

Which Words to Teach: Foundations of Fluency & Vocabulary

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While both fluency and a rich vocabulary involve attention to and knowledge of words, the words on which initial fluency is based and the words of a rich vocabulary differ.

1. The fluency curriculum

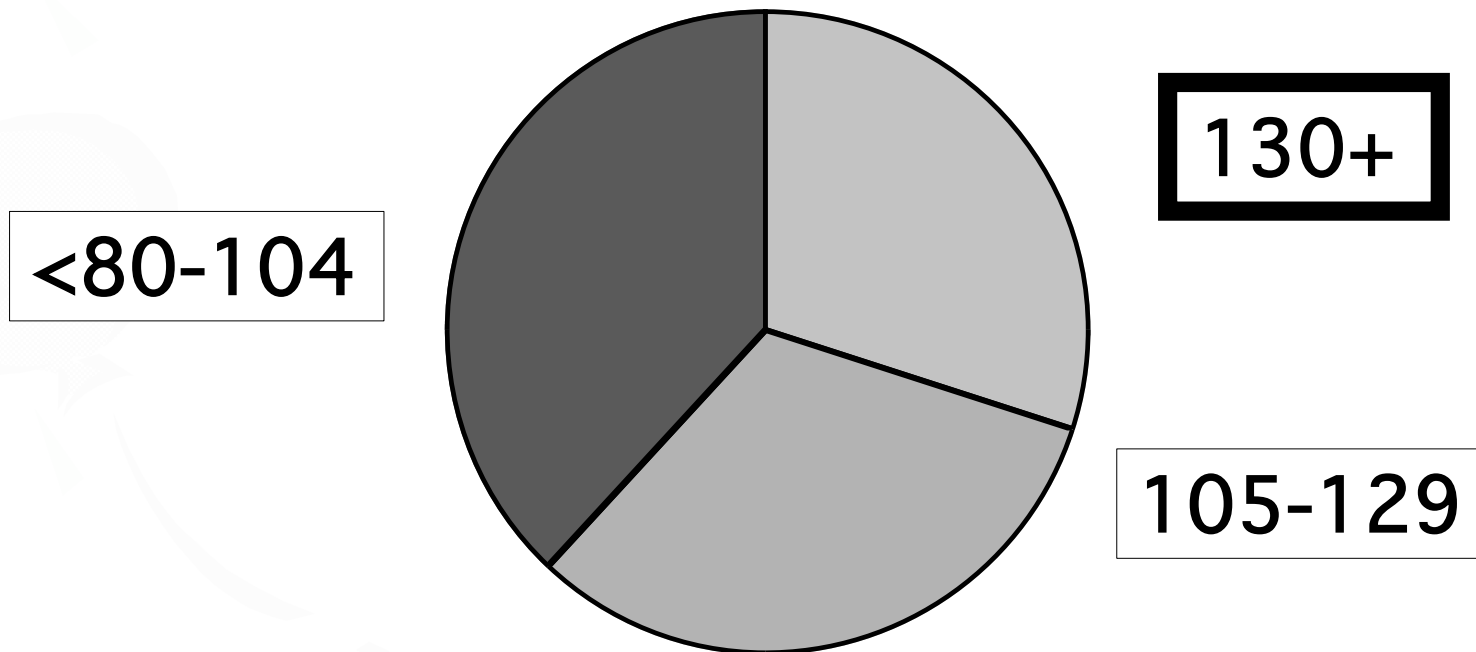
- **With what words are proficient readers fluent?**
- **How do texts support fluency especially for beginning and struggling readers?**

2. The vocabulary curriculum

- **What is common across words? What is unique?**
- **How does instruction of what's common among words support vocabulary learning?**

Fluency and Comprehension

NAEP (Gr.4)

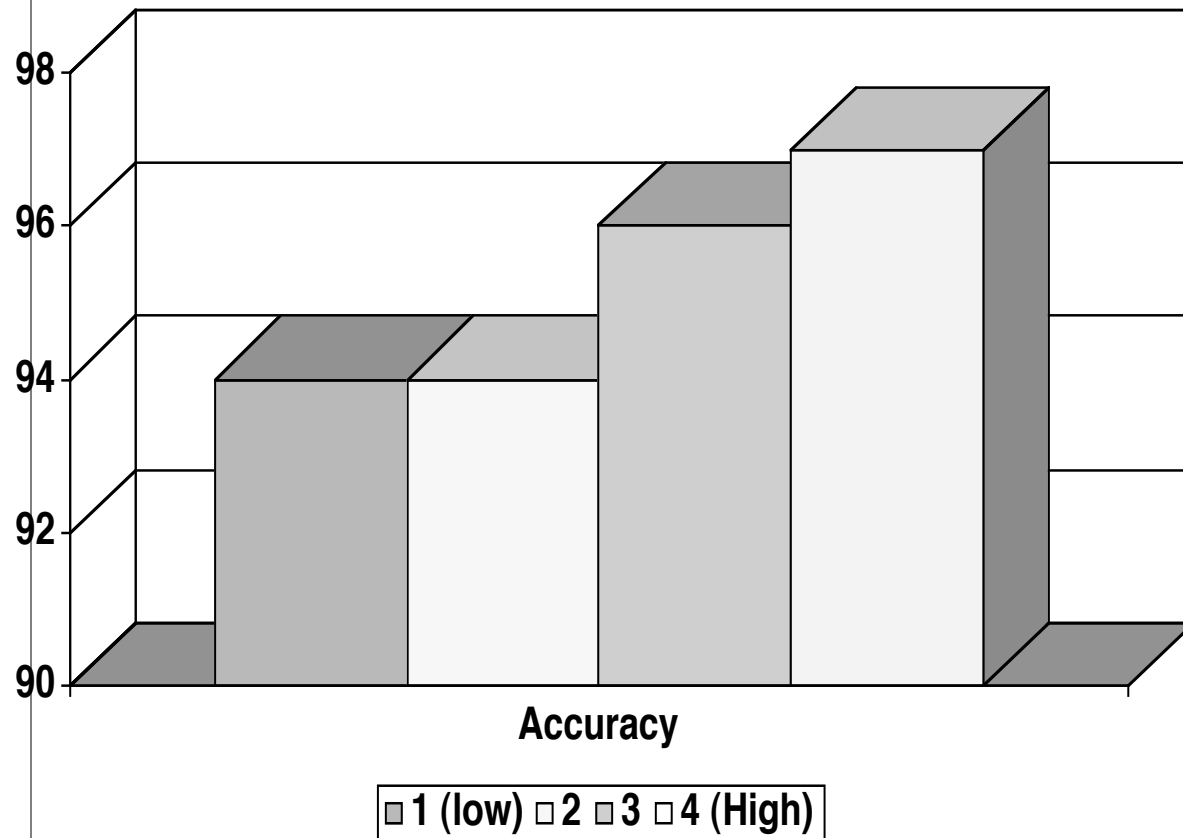


■ Proficient & Above ■ Basic ■ Below Basic

Fluency & Accuracy

HUNGRY SPIDER AND THE TURTLE

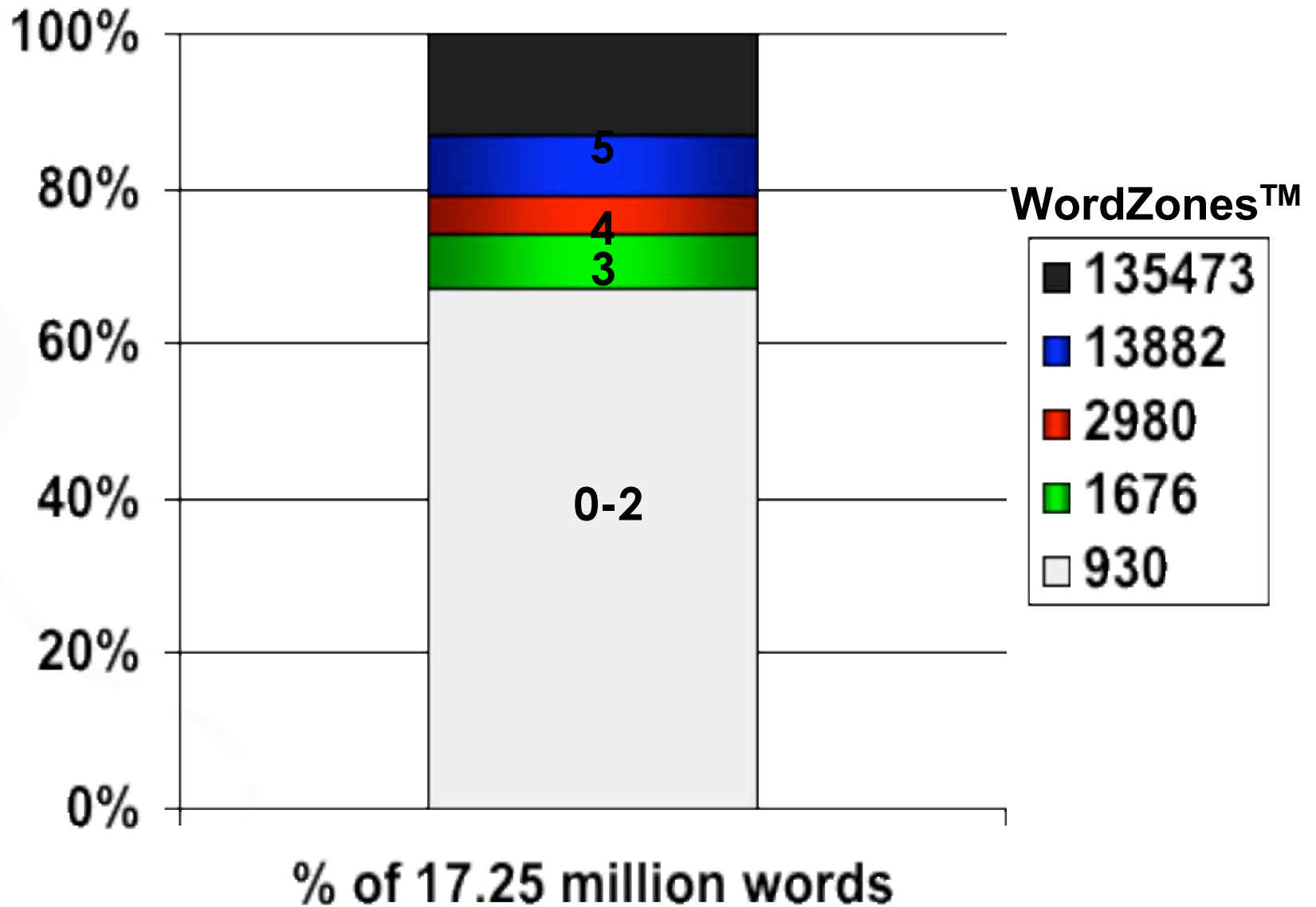
Spider was a hungry one, he always wanted to eat. Everybody in Ashanti knew about his appetite. He was greedy, too, and always wanted more than his share of things. So people steered clear of Spider. But one day a stranger came to Spider's habitation out in the back country.



More Evidence on Fluency and Comprehension

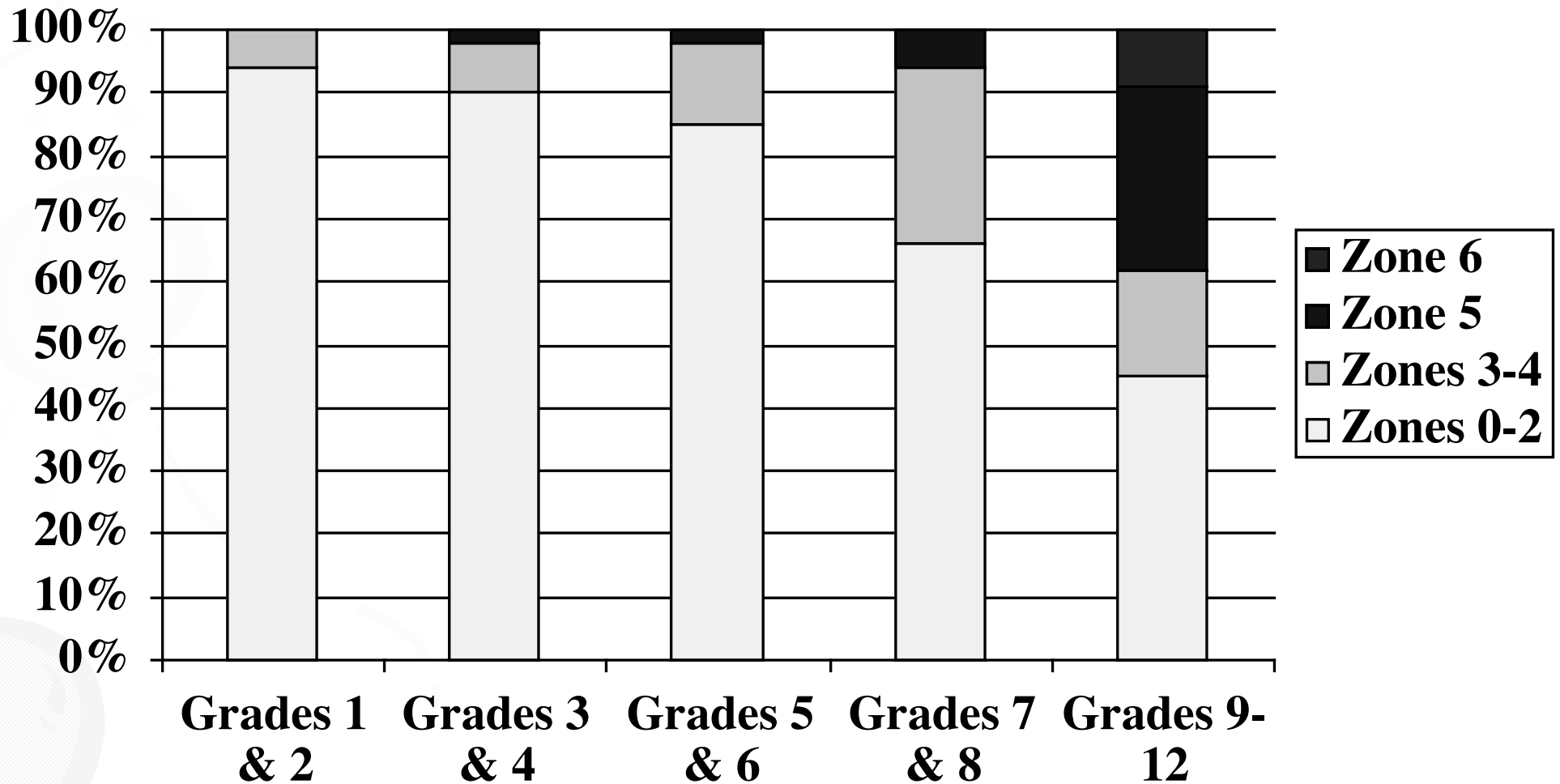
- **Buck & Torgesen (2004; www.fcrr.org)**
Oral Reading Fluency (ORF) & FCAT:
r = .70
- **Good, Simmons, & Kame'enui**
(*Scientific Studies of Reading*, 2001)
ORF & Oregon Statewide Assessment:
r = .67

FLUENCY: With What are Proficient Readers Fluent?

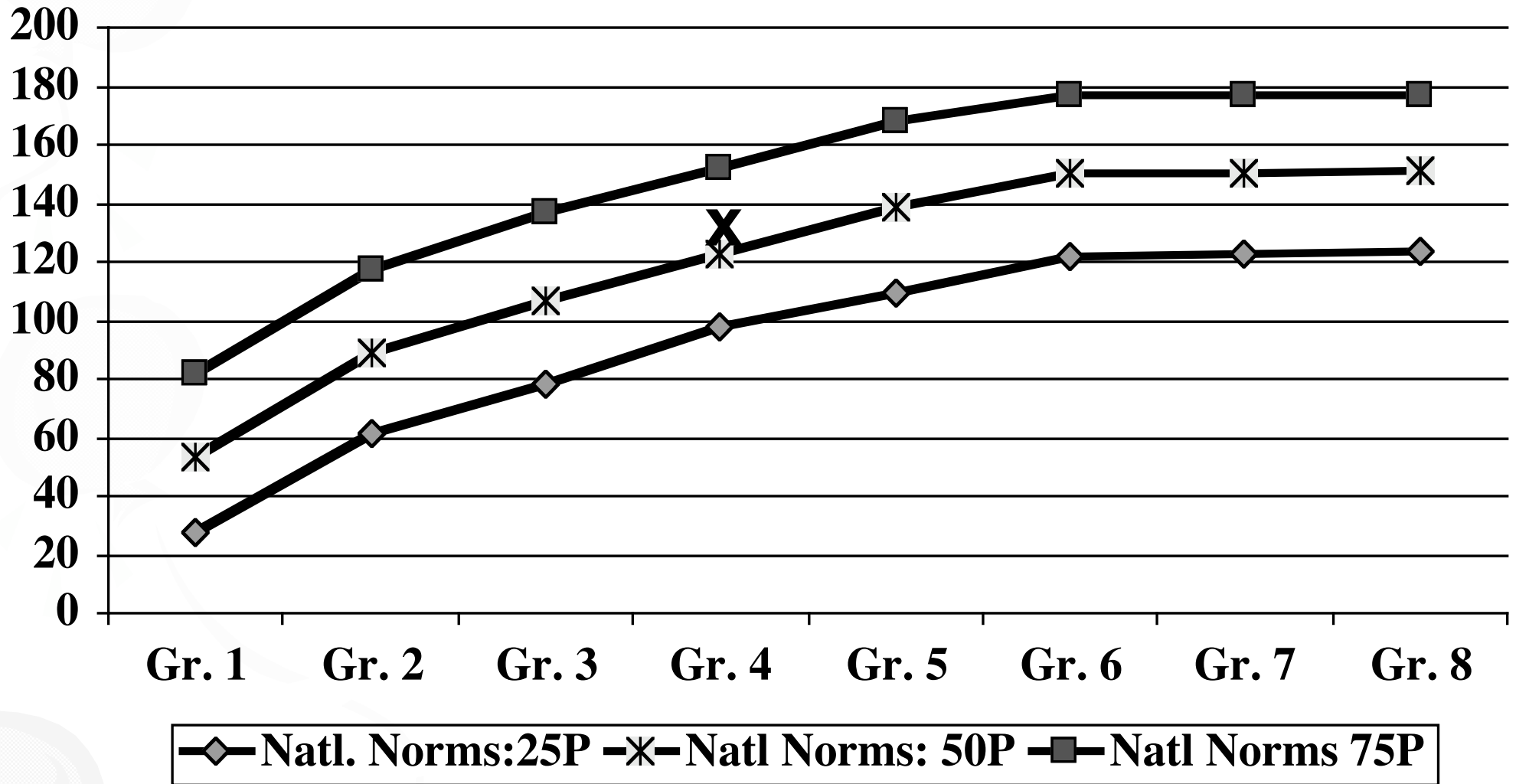


Fluency: The WHAT of Fluency

[Based on the Gray Oral Reading Test]



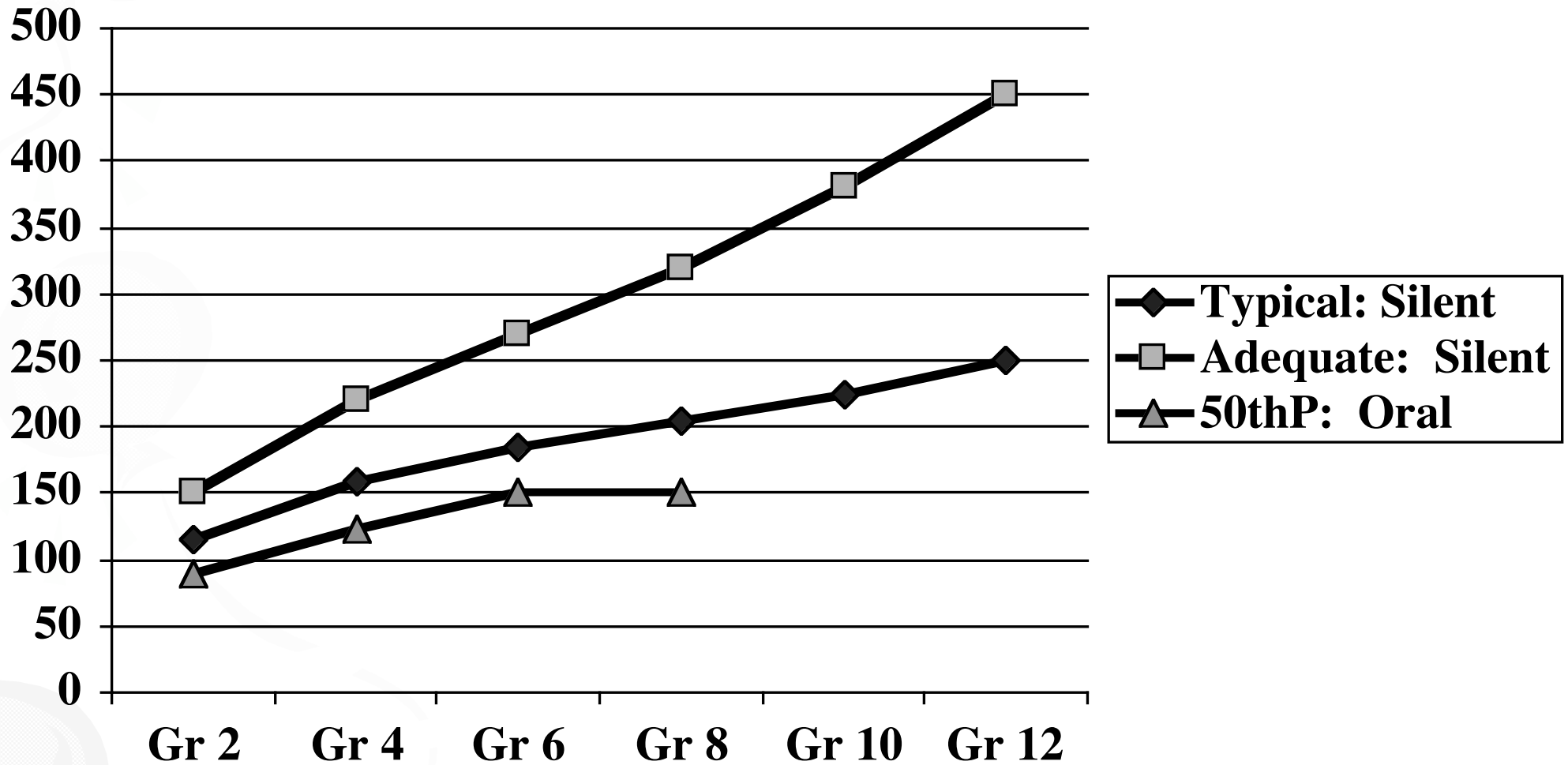
Typical Oral Fluency Growth



Jan Hasbrouck's guideline: +/- 10 words

Hasbrouck & Tindal, 2005

Silent Reading Fluency*



•With 70+% comprehension

Typical/Adequate Silent Reading Norms: Taylor, Frackenpohl, & Pettee, 1960

A (re)definition of fluency

- “Fluency is the ability to read **(the vast majority of the words in)** a text quickly, accurately, and with proper expression **(so that meaning is retained)**. **Ultimately automatic and accurate silent reading is what matters.**”

(National Reading Panel, 2000 with bolded phrases inserted)

Fluency & Texts

“the evidence is that such training [i.e., isolated word recognition practice] is insufficient as it may fail to transfer when the practiced words are presented in a meaningful context”

(National Reading Panel, p.3-11)

1962c

Go, go,
go.
Go,
Dick,
go.
Help,
help!

1983c

Can You Find It?
Can the girl find the
dog? Can the girl find
the cat? Is the dog in
the doghouse? The
dog is not in the
doghouse. Is the dog
in the barrel? Look at
the barrel. Is the dog
in it? Can the girl find
the dog? Can the girl
and the dog find the
cat? The cat is not in
the hay. The cat is in
the tractor. The girl
can find it. Can the
girl find the cow? Can
the dog and cat find
the cow? Can you?

1993c

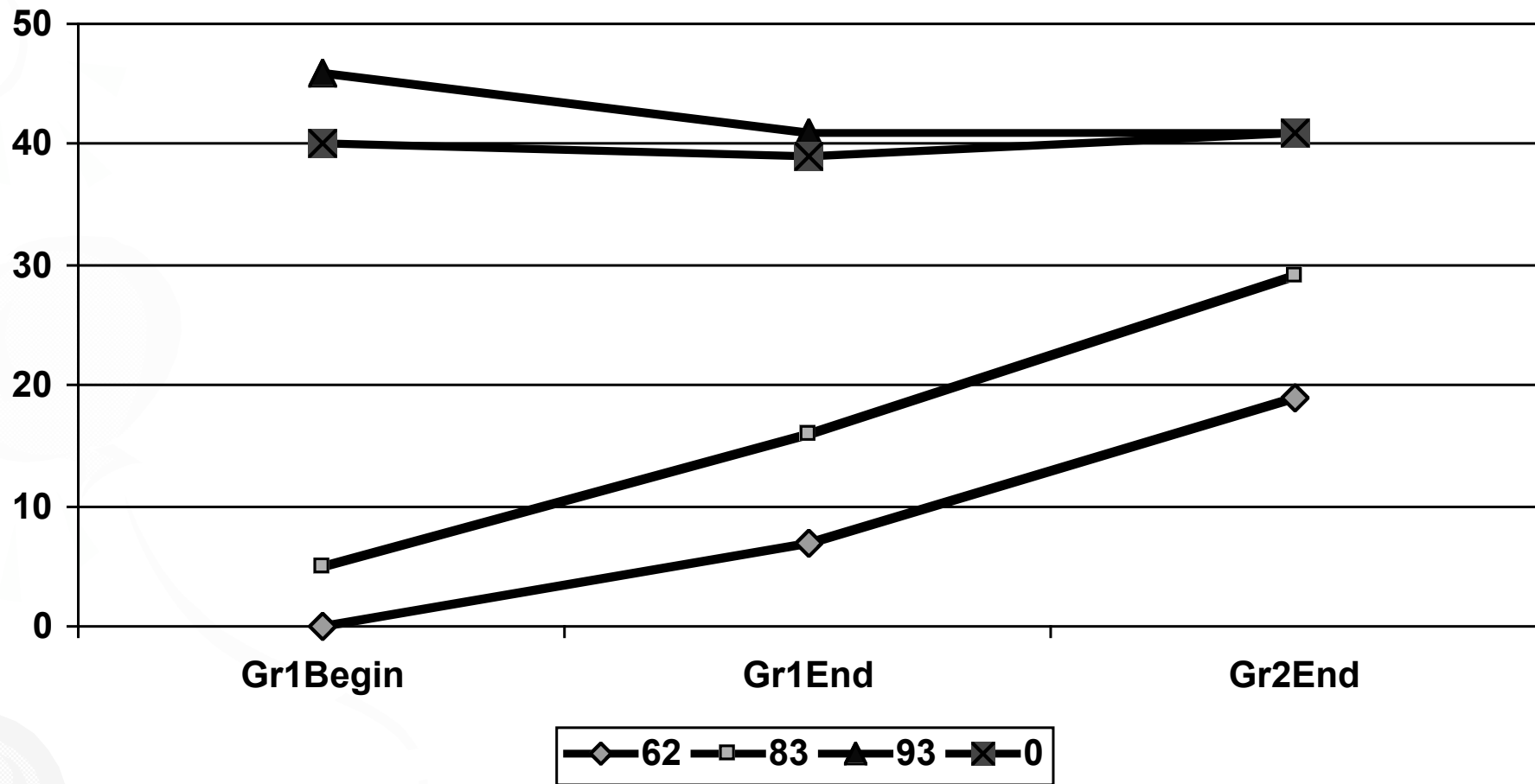
So Can I
I can brush my
teeth.
So can I! I can
write my name.
So can I! I can
read a book.
So can I! I can
carry the
groceries.
So can I! I can
brush my teeth
and write my
name and read a
book and carry
the groceries. So
can I!

2000c

The Nap
I am on my mat.
I will have a nap.
Away I go. Look
at that! Wag,
wag, wag. I like
my cap. Can I
have the bat?
Will it go up? Will
it come down?
No, not on the
dad! No, not on
the cat! Look at
that! What a nap!

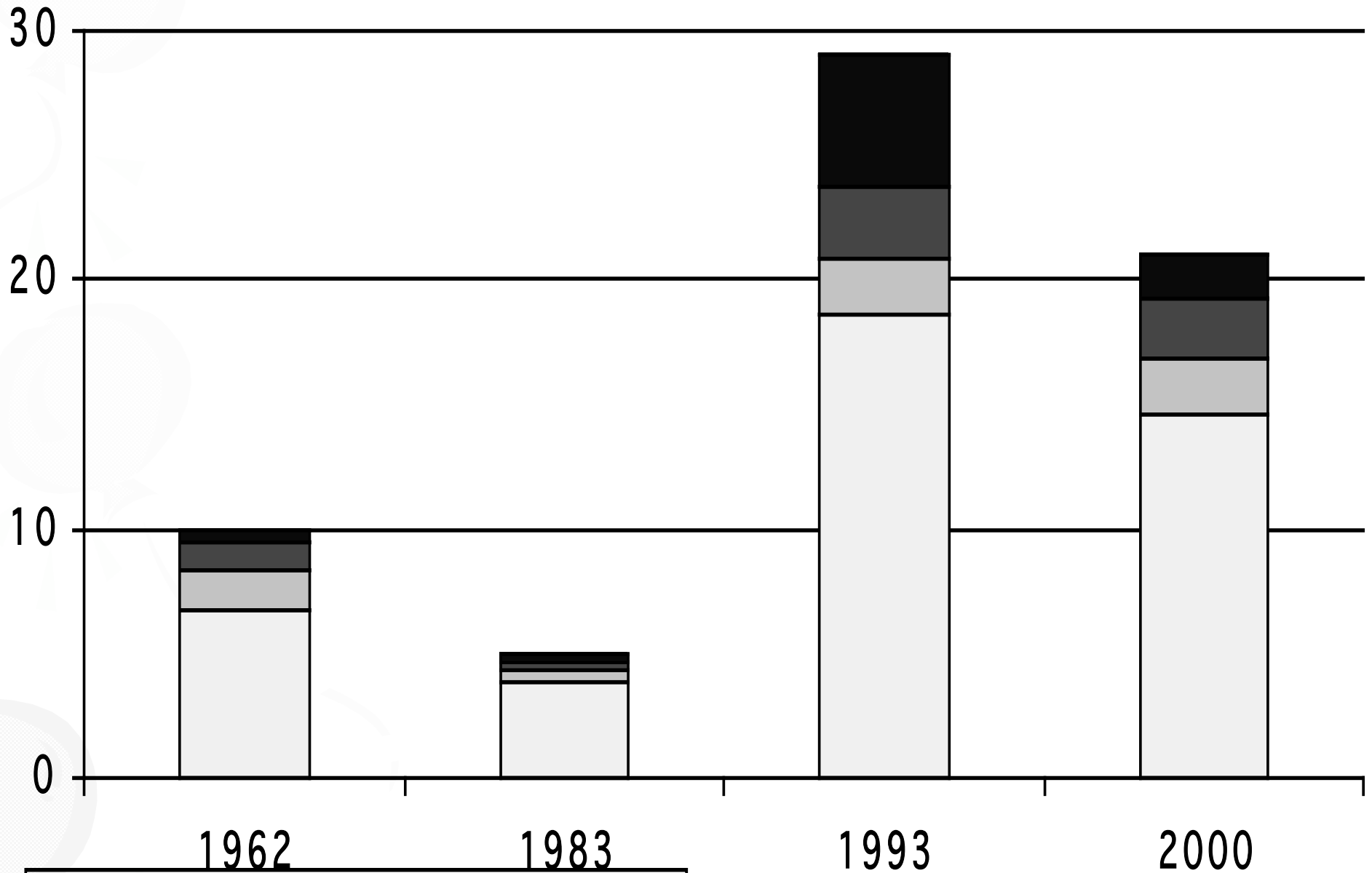


Instructional Texts for Beginning Readers: Singletons & Repetition



From "State Reform Policies & the Task for 1st Grade Readers"
(Hiebert, Elementary School Journal, 2005)

Features of Unique Words per 100: First 10, 1st Gr. Texts Over 4 Decades



□ Zones 0-2 □ Zone 3 ■ Zone 4 ■ Zones 5-6

The kinds of texts 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)

Exemplars of Prominent Texts in NRP Fluency Studies

Tim's Woods

It had snowed in the night. Tim Baker could tell that it had without looking out of his bedroom window.

There was always a bright whiteness about the daylight when the world was deep in snow. Tim lay in bed and thought about what he would do.

The Wicked Monkey

Last Saturday, Janet Lord's father drove her and Sally Ann, her cousin, to the zoo. The first place they went was to the *monkey* house. The girls had heard about and especially wanted to see the old *monkey*, Slick Nick, who played tricks on people.

Texts for Fluency

Level A	300 most frequent words; short and long vowels
Level B	500 most frequent words; short, long and r controlled vowels
Level C	1000 most frequent words; all monosyllabic words
Level D	1000 most frequent words; two syllable words
Level E	2,500 most frequent words
Level F	5,000 most frequent words

Level B Texts (i.e., Gr. 2 curriculum)

How Animals Communicate

Animals don't talk, but they do communicate. When you communicate, you give information to others. Animals have ways of communicating that are different from the ways that people use. When your friend talks to you, your friend uses language to communicate information. In a language, each word means something.

Animals do not use words. They use sounds and signals. Birds sing and move their wings. Some animals move their tails. Other animals communicate by moving their bodies in other ways. Different sounds and signals help animals communicate with each other.

Text 2 of a Topic (Level B/Gr. 2)

The Honeybee Dance

One way honeybees *communicate* with each other is by dancing. Honeybees do a special dance after they find nectar in flowers. Honeybees need nectar to live. When honeybees find nectar, they fly home to tell the other bees where to find the nectar.

A bee that finds nectar moves its wings very fast when it dances. The bee moves in a shape that looks like the number 8. The bee does the dance many times. After the dance, the other bees know where to find the flowers with nectar.



Humpback whales can sing for a long time.

Whales

Whales communicate with each other by singing. Different kinds of whales sing different songs. Whales in different parts of the world sing different songs,¹ too. When a whale sings, people can sometimes hear the sound. However, people near a singing whale can also feel the water move from the² sound.

When most kinds of whales communicate with each other, the song is short. Yet when a humpback whale sings, it sings only for itself.³ It also can sing for a long time. A humpback whale can sing for twenty minutes at a time.⁴



Dogs can show they are friendly by wagging their tails and by sitting close to people.

Dogs

A bark is a sound a dog makes to communicate something to people or other animals. A bark can be a friendly way to²⁵ say “hi.” Sometimes dogs bark to tell their owners that they see people they do not know. Sometimes dogs bark to scare other dogs.

Dogs²⁶ also communicate by moving their bodies. Dogs show their teeth when they are upset. They wag their tails when they are happy. They wag their²⁷ tails when their owners give them food. Dogs also wag their tails when their owners take them for walks.²⁸

Danger Signals

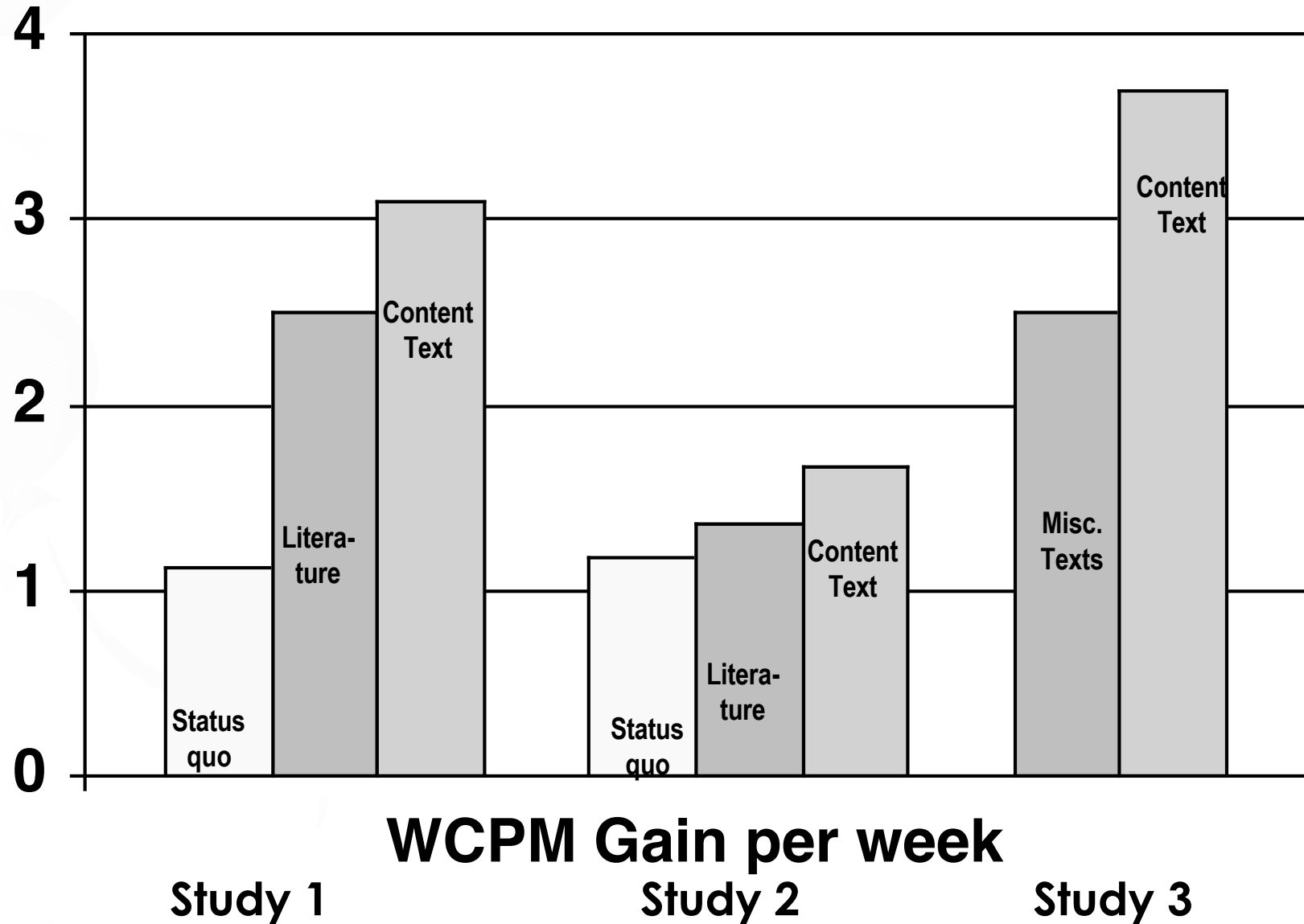
People have danger signals to tell others to be careful. Signs at a train crossing and stop signs keep us from danger. Animals²⁵ have danger signals to keep them safe, too.

Some animals make sounds that tell other animals to be careful. When prairie dogs think there is²⁶ danger, they call to each other in a certain way. The danger might be bigger animals that want to catch the prairie dogs. The prairie²⁷ dog's call tells other prairie dogs that a big animal is coming. This call says, "Be careful!"²⁸

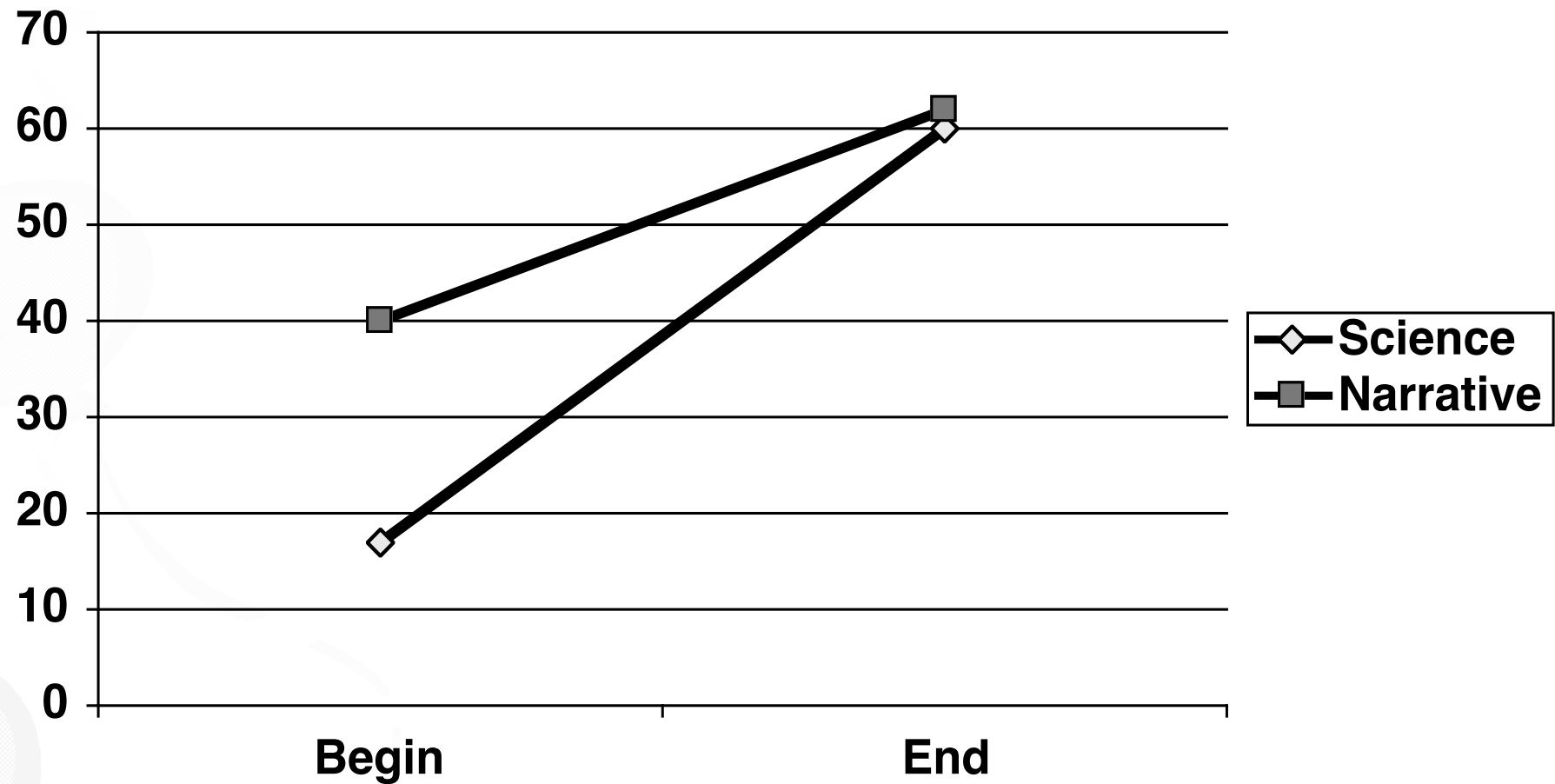


Danger signals help prairie dogs stay safe.

Program of Research on Texts & Fluency



Study 4: 24-Week Intervention: Number of Words Read



Why is a “deep” and “broad” vocabulary important?

**--Vocabulary correlates to
comprehension .66 to .75 (Just &
Carpenter, 1975)**

**--Comprehension comprises two
“skills”: Word knowledge or vocabulary
and reasoning (Davis, 1942, National
Reading Panel, 2000).**

CA: Of 3 reading standards:

1.0 Word Analysis, Fluency, and Systematic Vocabulary Development

Word Recognition

1.2 Apply knowledge of word origins, derivations, synonyms, antonyms, and idioms to determine the meaning of words and phrases.

Vocabulary and Concept Development

1.3 Use knowledge of root words to determine the meaning of unknown words within a passage.

1.4 Know common roots and affixes derived from Greek and Latin and use this knowledge to analyze the meaning of complex words (e.g., international).

1.5 Use a thesaurus to determine related words and concepts.

1.6 Distinguish and interpret words with multiple meanings.

TX: Of 9 reading standards

- **(6) Reading/word identification.** The student uses a variety of word recognition strategies. The student is expected to:

(A) apply knowledge of letter-sound correspondences, language structure, and context to recognize words (4-8);

(B) use structural analysis to identify root words with prefixes such as dis-, non-, in-; and suffixes such as -ness, -tion, -able (4-6); and

(C) locate the meanings, pronunciations, and derivations of unfamiliar words using dictionaries, glossaries, and other sources (4-8).

- (9) Reading/vocabulary development.** The student acquires an extensive vocabulary through reading and systematic word study. The student is expected to:

(A) develop vocabulary by listening to selections read aloud (4-8);

(B) draw on experiences to bring meanings to words in context such as interpreting figurative language and multiple-meaning words (4-5);

(C) use multiple reference aids, including a thesaurus, a synonym finder, a dictionary, and software, to clarify meanings and usage (4-8);

(D) determine meanings of derivatives by applying knowledge of the meanings of root words such as like, pay, or happy and affixes such as dis-, pre-, un- (4-8); and

(E) study word meanings systematically such as across curricular content areas and through current events (4-8).

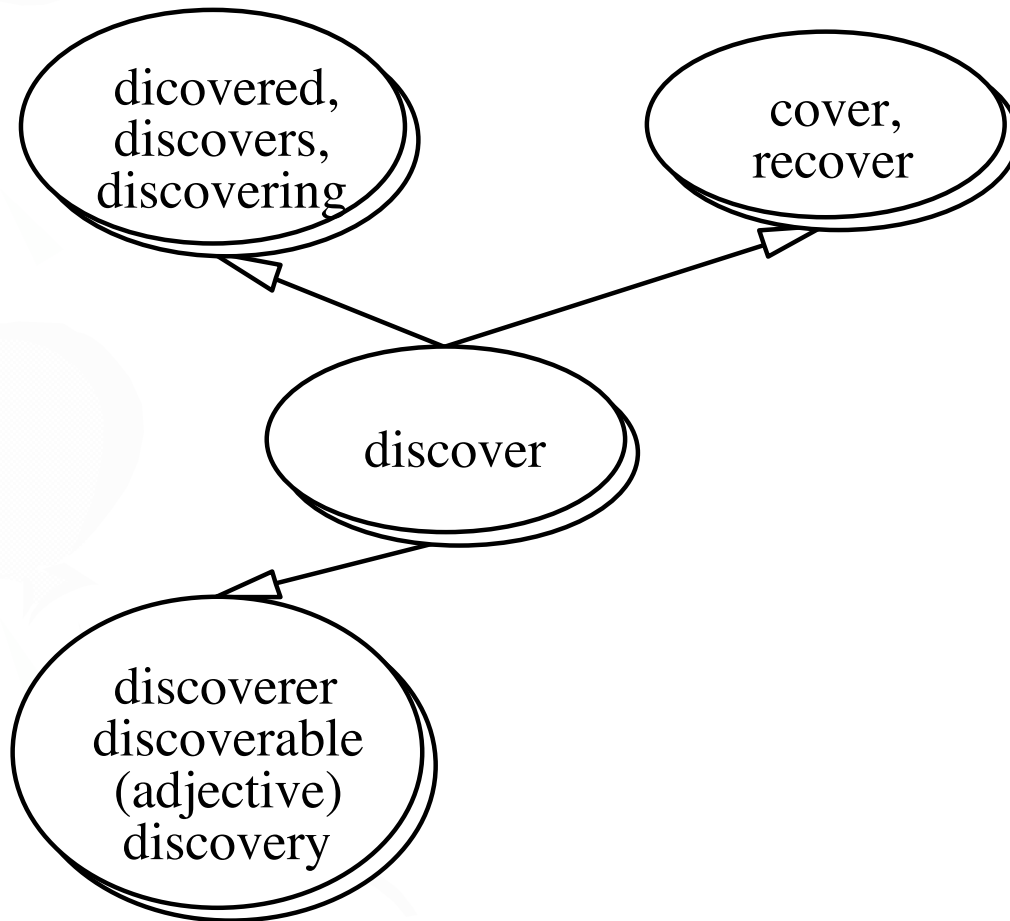
The VOCABULARY Curriculum: Words “Taught” in HM Gr2/Unit 4

attention discovered	accept accident advantage argument audience colonies commands electrical enormous expression guarded nearby officer safety stared tending	dim experts herd horizon imagination log obeys stiff tropical tunnels weaver	antennae applauded banner carpenter cocoons fastening fungus larvae munching penalty pity puddle quarrel sawdust stalks aphids jeered parasol swivel teamwork news team
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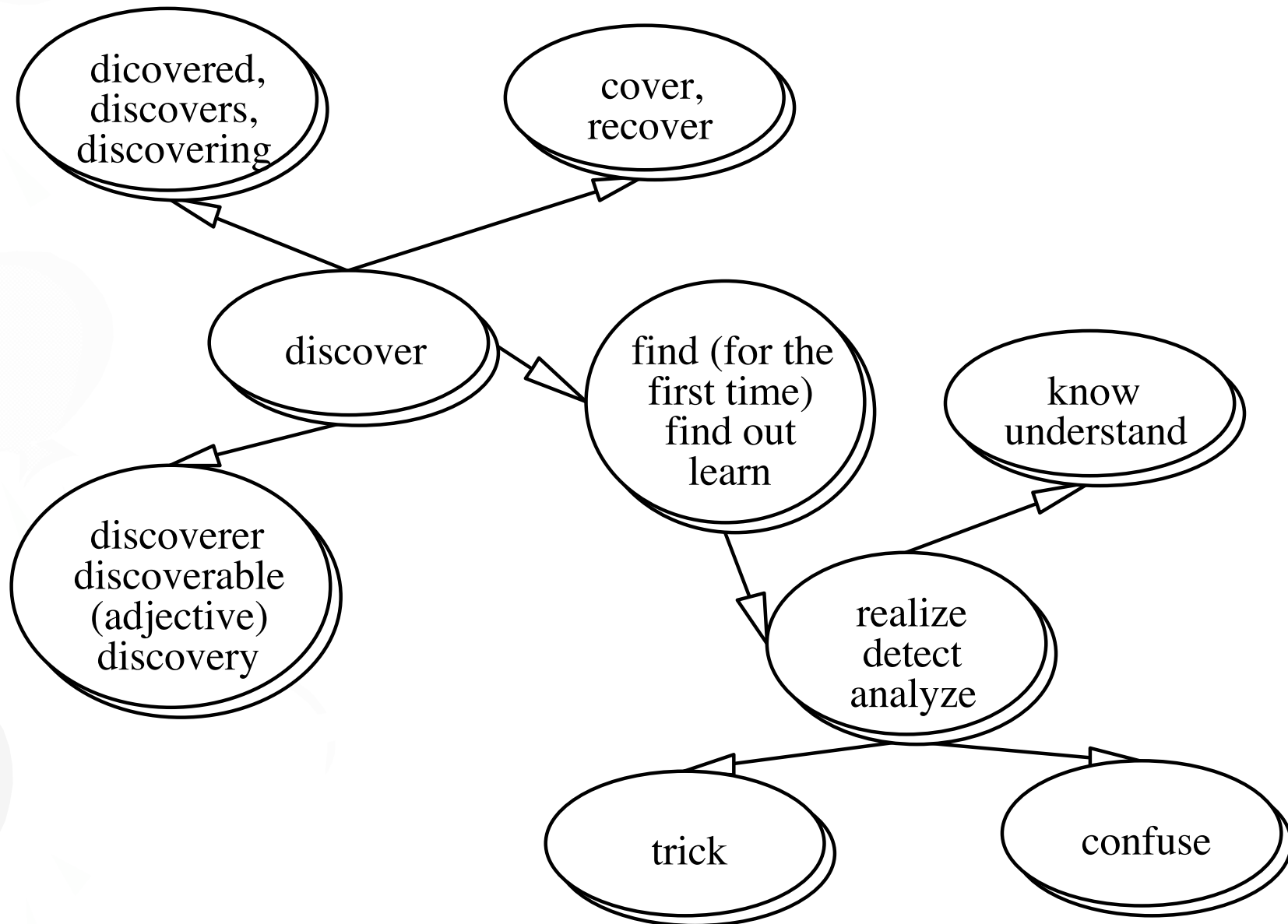
The vocabulary curriculum: What's common? What's unique?

- 1. Sufficient frequency to be useful--but sufficiently “unknown” to merit instruction**
- 2. Morphological families--Spanish cognates**
- 3. Complex meanings**
- 4. Multiple meanings**
- 5. Semantic connections**
 - 7,230 “elementary school words” fit into 61 instructional clusters (Marzano & Marzano, 1988)**
- 6. Thematic connections**

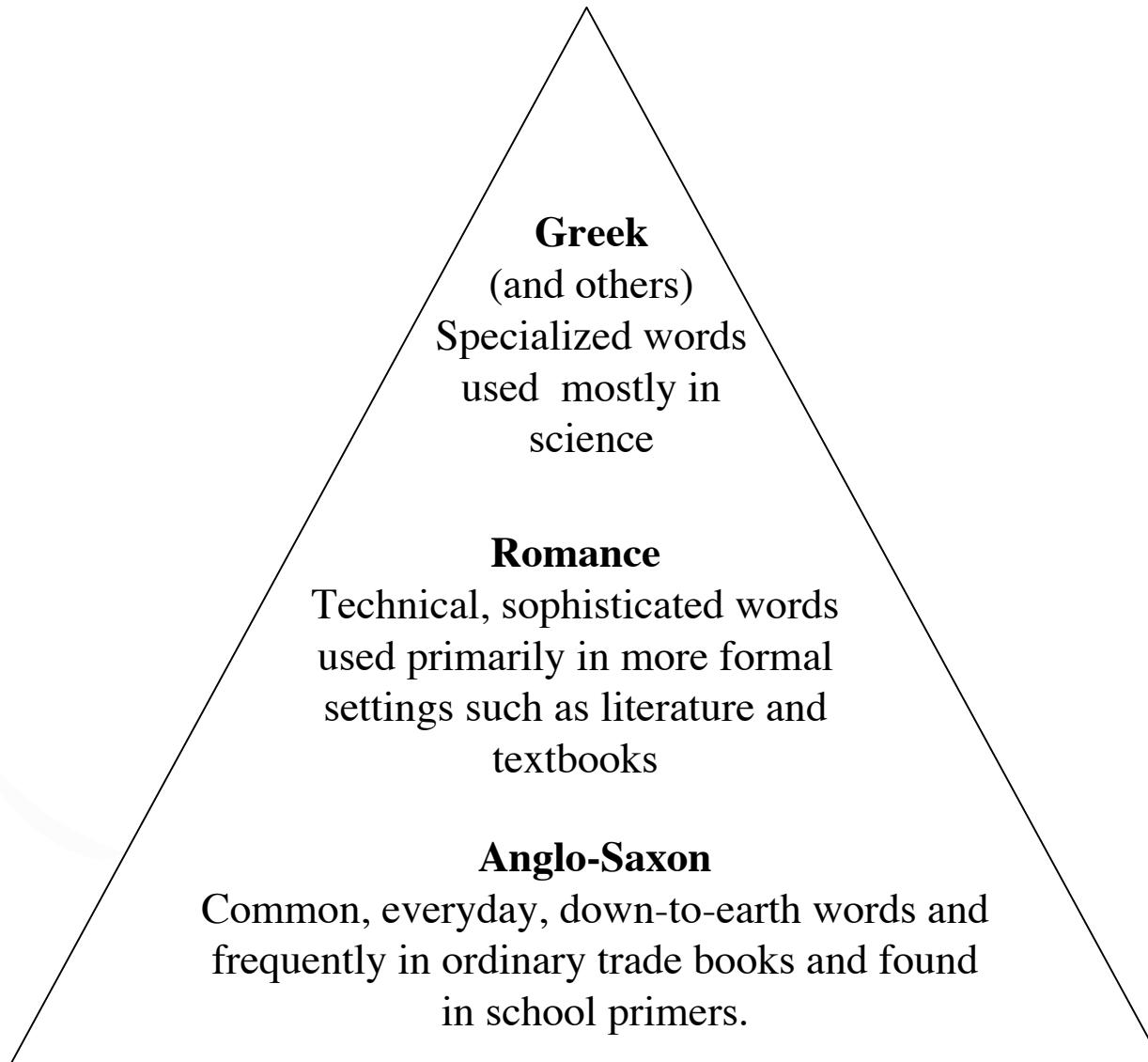
Morphological



Morphological Plus Semantic Connections



Spanish cognates



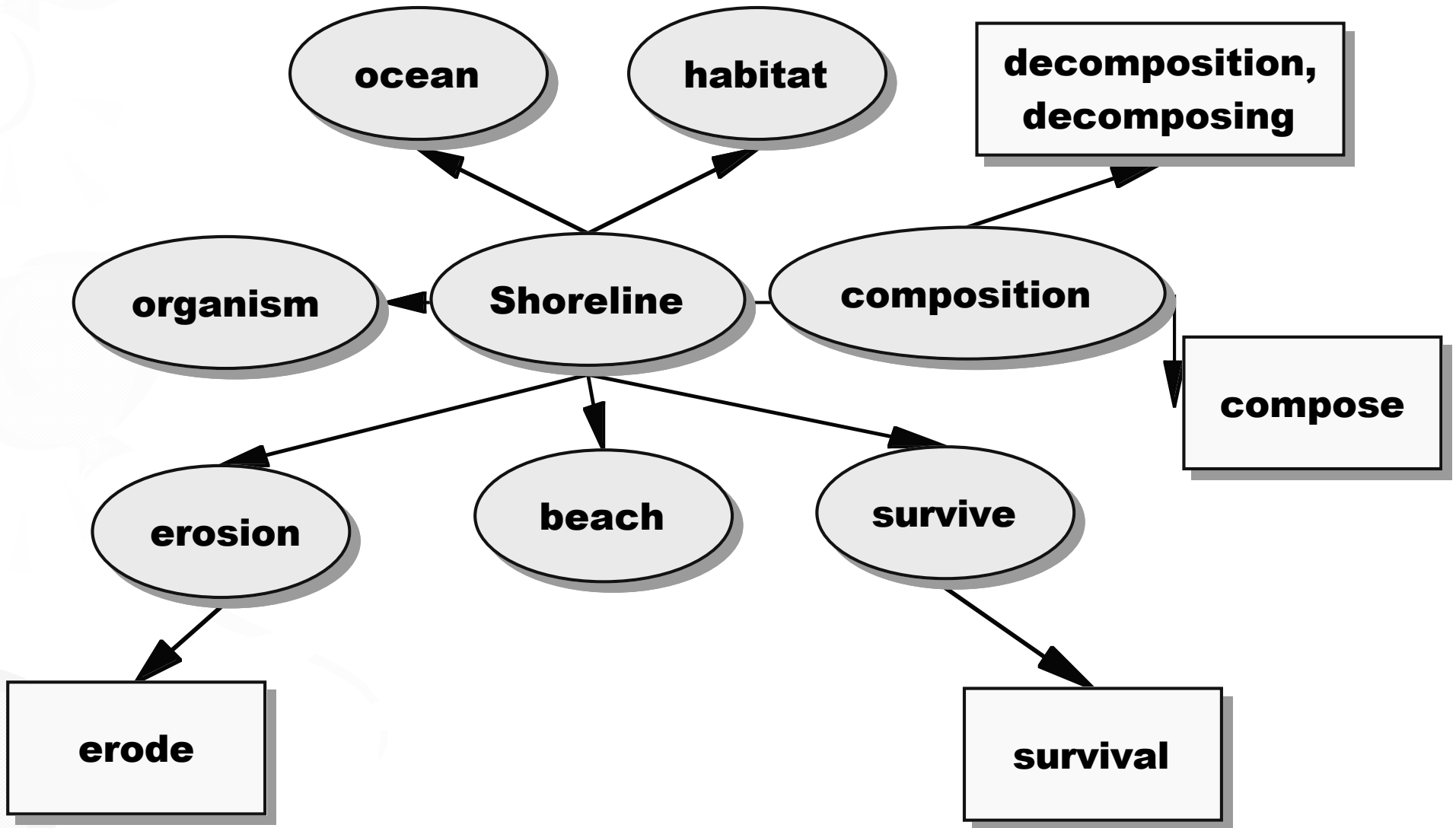
(from Calfee & Drum, 1981)

10 Common English Words & Their Latin and Spanish Equivalents

English common word	Examples of English literary/academic words	Latin root	Spanish common word
brave	valiant, valorous, valor	valere (to be strong)	valiente
bug	insect, insecticide, insectivore	insectum	insecto
dig	cavern(ous), cave, cavity, excavate	cavus (hollow)	excavar
empty	vacant, vacate, vacancy	vacare (to be empty)	vacía
enough	sufficient, suffice, sufficiency	sufficiere (to provide)	suficiente
first	prime, primate, primal, primacy, primary, primer, primitive	primus (first)	primero
mean	significance, significant	significans (meaning)	significar
moon	lunar, lunacy, lunatic, lunation	luna (moon)	luna
sell	vendor, vend, venal	venus (sale)	vender
wash	lather, lavatory	lavare (to wash)	lavar

Adapted from Kamil & Hiebert (2005).

Thematic Vocabulary



Picture Vocabulary Results

		N	Mean Pre	Mean Post	Effect Size Post	Gain	Effect Size Gain
Shoreline	Seeds-Roots	342	4.71	5.60	.40	.88	.18
	GEMS	148	4.53	5.07		.56	
Terrarium	Seeds-Roots	342	3.12	3.53	.22	.40	.15
	GEMS	148	3.10	3.33		.23	

Significant differences in favor of the S&R intervention for both, but marginal on Terrarium items

Vocabulary (Semantic Associations): Results

		N	Mean Pre	Mean Post	Effect Size Post	Gain	Effect Size Gain
Shoreline	Seeds-Roots	342	8.62	12.98	.57	4.35	.77
	GEMS	147	8.64	10.49		1.88	
Terrarium	Seeds-Roots	342	2.80	3.81	.30	1.00	.39
	GEMS	147	2.88	3.35		.48	

Significant effects on both taught (shoreline) and not taught (terrarium) vocabulary, but the effect size is nearly double for the taught vocabulary.

Words THAT SHOULD BE Taught DEEPLY in HM Gr2/Unit 4

attention* discovered* formed groups noticed replied	accept* advantage* allowed argument* commands* department expression* guarded* officer/official* tending*	creature experts* horizon*
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Morphological Connections: HM Gr 2/Unit 4

accept*	accepted	acceptable	acceptance	
advantage*	advantages			
allowed	allow	allows	allowing	
argument*	arguments	argued	argue	
attention*	attend	attended		
commands*	commander	command		
creature	creatures			
department	departments			
discovered*	discover	discovery	discoveries	
experts*	expert			
expression*	expressed	expressions	express	
formed	form	forms	forming	formation
groups	group	grouped		
guarded*	guard	guards		
horizon*	horizontal			
noticed	notice			
officer/official*	officers	offices	officials	office
replied	reply			
tending*	tends	tended	tendency	tend

While both fluency and a rich vocabulary involve attention to and knowledge of words, the words on which initial fluency is based and the words of a rich vocabulary differ.

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information:
www.textproject.org**

