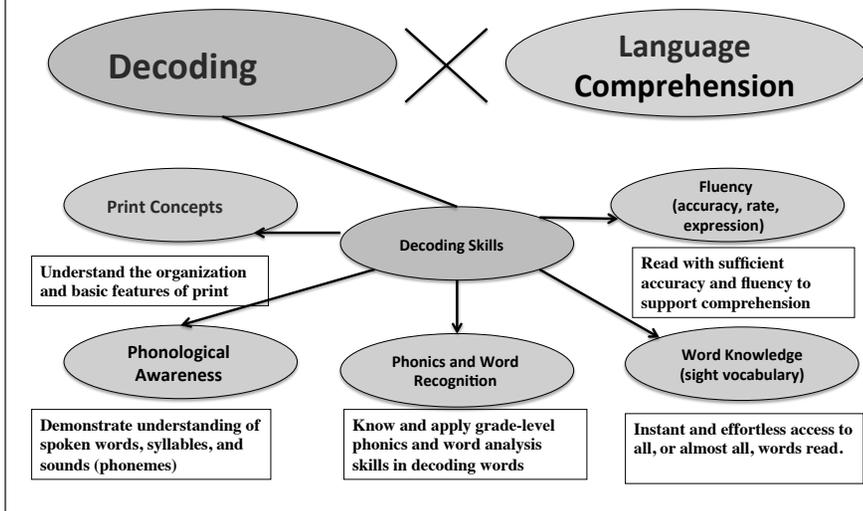
Simple View of Reading



Word-level reading and oral language comprehension are relatively independent abilities.

Gough, 1986

Simple View of Reading



Why – Foundation Decoding Skills

Students who learn the alphabetic system and can decode effortlessly reap many benefits including:

- focus mental energy on **comprehension**
- experience **joy of engagement** with text
- access a wide **range of texts**
- increase **vocabulary and knowledge**

(Brady, 2012)

10

Why – Foundation Decoding Skills

Research indicates that students have **better future prospects as readers** if they develop understanding and facility with the alphabetic code by the end of second grade. (Moats 2012)

11

Why – Foundation Decoding Skills

If we do not **catch students early** (by end of second grade at the latest), improvement in their relative standing is much less likely and cost much more.

Many reading disabilities can be **remediated** or **ameliorated** by the end of first grade with explicit, phonics-emphasis instruction.

(Ryder, Tunmer, & Greaney, 2008; Mathes et al, 2005)

12

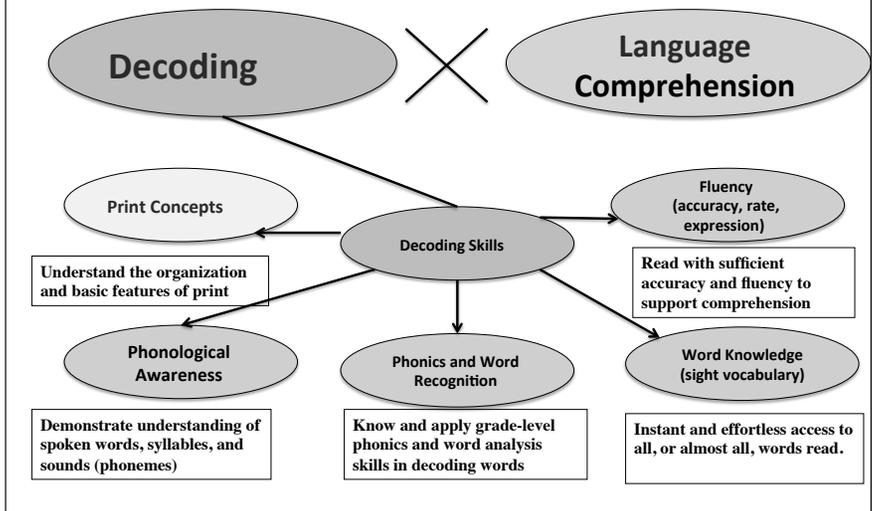
Why – Foundation Decoding Skills

Poor readers in grades 3 – 5 needed about **two hours per day** to bring their basic reading skills up to the level predicted by their verbal reasoning abilities.

(Torgesen et. al 2001)

13

Simple View of Reading



Print Concepts

Letter Names

- Teach letter names explicitly.
- Utilize a version of the Alphabet Song.
- Introduce upper-case letter names before lower-case because they are visually easier to learn. Adams 2013

15

Print Concepts

Letter Names

- Teach to mastery
 - Letters can be named accurately, confidently, effortlessly.
- Provide extra time on:
 - Visually similar (b, d, p, q)
 - Upper and lower case forms that differ (E e, R r)

16

Print Concepts

Additional notes:

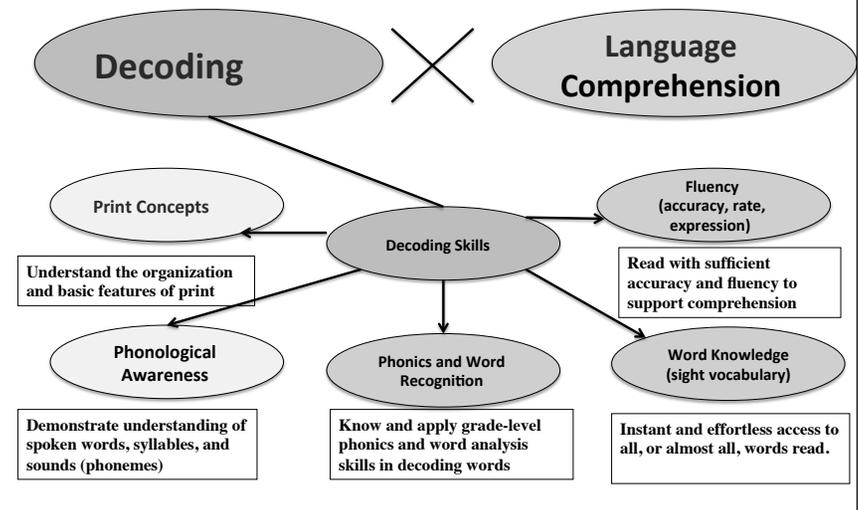
b and d reversals are not a sign of dyslexia.

Dyslexia is NOT rooted in visual problems.

Willingham, 2017

17

Simple View of Reading



Phonological Awareness

Phonological Awareness Skills

- **Early**
 - rhyming
 - alliteration
 - segment words into syllables
 - identify initial sound in word
- **Basic**
 - blending sounds into words
 - segmenting words into sounds
- **Advanced**
 - manipulating phonemes
 - deleting, substituting

Kilpatrick, 2015

19

Phonemic Awareness

- Include phonemic awareness activities in beginning reading programs for students of any age.
- **Kindergarten:** 10 - 15 minutes a day (Foorman et al, 1997)
- **First Grade:** (First three months) 10 minutes a day incorporated into phonics instruction
- **Intervention:** Within intervention program if student reads below 2nd grade level
- **Intervention:** Advanced phonemic awareness may be necessary for struggling readers (Kilpatrick, 2015)
- **All Elementary Grades:** Incorporate into spelling instruction.

20

Phonemic Awareness - How?

Phonemic awareness activities should be:

1. Few in number
2. Explicitly modeled
At-risk students need additional explicit instruction.
3. Supported by concrete materials or gestures
4. Designed to include all students

21

Example A

• Blending Sounds into Words

1. We're going to play a say-the-word game. I'll say the sounds. You say the word.
2. Listen. aaaammmmm
3. What word? *am*
4. (Repeat with other words.)
5. (If time permits, check individual students.)

(Practice: man, sat, ship, trap)

22

Example B

• Segmenting words into sounds - Smooth Segmenting

1. Put your fists together.
2. Get ready to stretch the word.
3. The word is fin. What word? *fin*
4. Stretch it. *ffiiiiinnnn*
5. Shrink it. *fin*
6. (If time permits, check individual students.)

(Practice: sit, list, fish, trip)

23

Example C

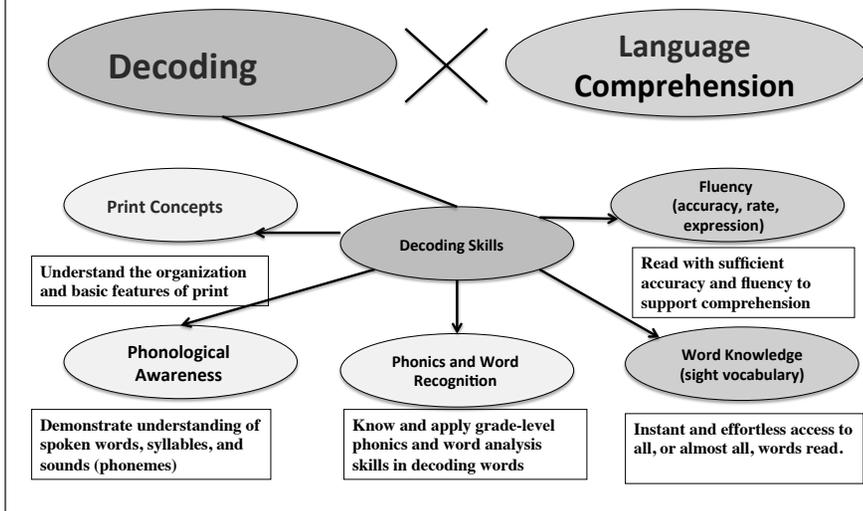
• Segmenting Words into Sounds - Separate Segmenting

1. We're going to say the sounds in a word.
2. Fist in the air. Put up one finger for each sound.
3. The word is sat. What word? *sat*
4. First sound? */sss/* Next sound? */aaa/* Last sound? */t/*
5. (If time permits, check individual students.)

(Practice: fan, fast, shop, with)

24

Simple View of Reading



Phonics and Word Recognition

- **Letter-sound associations**
 - √ Consonant and vowel letters
 - √ Consonant teams including:
 - blends
 - digraphs
 - √ Vowel teams including:
 - digraphs
 - diphthongs
 - r-controlled vowels
- **Decoding of regular, single syllable words**

26

Phonics and Word Recognition - What?

- **Structural elements** including:
 - √ Inflectional endings
 - √ Prefixes
 - √ Suffixes
- **Decoding of multisyllabic words**
- Reading of **irregular words** in which letters don't represent most common sounds
- Reading **decodable text**

27

Letter – Sound Associations

- **Letter-Sound Knowledge involves pairing visual memory with phonological memory.**
- “Letter-sound knowledge is essential for both phonic **decoding** and for storing words in one’s **sight vocabulary.**” (Kilpatrick, p. 64)
- If students have difficulty with letter-sound associations, not visual memory but **phonological memory.** (Kilpatrick, p. 33)

28

Letter-Sound Associations

- **Good readers rely primarily on the letters in a word** rather than context or pictures to identify/pronounce familiar and unfamiliar words.

(Ehri, 1994; Kilpatrick, 2015; Seidenberg, 2017)

29

Letter-Sound Associations - How?

- Utilize a well-organized, **systematic sequence** to introduce the most common letter-sound associations.
 - Easy to difficult. (Example: single vowel letters **before** digraphs)
 - High frequency before low frequency letter-sound associations.
(Example: m, a, f **before** j, x and z)
 - Separate easily confused letter-sound associations.
(Example: e and i, n and m, b and d)
- Provide **explicit instruction** (rather than implicit instruction) to introduce letter-sound associations.
- Differentiate between continuous and stop sounds.
Continuous Sounds -
Stop Sounds -

30

Example

Teaching Letter-Sound Associations

sat

1. (Point to example word.) This word is sat .
2. (Point to the underlined grapheme.) This sound is /aaaa/.
3. What sound? /aaaa/

OR **a**

1. (Point to the isolated grapheme.) This sound is /aaaa/.
2. Say the sound with me. /aaaa/
3. What sound? /aaaa/

31

Letter-Sound Associations

Fun facts about Letter-Sound associations:

Finnish, Spanish, and Italian have a **one to one** correspondence between letters and sounds. Kids learn to decode quite quickly in these countries.

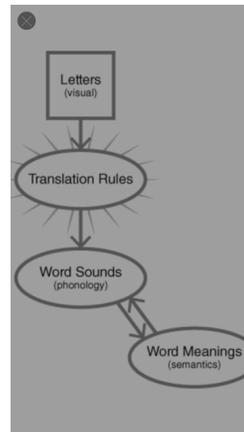
English, French, Danish, and Portuguese have **“one to many”** systems and readers lag behind in primary grades.

However, by fourth grade readers in these countries **catch up**. Willingham, 2017

32

Decoding Process

Using Letter – Sound Associations (Willingham, 2017)



33

Phonics - regular words

- **Ability to blend** individual sounds into recognizable words is a critical component of reading. (Beck, 2006)
- Students who receive systematic phonics instruction have **better comprehension** at the end of 2nd and 3rd grades. (Kilpatrick, 2015)
- **Diverse learners** must be encouraged to look carefully at spelling and sounds and to repeatedly sound out and blend words. (Reitsma, 1983; Kilpatrick, 2015)

34

Phonics regular words

- Utilize **instructional routines** to introduce specific types of words.
- Pair **decoding** and **encoding** of words.
 - Decoding and encoding rely on the same underlying knowledge. (Joshi, 2008 – 2009; Moats, 2005 – 2006)
 - Linking spelling and decoding instruction deepens children’s knowledge of the written system. (Brady 2012; Yopp, Hallie, & Yopp, 2011)
- Provide practice reading **decodable text**.

35

Example A - Sound by Sound Blending

Sounding Out VC, CVC, CVCC, CCVC words

mom top shop dot

1. (Write the first letter on the board.) What sound?
2. (Write the second letter on the board.) What sound?
3. (Move your hand under the two letters.) Blend it.
4. (Write the third letter.) What sound?
5. (Move your hand under the letters.) Blend the sounds.
6. What word?

36

Example B - Continuous Blending

Sounding Out VC, CVC, CVCC, CCVC words

sip fit lip tip rim

1. When I touch a letter, I'll say its sound. I'll keep saying the sound until I touch the next letter. I won't stop between sounds.
2. My turn to sound out this word. (Touch under each letter and say the sound. Hold continuous sounds. Say stop sounds quickly. Don't stop between sounds.)
3. Sound out this word with me. (Touch under each letter.)
4. Your turn. Sound out this word by yourselves. (Touch under each letter.)
5. What word? (Glide your finger under the word.)

37

Example C

Sounding Out Words with Letter Combinations

rain train paint sail seal

Precorrection Procedure

1. (Point to the underlined letters.) What sound?
2. (Point to the word.) What word?
3. (Have students reread the list without the precorrection.)
4. (Have individual students read the words or have them read the words to their partner.)

38

Example D - CVCE words - Sound Blending

like mine fit fine

1. (Point to the first letter.) What sound?
2. (Point to the vowel and final e.) What sound?
3. (Point to the consonant.) What sound?
4. (Glide finger under the word.) Blend it.
5. What word?

39

Example E - Decoding Words with Onset Rime

1. (Point to rime.) What part? **an**
2. Get ready to read words that end with an.
3. (Point to new word.) What word? **ran**
4. (Point to next word.) What word? **fan**
5. (Continue with additional word.) **man Stan**
tan pan fan plan ban can Jan

- Note: Reading "word families" is an excellent way to build word reading fluency. Practice the "word family" until students are very fluent. Use choral reading and partner reading.

40

High frequency rimes (phonograms)

-at	-ell	-it	-ot	-ug
-an	-eat	-in	-op	-ump
-ap	-est	-ill	-ock	-unk
-ack	-ip	-oke	-uck	
-ail	-ice	-ore		
-ain	-ine			
-ake	-ide			
-ale	-ick			
-ame	-ing			
-ash	-ink			
-ate	-ight			
-aw				
-ay				

41

Phonics and Word Recognition

Orthographic Knowledge

Orthographic knowledge refers to the **patterns** and **principles** by which spoken language is correctly represented in writing.

Often referred to as **SPELLING**

What is permissible and impermissible in English

Examples

Every word/syllable has a vowel.
NOT tbl

Doubled letters in English but NOT tripled letters.
NOT talll

42

Phonics and Word Recognition

- “It turns out we don’t read letter by letter, we read in **letter clumps, figuring out a few letters at a time.**”

Willingham, 2017

- **Learning common patterns in words**

ight, alk, ook

mis, pre, pro, dis

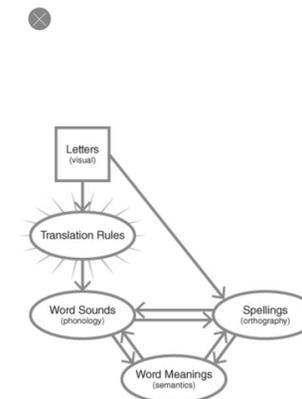
ing, ed, es

ence, ance, tion

43

Decoding Process

Using Letter-Sounds and Spelling (Willingham, 2017)



44

Decoding Strategy for Long Words

1. Say the parts.
2. Say the parts fast.
3. Say the word.
4. Ask yourself
 - Is it a real word?
 - Does it make sense?

45

Decoding of Multisyllabic Words - How

- Rather than using rigid, rule-directed syllabication to divide words into parts, students are taught to recognize the parts in a flexible manner.
(Archer et al. 2003, 2006; Bhattacharya & Ehri, 2004)
- Putting words into “decodable chunks” using prefixes, suffixes, and vowels should be stressed.
(Archer et al. 2006)

46

Example

Decoding of Multisyllabic Words (Loop, Loop, Loop Strategy)

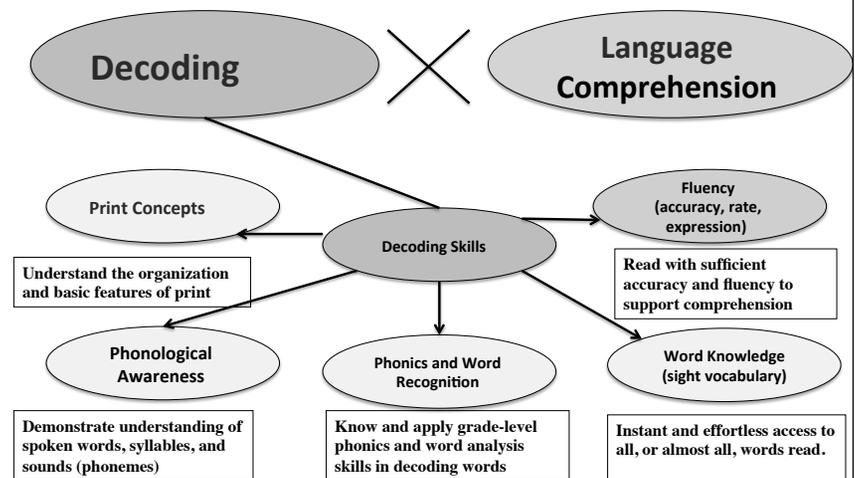
(Preparation: Segment the word into decodable chunks. Be sure that prefixes and suffixes are separate parts. Draw loops to segment the words.)

instruction commitment remarkable

1. (Move finger under the first part.) What part?
2. (Repeat for remaining parts.)
3. (Move finger quickly under the parts.) What part? What part? What part?
4. What word?
5. Is that a real word?

47

Simple View of Reading



Distinction between Three Terms

✓ High frequency words

- Only 100 words account for approximately 50%of the words in English print. (Fry, Fountoukidis, & Polk, 1985)
- Only 13 words (a, and, for, he, is, in, it, of, that, the, to, was, you) account for 25% of words in print. (Johns, 1980)

✓ Irregular words

- Words that cannot be sounded out accurately using the most common sounds for graphemes.
- Many high frequency words are irregular.

✓ Sight vocabulary

- Words that are recognized instantly.
- The quick and automatic recognition of most common words appearing in text is necessary for fluent reading. (Blevins, 1998)

49

Irregular Words

• Irregular words in English

- Nearly all English words represent every sound in the spoken word, even if they represent some sounds irregularly.
- Most irregular words have only one irregular letter – sound association.

Examples: *been, from, both*

More than one irregular letter – sound association

one once sugar bouquet

50

Example

Irregular Words - Sounding Out

was

1. (Write the word on the board.) Sound out this word.
/waaaasssss/
2. (Say the word in a sentence.) Tom */waaaasssss/* in the room.
3. Is that a real word? *no*
4. What do we say? *was*
5. (Carefully examine the word with the students, determining the “tricky” part of the word.)

51

Word Knowledge (sight vocabulary)

- **How do students remember words they no longer need to sound out?**
- **False Assumption:** Students use visual memory to remember words as they would in remembering the label for a book or table.
- **Research Conclusion:**
Brain activity is NOT the same for naming objects and reading words. (Kilpatrick, p. 30)

52

Word Knowledge (sight vocabulary)

- How do students remember words they no longer need to sound out?
- We input written words visually but **we do not store them visually**. Kilpatrick, p. 33
- Words are stored:
 - **orthographically** (spelling)
 - **phonologically** (pronunciation)
 - **semantically** (meaning)

53

Word Knowledge (sight vocabulary)

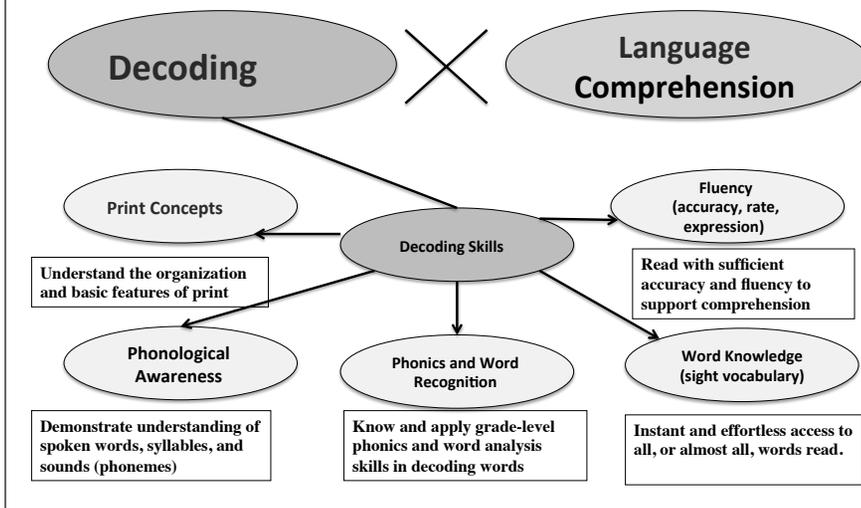
- How do students remember words they no longer need to sound out?

Notes of interest:

- From second grade on, skilled readers **only need one to four exposures for a word to become a sight word**.
- The speed with which children in 1st and 2nd turn an unfamiliar word into a sight word is a **KEY PREDICTATOR** of those who will struggle later. (Kilpatrick, p. 35)

54

Simple View of Reading



Fluency

- The ability to effortlessly read words **accurately and quickly**.
- The ability to read connected text accurately with appropriate rate and **expression** (prosody). (Judson, Mercer, & Lane, 2000)

56

2005 Hasbrouck & Tindal Oral Reading Fluency Data

Jan Hasbrouck and Gerald Tindal completed an extensive study of oral reading fluency in 2004. The results of their study are published in the technical report, "Oral Reading Fluency: 90 Years of Measurement," (brt.uoregon.edu/tech_reports.htm), and in the article, "Oral Reading Fluency Norms: A Valuable Assessment Tool..." in the April 2006 issue of *The Reading Teacher* (www.reading.org/publications/journals/RT/).

The table below shows the mean oral reading fluency of students in grades 1 through 8 as determined by Hasbrouck and Tindal's data.

You can use the information in this table to draw conclusions and make decisions about the oral reading fluency of your students. **Students who score 10 or more words below the 50th percentile using the average score of two unpracticed readings from grade-level materials need a fluency-building program.** In addition, teachers can use the table to set the long-term fluency goals for their struggling readers.

Average weekly improvement is the average words per week growth you can expect from a student. It was calculated by subtracting the fall score from the spring score and dividing the difference by 32, the typical number of weeks between the fall and spring assessments. For grade 1, since there is no fall assessment, the average weekly improvement was calculated by subtracting the winter score from the spring score and dividing the difference by 16, the typical number of weeks between the winter and spring assessments.

Grade	Percentile	Fall WCPM*	Winter WCPM*	Spring WCPM*	Avg. Weekly Improvement**
1	90		81	111	1.9
	75		47	82	2.2
	50		23	53	1.9
	25		12	28	1.0
	10		6	15	0.6
2	90	106	125	142	1.1
	75	79	100	117	1.2
	50	51	72	89	1.2
	25	25	42	61	1.1
	10	11	18	31	0.6

Grade	Percentile	Fall WCPM*	Winter WCPM*	Spring WCPM*	Avg. Weekly Improvement**
3	90	128	146	162	1.1
	75	99	120	137	1.2
	50	71	92	107	1.1
	25	44	62	78	1.1
	10	21	36	48	0.8
4	90	145	166	180	1.1
	75	119	139	152	1.0
	50	94	112	123	0.9
	25	68	87	98	0.9
	10	45	61	72	0.8
5	90	166	182	194	0.9
	75	139	156	168	0.9
	50	110	127	139	0.9
	25	85	99	109	0.8
	10	61	74	83	0.7
6	90	177	195	204	0.8
	75	153	167	177	0.8
	50	127	140	150	0.7
	25	98	111	122	0.8
	10	68	82	93	0.8
7	90	180	192	202	0.7
	75	156	165	177	0.7
	50	128	136	150	0.7
	25	102	109	123	0.7
	10	79	88	98	0.6
8	90	185	199	199	0.4
	75	161	173	177	0.5
	50	133	146	151	0.6
	25	106	115	124	0.6
	10	77	84	97	0.6

Compiled ORF Norms 2017

Grade	%ile	Fall WCPM*	Winter WCPM*	Spring WCPM*
1	90		97	116
	75		59	91
	50		29	60
	25		16	34
	10		9	18
2	90	111	131	148
	75	84	109	124
	50	50	84	100
	25	36	59	72
	10	23	35	43
3	90	134	161	166
	75	104	137	139
	50	83	97	112
	25	59	79	91
	10	40	62	63
4	90	153	168	184
	75	125	143	160
	50	94	120	133
	25	75	95	105
	10	60	71	83
5	90	179	183	195
	75	153	160	169
	50	121	133	146
	25	87	109	119
	10	64	84	102
6	90	185	195	204
	75	159	166	173
	50	132	145	146
	25	112	116	122
	10	89	91	91

*WCPM = words correct per minute

Factors Effecting Rate

1. Proportion of words in text that are recognized as "sight words".

Sight words include any word that readers have practiced reading sufficiently often to be read from memory." (Ehri, 2002)

2. **Speed of decoding strategies** used to determine the pronunciation of unknown words.
3. **Speed with which word meanings** are identified.
4. **Speed at which overall meaning** is constructed.

Fluency

- Fluency is related to **reading comprehension**. (Cunningham & Stanovich, 1998; Fuchs, Fuchs, & Maxwell, 1988; Jenkins, Fuchs, Espin, van den Broek, & Deno, 2000; Rasinski, 2011; Samuels, 2006; Shanahan, 2010)
- When students read fluently, decoding requires **less attention**. Attention can be given to comprehension. (Samuels, Schermer, & Reinking, 1992)

Fluency

**PRACTICE PRACTICE PRACTICE
PRACTICE PRACTICE and more
PRACTICE**

61

Fluency

Procedure #1. Provide extensive reading practice.

Utilize procedures such as augmented silent reading, choral reading, cloze reading, and partner reading.

Procedure #2. Encourage wide independent reading.

- Read interesting text at reading level to build fluency. (Carnegie, 2010)
- To build fluency students should read materials that are not too challenging but not too easy. (Moats, 1998)

62

Fluency

Procedure #3. Provide repeated reading practice at the word level. When reading word lists, have students reread word lists until competent.

Procedure #4. Utilize repeated reading exercises in passages to increase fluency. (Chard et.al, 2002)

63

Let us not forget.

- Comprehension is built on the foundation skills of decoding and fluency.

64

Thank You

May you thrive as an educator.