Teaching with Deep Lexical Quality: Implications for Accuracy and Fluency

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Essential Questions

- What is the Lexical Quality Hypothesis?

- How might LQ inform instruction for all students?

- What are the implications for students who are inaccurate and/or dysfluent?

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The Lexical Quality Hypothesis

- Charles A. Perfetti & Lesley Hart
  University of Pittsburg

- Comprehension skill depends on word reading skill.

- Each word is composed of 3 <u>constituents:</u>
                         PH, OR, and SE:

- PH = phonology – how the word is pronounced
- OR = orthography – how the word is spelled
- SE = syntax / semantics – word meaning and part of speech

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Rate Your Knowledge

- 0 = The word does not have meaning for you and you are not sure how to pronounce it.
- 1 = You recognize the word and have some idea of its meaning.
- 2 = You know the word well enough that you can define it adequately, but you don't use it yourself.
- 3 = You "own" the word (i.e., you use the word with fluency in writing and/or speaking).

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loquacious	0	1	2	3
kerfuffle	0	1	2	3
stymie	0	1	2	3
lexicon	0	1	2	3
convene	0	1	2	3
raucous	0	1	2	3
commence	0	1	2	3
reticent	0	1	2	3
erudite	0	1	2	3
implicit	0	1	2	3
unfettered	0	1	2	3

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Consider these Conditions

COUNT –
- same PH and OR, but multiple meanings (meaning polysemy)

BASS –
- same OR, but different PH and SE (homography)

SEED / CEDE –
- same PH, but different OR and SE (homophony)

- PH = phonology – how the word is pronounced
- OR = orthography – how the word is spelled
- SE = syntax / semantics – word meaning and part of speech

Can you think of example words for each of these three conditions?

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Incarcerate
A Reader Could…

- pronounce it accurately, knows it is a negative thing but cannot define it.

- misread the word as 'in – cark – rate', never getting to meaning.

- read the word accurately and define it, but be inconsistent in its pronunciation.

- read and understand the meaning of the word, but cannot always spell it accurately.

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Which Constituents are Unfamiliar to You?

loquacious	0	1	2	3
kerfuffle	0	1	2	3
stymie	0	1	2	3
lexicon	0	1	2	3
convene	0	1	2	3
raucous	0	1	2	3
commence	0	1	2	3
reticent	0	1	2	3
erudite	0	1	2	3
implicit	0	1	2	3
unfettered	0	1	2	3

PH – Phonology

OR – Orthography

SE – Semantics / Syntax

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Skilled Readers

- Have more high-quality lexical representations (PH / OR / SE) of many words.

- Can use their foundational knowledge to figure out words that they do not know how to read / spell / comprehend.

Weak Readers, by Comparison…

- Have fewer high-quality lexical representations of words.

- Are unable to use foundational knowledge to figure out words that they do not know how to read / spell / comprehend.

Various Degrees of Orthographic Weakness

Those who sometimes spell a word accurately and sometimes do not.

Those who misspell a word the same way all the time: birthdae

Those who misspell a word multiple ways:
birthda, berthday, birthdae, brthda, brthday, etc.

fMRI and Brain Research
Left Hemisphere - Good Reader's Brain

Angular Gyrus
Connects Reading / Writing systems for decoding / spelling

Broca's Area
Speech Sound System,
Phonological Processor

Occipital Lobe
Orthographic Processor

Sylvan Fissure
Communication between Broca and Wernicke's Area

Wernicke's Area
Oral Language Comprehension
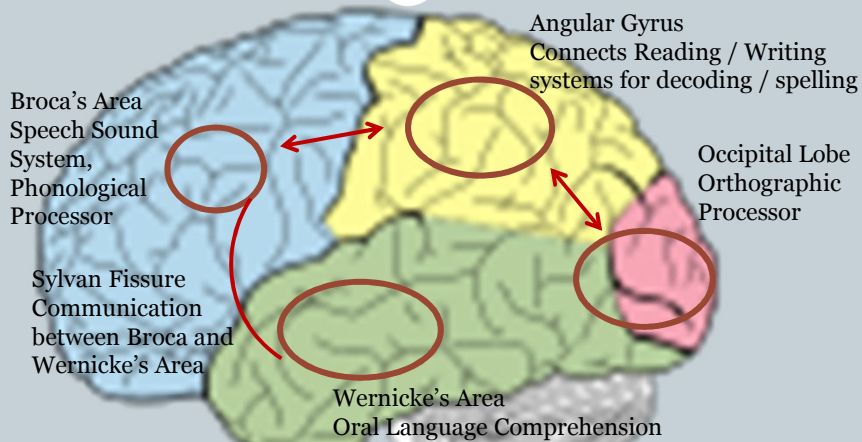
An Additional Layer for SE

- Used to think that basic phonics and language comprehension was enough.
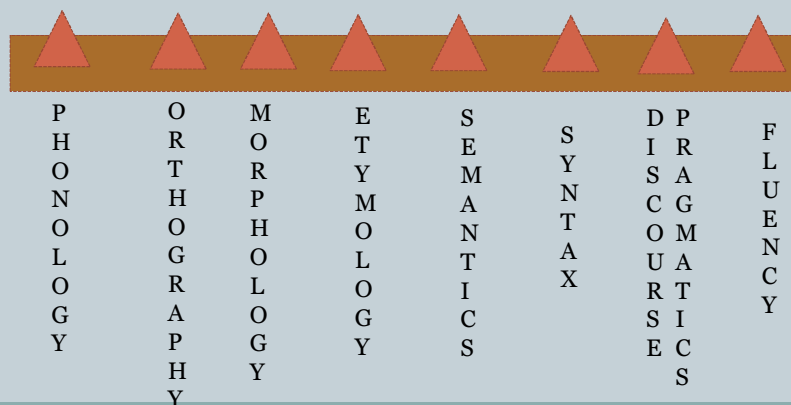
- Increasing understanding of the role of 'morphology' and its ability to 'bind' decoding / vocabulary, and hence, comprehension. (Term: Constituent Binding)

- Morphology has a scope and sequence; use this understanding to inform instruction of advanced decoding / vocabulary.
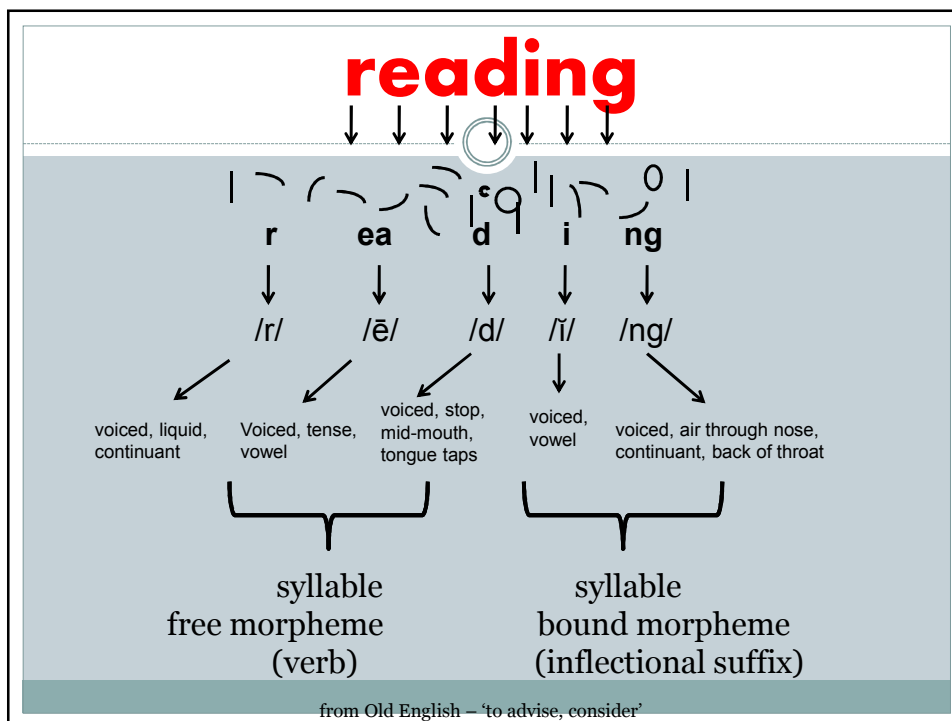
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Deep Lexical Quality is Key!

Instructional practices must include as many layers of language as possible to ensure a memory trace:

PHONOLOGY ORTHOGRAPHY MORPHOLOGY ETYMOLOGY SEMANTICS SYNTAX DISCOURSE PRAGMATICS FLUENCY

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reading

| r | ea | d | i | ng |

| /r/ | /ē/ | /d/ | /ĭ/ | /ng/ |

| voiced, liquid, continuant | Voiced, tense, vowel | voiced, stop, mid-mouth, tongue taps | voiced, vowel | voiced, air through nose, continuant, back of throat |

syllable
free morpheme
(verb)

syllable
bound morpheme
(inflectional suffix)

from Old English – 'to advise, consider'

Let's Try an Example…

EXOTIC

- Phonological form
- Orthographic form
- Morphological form
- Etymological form
- Semantic form
- Syntactic form
- How used in connected text? Speech?

Ensure accuracy and fluency at each level…

Teach to Support Deep Lexical Quality

- Instruction at all levels must account for the various layers of language.

- Tell students as much as you can about words / phrases / sentences / paragraph organization. This supports memory.

- Memory traces best made with multiple layers of language knowledge.

- Continue use of assessments and 'diagnostic instruction' for all areas of language.

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Taking Stock

- Questions?

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Martin-Chang, S, Ouellette, G., & Madden, M. (2014). Does spelling equate to slow reading? The relationship between reading, spelling, and orthographic quality. *Read Write*, 27:1485-1505.

Verhoeven, L., Elbro, C., & Reitsma, P. (Eds.) (2002). Precursors of functional literacy, from *Studies in Written Language and Literacy* (V 11), Amsterdam / Philadelphia: John Benjamins Publishing Co.

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I thank you…

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.....for your time and attention today. This is an exciting symposium! You truly can make a difference in the lives of so many students!

Carol

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Multiple Layers of Language

Word	Phonology	Orthography	Morphology	Semantics	Syntax	Discourse	Pragmatics	Etymology

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