Word Meaning Inference and Individual Differences

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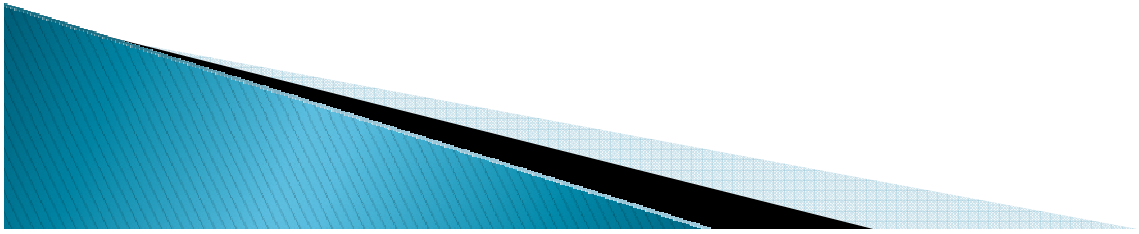
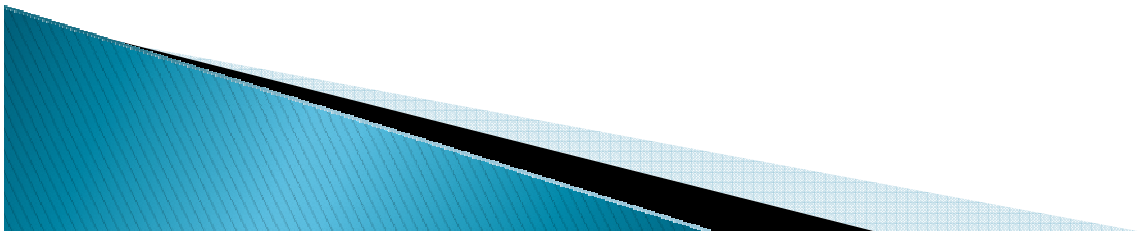


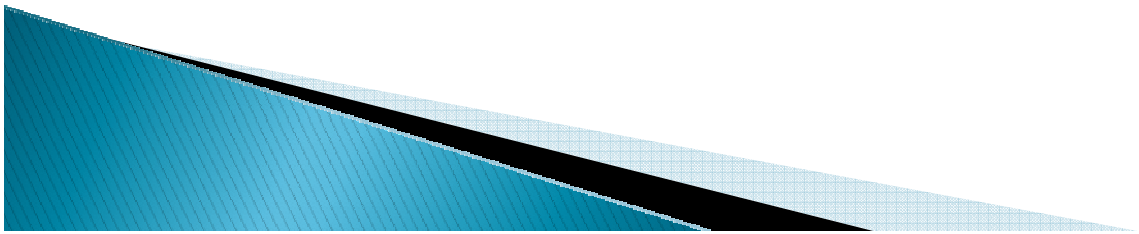
Vocabulary is Critical for Comprehension

- Low vocabulary predicts lower oral and reading language comprehension.
- By grade 3 or 4, vocabulary is the main limit to comprehension not word-reading skill. (Most children can read more words than they understand.)
- Vocabulary is not the only determinant of comprehension

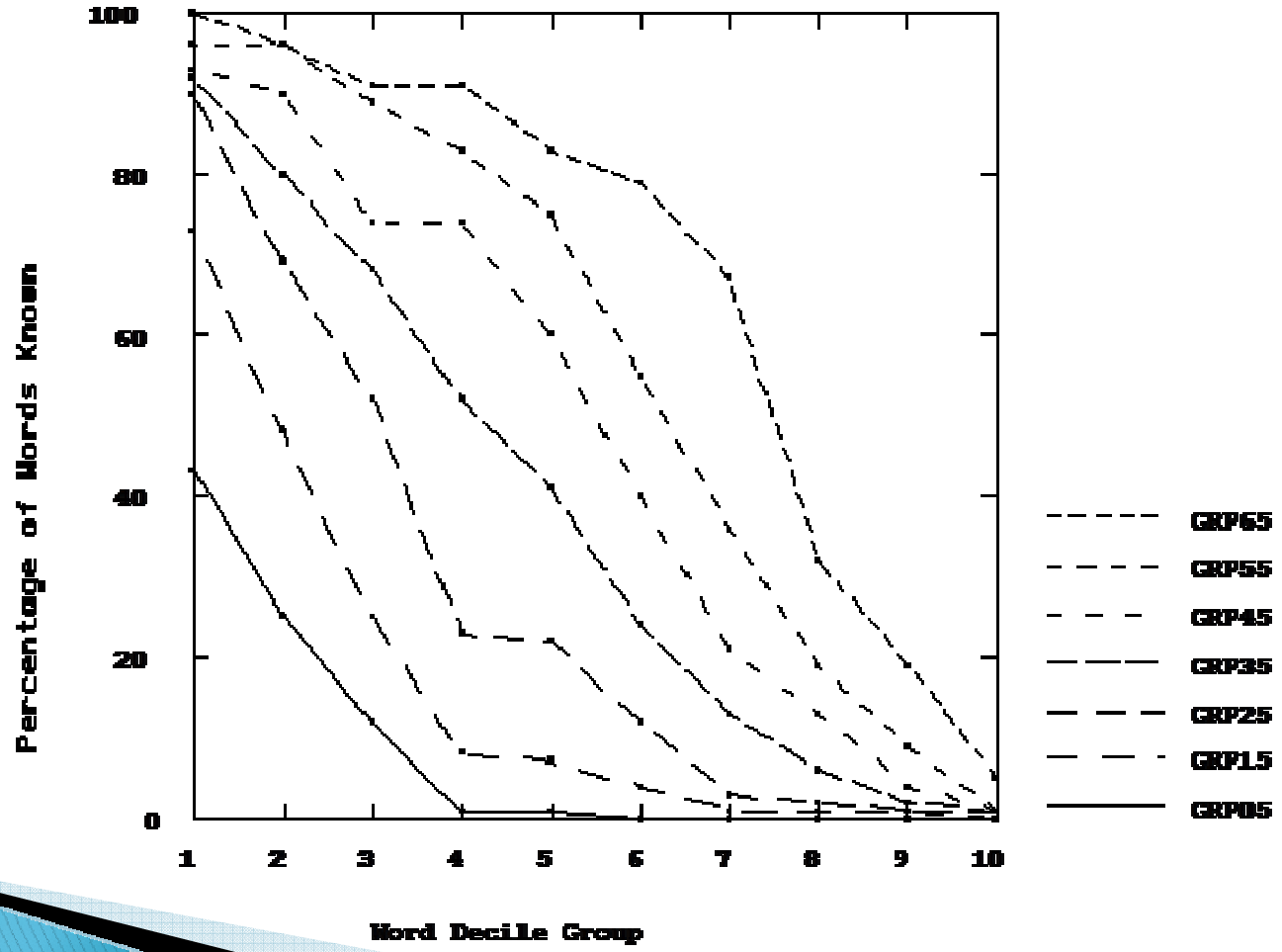


Vocabulary Development

- Word meanings – acquired in sequence
- Roughly 1000 root words/year (2.7 meanings/day)
- Average – 6000 meanings by end grade 2
- Low quartile: 4000 meanings
- Hi quartile: 8000 meanings
- FOUR year difference between low and high quartiles!

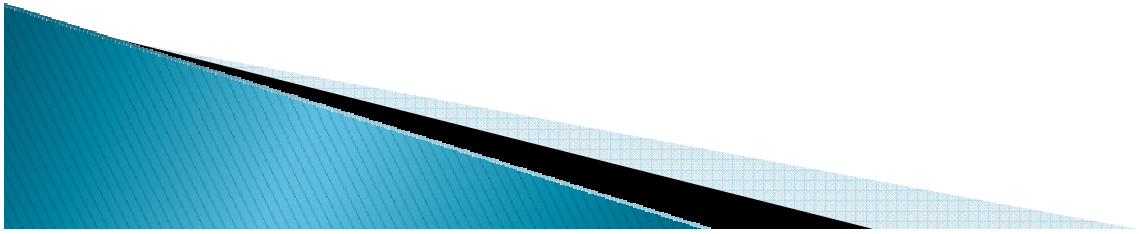


Sequence: Words known by vocabulary group



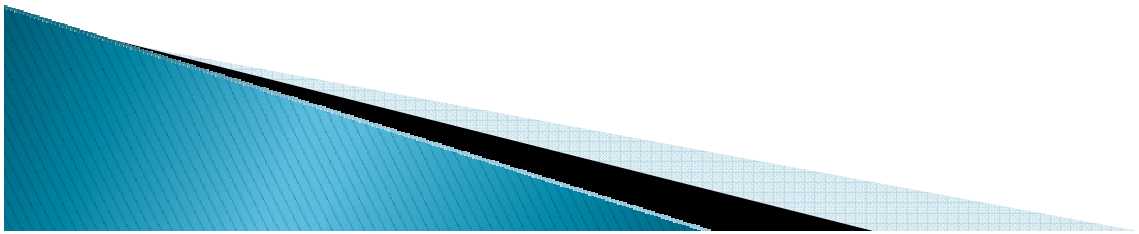
Vocabulary Differences

- Children with large vocabularies learn words *at home.*
- There may also be differences in ease of acquiring words, especially by inference.
- *Currently schools do little to build vocabulary in primary grades (US/Canada).*
- New curricula will emphasize vocabulary more, but not often very effectively.



Acquiring Vocabulary

- We acquire words from explanations (casual explanations, instruction, later appositions)
- Many individuals infer some words incidentally “from exposure”.
- Literate individuals do infer some meanings “intentionally”.
- *However, grade 6 students report that the majority of meanings learned were explained by others!*

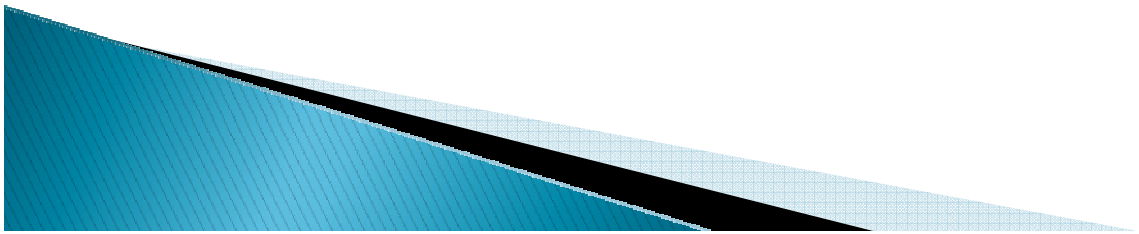


Root vs. Derived Meanings

- Anglin, Nagy, and Biemiller all estimate that about 1000 root word meanings are acquired per year.
- Anglin suggests that by grade1, children acquire 3000 derived, compounded, or idiomatic meanings in addition to 1000 root meanings.
- I *hypothesize* that most derived meanings are *inferred* from context--when *root* meanings are *known.*

What about Inferring Root Meanings?

- There are age differences in inference.
- Probably more inference of meanings from written text than from oral language.
- When students know most vocabulary in a text, chances of inferring unknown meanings is higher.
- Inference talent differs.
- Nagy reports that the chance of inferring unknown meanings in grades 3 – 5 is about 5%.

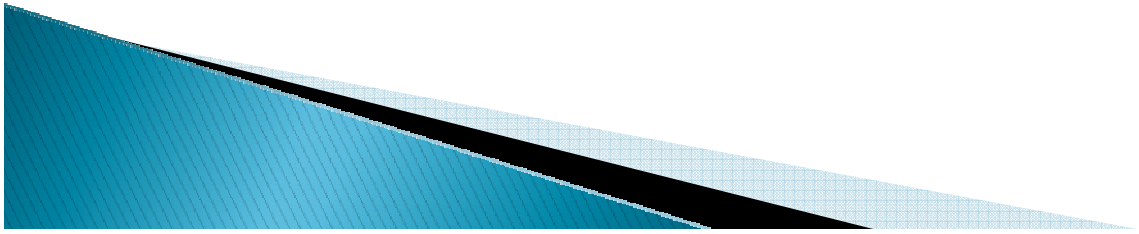


Low Vocabulary Students

- Low vocabulary grade 1 or 2 students know the first 2500 meanings.
- And by grades 1 or 2, they know 1500 higher priority meanings.
- But by this point, *average* children know 3500 higher priority meanings.
- By grade 4, low vocabulary students learn meanings known by average students in grade 2.
- But they are *not* prepared for “grade level” texts by 3rd or 4th grade.

Practical Implication: Primary

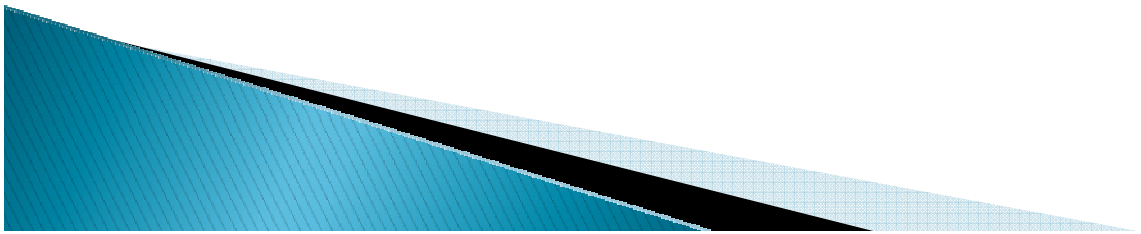
- We must work harder in primary schools to teach vocabulary that low-vocabulary students *need.*
- Teaching vocabulary is as important as teaching about numbers and decoding print.
- Teaching vocabulary in primary schools should mainly occur with more advanced texts than preliterate children can read.



WHAT Meanings Should We Teach?

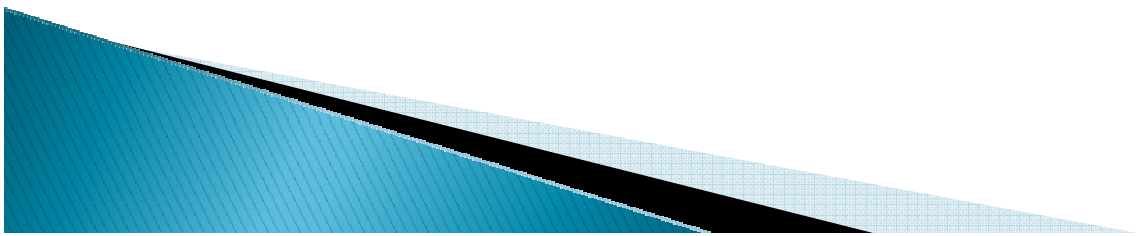
Because meanings are learned in a predictable order, meanings *known* by those with large vocabularies are the meanings *needed* by those with small vocabularies.

We have identified 1600 root word meanings needed between kindergarten and grade 2.



What Works in Upper Elementary?

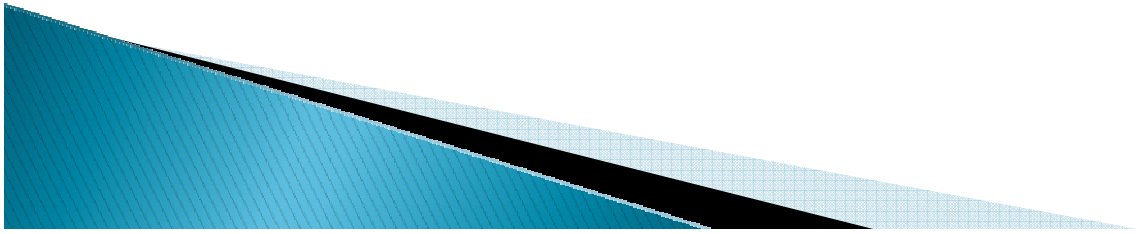
- There have been few studies regarding student differences in use of derived meanings.
- There is evidence for effectiveness of instruction in using affixes, etc.
- “Wide reading” is not a panacea.



Practical Implications: Upper Elementary

We should:

- Teach *text-critical vocabulary*.
- Teach use of affixes and compounds.
- Alert students to unknown meanings, including alternative meanings of "known" words.
- Make students responsible for learning *general vocabulary* in school texts.
- *Test* some text-critical and general vocabulary.

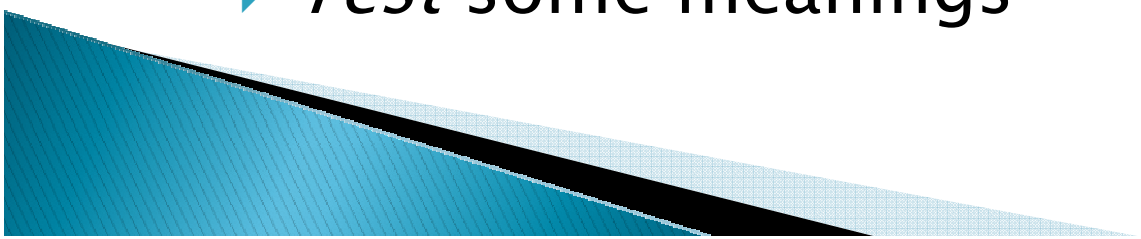


General Vocabulary for Upper Elementary Grades

- Word meanings known by those with *large* vocabularies by grade 6 are *needed* by those with small vocabularies.
- We have found 2700 high priority general vocabulary meanings to be covered between grades 3 and 6.
- In addition, some of the “difficult” meanings for elementary students could be taught or addressed. We list 3500 “difficult” root meanings.

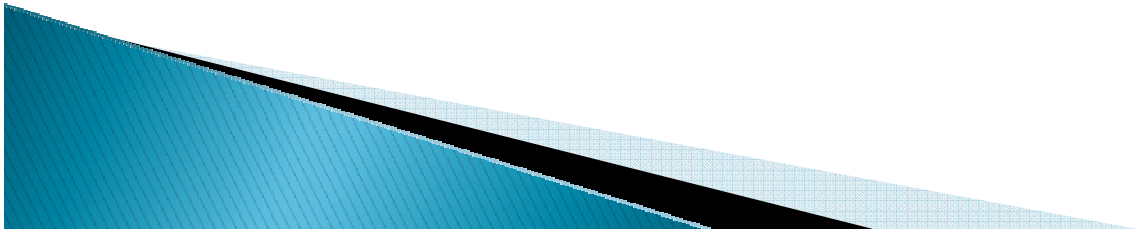
Student Responsibility for Meanings

- Some student *identification* of meanings needed + some teacher identification
- Ask peers
- Strategies to infer or construct meanings (limited success to date)
- Group efforts to determine meanings
- Use dictionaries (limited value)
- *Test* some meanings



Problems to be studied.

- How well do students now infer meanings of derived words when roots are known?
- Can most students learn to identify *needed* meanings occurring in text?
- Can most students (at age?) learn to find meanings in reasonably supportive text?
- Can most students (at age?) learn to use affixes to interpret word meanings when root meanings are known?



Conclusion

- Without vocabulary instruction, many US/Canada students don't complete high school
- Vocabulary deficits are present *before* students become literate
- "Wide reading" and meaning inference are not sufficient to remediate low vocabulary
- Direct vocabulary instruction in primary would help
- Additional direct vocabulary combined with affix and other skills are needed in the upper elementary grades