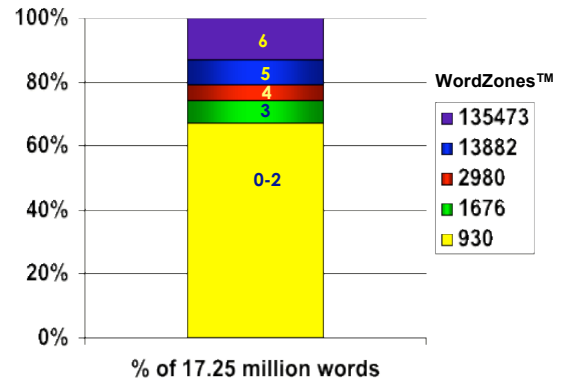


Increasing the Comprehension of English Language Learners: The Fluency/Vocabulary Connection

1. The word problem
2. The words and texts of the fluency curriculum
3. The words and texts of the vocabulary curriculum

Words in American Schoolbooks



Zeno et al., 1995

1. The Word Problem: English vocabulary is huge

Oxford English Dictionary

290,500 entries attempt to cover every word in use in the English language from the middle of the twelfth century to the present. If you count variant spellings, obsolete forms, combinations and derivatives the OED includes over 616,500 words.

Reading is where vocabularies are extended. Comparison of Spoken & Written Language

(from Hayes & Ahrens, 1988)

| Printed Text | Rare Words per 1,000 |
|------------------------------|----------------------|
| Abstracts | 128.0 |
| Newspapers | 68.3 |
| Popular Magazines | 65.7 |
| Adult books | 52.7 |
| Comic Books | 53.5 |
| Children's Books | 30.9 |
| Preschool Books | 16.3 |
| <hr/> | |
| Television Texts | Rare Words per 1,000 |
| Popular adult shows | 22.7 |
| Popular children's shows | 20.2 |
| Cartoons | 30.8 |
| Mr. Rogers & Sesame Street | 2.0 |
| <hr/> | |
| Adult Speech | Rare Words per 1,000 |
| Expert eyewitness testimony | 28.4 |
| College graduates to friends | 17.3 |

2. The Words and Texts of the Fluency Curriculum

The relationship of fluency to comprehension:

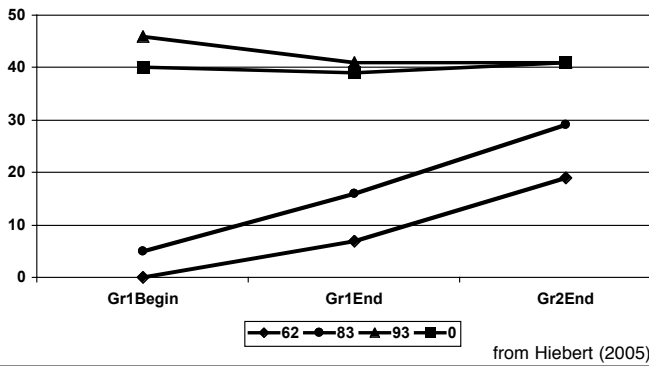
- Buck & Torgesen (2004; www.fcrr.org)
Oral Reading Fluency (ORF) & FCAT: $r = .70$
- Good, Simmons, & Kame'enui (*Scientific Studies of Reading*, 2001) ORF & Oregon Statewide Assessment: $r = .67$
- 65% of Florida's 10th graders performed below grade level on FCAT; Text reading fluency accounted for 32% of the variance in 10th graders' FCAT scores (Schatschneider et al., 2004)

Text types that accounted for significant differences in the NRP sample

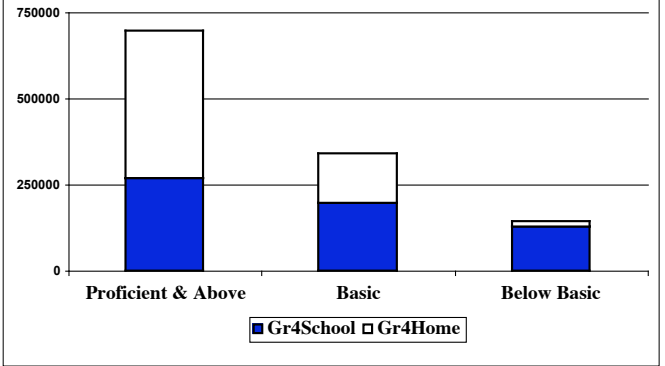
Texts with controlled vocabulary were used in 74% of the studies used in the meta-analysis. Of the four studies that used literature, only one reported a fluency outcome and, in that study, treatment and comparison groups did not differ significantly. That is: the effect size for fluency came from studies that used texts with controlled vocabulary.

(Hiebert & Fisher, *Elementary School Journal*, May 2005)

Instructional Texts for Beginning Readers: Singletons & Repetition



The Gap Increases with Home Reading



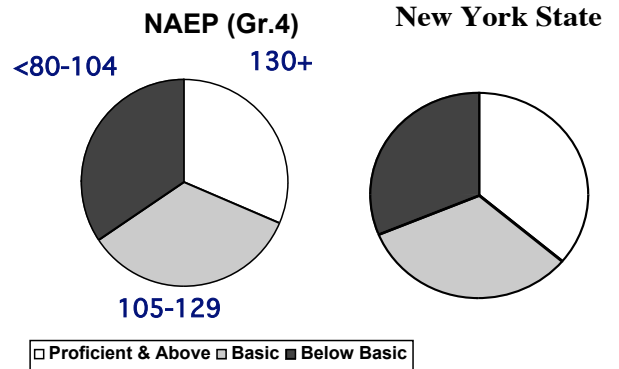
Gr3 (Reading 1st):

Amount students are reading

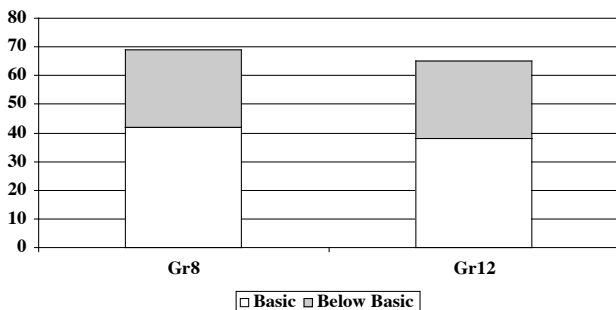
| Length of Instructional Block | Time with eyes on text | % of entire Reading block spent with eyes on text |
|-------------------------------|------------------------|---|
| 90-minute | 17.57 | 20 |
| 100-minute | 16.25 | 16 |
| 105-minute | 18.49 | 18 |
| 120-minute | 19.25 | 16 |
| Overall | 18.33 | 17.5 |

(Brenner, Hiebert, & Tompkins, in press)

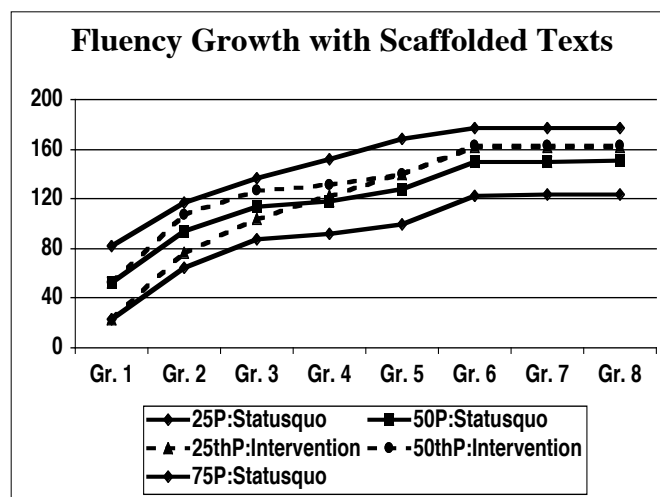
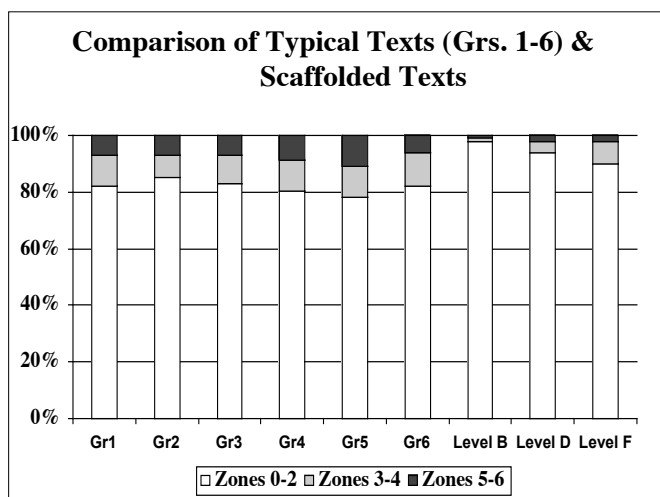
National Assessment of Educational Progress



National Assessment of Educational Progress (2007)



| | |
|----------|---|
| A | 300 most-frequent words; short and long vowels |
| B | 500 most-frequent words; short, long, r-controlled vowels |
| C | 1,000 most-frequent words; all monosyllabic words |
| D | 1,000 most-frequent words; all morphological "derivatives" |
| E | 2,500 most-frequent words |
| F | 5,000 most-frequent words |



2. The Words & Texts of the Fluency Curriculum

CONCLUSION: This curriculum should emphasize the words that account for the majority of texts.

3. The Words and Texts of the Vocabulary Curriculum

Vocabulary knowledge was a significant and constant predictor of overall reading comprehension, regardless of grade level.

While significant, fluency effects diminished from grades 4 through 8.

Yovanoff, Duesbery, Alonzo, & Tindal (2005)

Background: Sources of English

Until 1066, "English" (Anglo-Saxon roots) was spoken in England.

From 1066 (Norman Conquest) until 1399, French was used by upper classes (government, church, law, fashion); lower-classes continue to speak English. England was bilingual for over three centuries.

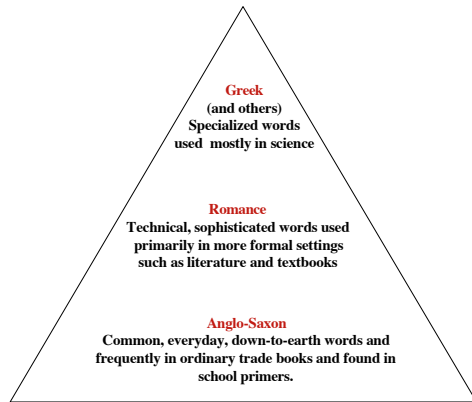
In 1399, a native English speaker became king (Henry IV); French language use dies out. **HOWEVER:** a massive number of French loan-words remain as part of English.

French Loan-Words

For most things, an English word existed for a concept. Ordinary/common used English; "upper-class" used French

| English | French |
|-------------|---------------|
| home, house | manor, palace |
| doom | judgment |
| hearty | cordial |
| holy man | saint |
| stench | odor |

Sources of English



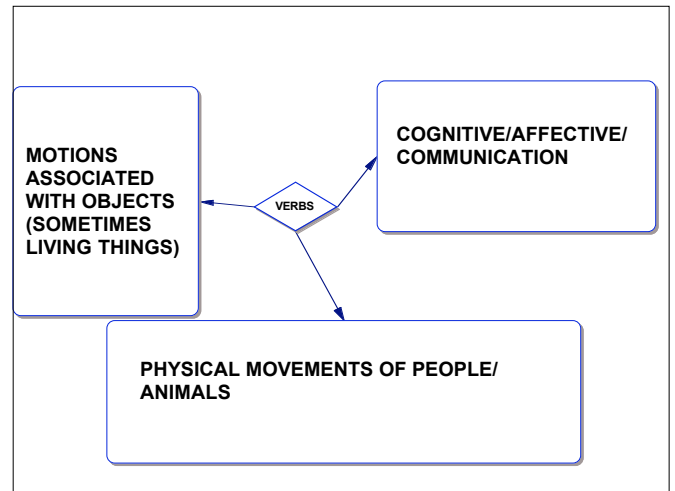
(from Calfee & Drum, 1981)

3 Kinds of Academic Vocabulary (Hiebert & Lubliner, in press)

- Literary vocabulary (e.g., *flustered*, *rambunctious*, *yelped*)
- Content-specific vocabulary (e.g., *geometry*, *triangle* in mathematics; *geography*, *navigation* in social studies)
- General academic vocabulary (e.g., *specific*, *tend*, *supply*)

Literary vocabulary

- Literary texts have a high proportion of rare words that appear a single time.
- A majority of this rare vocabulary consists of adjectives, verbs, and nouns that are often synonyms for known concepts.
- Many of these known concepts pertain to the components of stories.
- Megaclusters:
 - Names for people & animals
 - Physical attributes
 - Feelings & values
 - Body & health
 - Machines & tools
 - Earth & sun
 - Places & dwellings
 - Physical actions & motion
 - Cognitive/perceptual actions
 - Communication
 - Arts & Entertainment
 - Specialized content areas



Content-specific vocabulary is:

Conceptually complex: Of numerous word factors, only conceptual difficulty was significantly related to learning from context (with conceptually difficult words less likely to be known than words with known concepts) (Nagy, Anderson, & Herman, 1987)

4-point scale (Nagy, Anderson, & Herman, 1987) with category 4 predicting performance
1-3: Known concepts with one-word synonym (e.g., *altercation*=fight) or that can be expressed in a familiar phrase (e.g., *apologize*=to say you're sorry) or unknown concept that can be learned from available experiences & information (e.g., *raie*)
4: Unknown concept that requires learning of new factual information or a related system of concepts (e.g., *divide* as "boundary between drainage basins" requires information about river systems)

Indispensable to the comprehension of a text

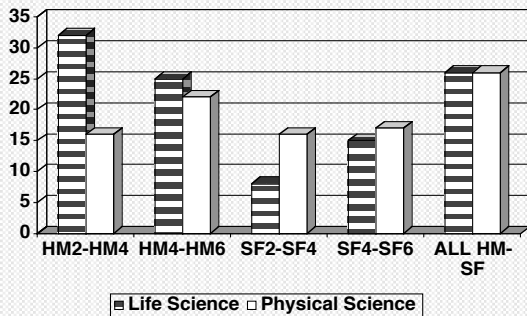
The ratio of difficult to familiar vocabulary needed to be "high" (i.e., one substance word in three) before reliable effects on comprehension were evident (Freebody & Anderson, 1983)

Content-specific

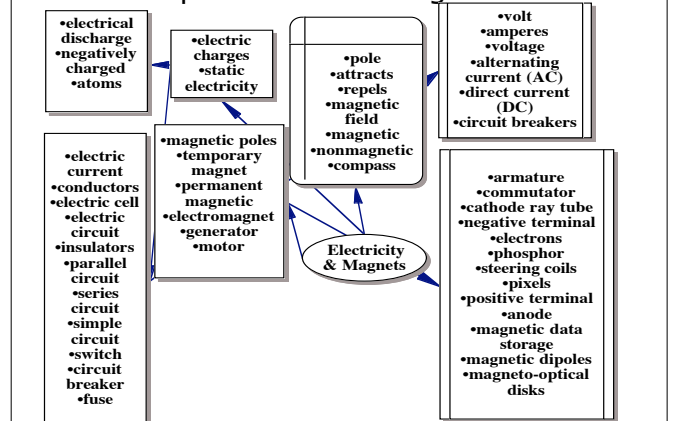
Standards documents provide a focus for content-specific vocabulary. As a result:

- Consistency in vocabulary across science programs of different publishers is high.
- Vocabulary on a topic is consistent (cumulative) from grade to grade.

Shared Words in Science Programs



Example from a science unit from the same publisher across grades: Gr. 6



Data from Bravo et al. (2007) on Frequencies of Spanish & English cognates

| | |
|-----------------------|-----|
| No Shared Cognate | 21% |
| False cognate | 2% |
| LF English/LF Spanish | 36% |
| HF English/LF Spanish | 2% |
| HF English/HF Spanish | 10% |
| LF English/HF Spanish | 28% |

Examples of Cognates in Content-Specific Vocabulary

- organismo: 1, 458; organism, 3, 475
- habitación: 1610; habitat: 8, 283
- investigación: 890; investigation: 4,000

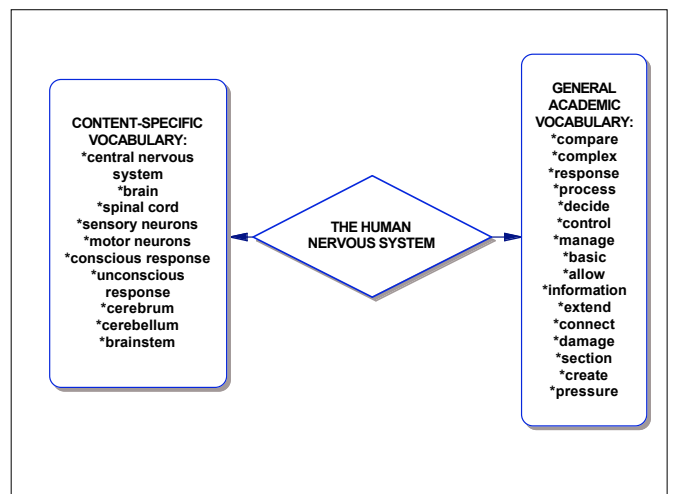
General Academic Vocabulary

Academic Word List (AWL) (Coxhead, 2000): Drawn from university-level textbooks

Core Academic Word List (CAWL) (Hiebert, 2007): A list for upper-grade elementary students

Distinguishing Feature of General Academic Words

| D | Example |
|-----|-----------------|
| 1.0 | a |
| .9 | achieve |
| .8 | adoption |
| .7 | atlas |
| .6 | ace |
| .5 | amplified |
| .4 | alloy |
| .3 | abolition |
| .2 | Afghanistan |
| .1 | Austria-Hungary |
| .03 | adverb |



Lubliner & Hiebert (2008)

- Out of 570 "head words" on the AWL, 396 have transparent Spanish-English cognates (69%)
- More frequent in Spanish than English: 39% of 268 cognates
- Much more frequent in Spanish than English: 47%
- Together, these represent 40% of the AWL (with 22% of the AWL much more frequent in Spanish)
- Examples of high-frequency Spanish/low-frequency English words:

| | |
|---------------------|--------------------|
| tranquilo: 1,144 | tranquil: 16,700 |
| frio: 907 | frigid: 19,480 |
| fácil: 514 | facilitate: 10,425 |
| (facilitatar: 1381) | |

| | |
|---------------------------|------------------------------------|
| Story: _____ | What It Is Not: |
| Target Word: _____ | Example/Drawing/Sentence: _____ |
| Sentence from text: _____ | Word Forms: _____ |
| What It Is: | Glossary or Dictionary Definition: |

[Form developed and used by T. Foster, S. Gray, & J. Hanssmann, Woodland Prairie School, Woodland, CA]

Examples of 3 Morphological Families

charge: 95; charged: 44; charges: 30; charging: 5

affect: 63; affected: 40; affecting: 8; affective: 1; affects: 24; unaffected: 1

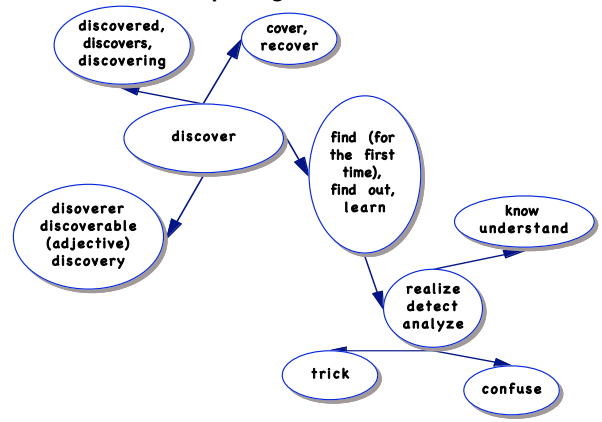
oppose: 6; opposed: 18; opposing: 8; opposite: 62; opposition: 15

Common Affixes

(White, Sowell, & Yanagihara, 1989)

| Prefixes that account for 62% of all prefixed words | Suffixes that account for 76% of all suffixed words |
|---|---|
| un-, re-, in/im/il/ir (not), dis-, non- | -s, -es, -ed, -ing, -ly, er/or (agent) |

Morphological + Semantic



3. The Words & Texts of the Vocabulary Curriculum

CONCLUSION: Vocabulary instruction needs to take different forms across content areas. In reading/language arts where many unknown words pertain to *known* concepts, instruction emphasizes semantic connections across words. In science and social studies where many unknown words pertain to *unknown* concepts, instruction needs to be intensive, extensive, and experiential.

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www.textproject.org

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