

Cain, K., Lemmon, K., & Oakhill, J. (2004). Individual differences in the inference of word meanings from context: The influence of reading comprehension, vocabulary knowledge, and memory capacity. *Journal of Educational Psychology, 96*, 671-681.

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Summary: Two studies examined the ability of 9-10 year old students with poor and good reading comprehension skills to use contextual information in stories to understand novel words. The 1<sup>st</sup> study found students with poor reading comprehension skills “were impaired when the processing demands of the test were the greatest” (p. 671). In the 2<sup>nd</sup> study, results showed “working memory capacity was related to performance” (p. 671). However, “short term memory span and memory for literal content of the test were not” (p. 671). Furthermore, results indicated learning novel words was compromised when children had both low reading comprehension skills and low vocabulary knowledge. This was not the case for students who solely had low reading comprehension skills and were taught through direct instruction.

Assumptions:

- There is a relationship between reading comprehension and vocabulary knowledge.
- Vocabulary knowledge is a good predictor of verbal I.Q.
- Vocabulary gains tend to be smaller when garnered through contextual analysis compared to vocabulary gains made through direct instruction. However, both can facilitate vocabulary knowledge.
- Students with better “language skills” (p. 672) perform better on various vocabulary tasks than their peers with lower language skills.
- Increased vocabulary size relates to an increase in memory efficiency.

Results:

Study # 1

- Students with low reading comprehension skills were less able, than students with high reading comprehension skills, to understand novel words from the context of the text.
- The lower reading comprehension group was more affected by the distance between the novel word and the contextual explanation of that word than the group with higher reading comprehension skills. That is, “filler text” (p. 674) between the novel word and the context supporting the novel word should be decreased to support contextual understanding of novel words among students with lower reading comprehension skills.
- Comprehension ability had a significant effect on understanding of novel words.
- The lower skilled students encountered more problems when the working memory demands increased on a task.

Study #2

- Under direct instruction, students with lower vocabulary and reading comprehension skills needed more repetition to acquire novel words.
- In the short term, students with weak vocabulary and reading comprehension skills, students with only weak reading comprehension skills, and students with high reading comprehension skills were all able to acquire vocabulary knowledge. However, students' reading comprehension skills affected the magnitude of those gains.
- Both groups of lesser skilled comprehension students had similar difficulties, as in study # 1, in novel word acquisition when the distance increased between the novel word and its contextual clues.
- Both lesser skilled comprehension groups had weaker results on vocabulary understanding when compared to the higher skilled comprehension group. However, only the students with low reading comprehension skills in conjunction with weak vocabularies were “impaired” (p. 678) during direct instruction.

#### Conclusion:

- Students with lower reading comprehension skills and vocabularies experienced more challenges in their acquisition of novel words from contextual clues than the peers with higher reading comprehension skills.
- One reason for this imbalance between the two groups “was the processing demands of the task” (p. 678).
- Students with low reading comprehension skills and vocabularies and students with low reading comprehension skills alone had challenges in acquiring novel words if the distance between the novel word and its contextual clues was too great.
- Direct instruction was least helpful in acquiring new vocabulary among students with solely low reading comprehension skills. This sentence seems to contradict the last sentence in the last bullet under the results' section.

#### Suggestions for Teachers:

- Repetition may be needed for students with low reading comprehension skills and vocabularies to acquire novel words.
- Novel words should be explained during shared reading experiences.
- More time should be devoted to promoting vocabulary acquisition among students with low reading comprehension skills.
- Direct instruction can benefit students with low reading comprehension skills if their vocabulary skills are strong.
- When using contextual analysis, teachers should ensure the novel words are in close proximity to their contextual explanations.

#### Suggestions for Literacy Leaders:

- Time should be increased in direct instruction for students with low reading comprehension skills to support their vocabulary knowledge but only if their vocabulary skills are strong.
- Promoting contextual analysis will enable students to understand novel words independent of instruction.

- Choosing the appropriate texts will be critical in promoting novel word acquisition. There should be limited space between the novel word and the contextual clues informing the novel word.