

VOCABULARY INSTRUCTION, READING COMPREHENSION, AND STUDENT  
RETENTION: A REVIEW OF LITERATURE

by  
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Table of Contents

Abstract.....3

Chapter I: Introduction

    Statement of Problem.....4

    Research Question .....4-5

    Definition of Terms.....5

Chapter II: Review of Literature

    Vocabulary .....6-7

    Context and Comprehension.....7-14

    Semantic Mapping.....14-19

    Combination of Instruction.....19-24

    Student Retention.....24-26

Chapter III: Results and Analysis Relative to the Problem .....27-28

Chapter IV: Recommendations and Conclusion

    Recommendation.....29

    Areas for Further Research .....29-31

    Summary and Conclusion .....31

References .....32-34

## Abstract

The following literature review is an analysis of the relationship of vocabulary instruction, reading comprehension, and student retention. Vocabulary *can* affect comprehension; however the most effective method of vocabulary instruction has yet to be determined. Context, semantic mapping, and a combination of instructional approaches are examined. Many types of vocabulary instruction can have a positive effect on comprehension, particularly when these methods rely on multiple exposures to a word and interactive approaches. Student retention and level of word knowledge need to be investigated further.

## Chapter I: Introduction

Researchers suggest that early elementary students' word knowledge is a determinant of reading comprehension both in early elementary school and throughout their schooling (Juel and Deffes, 2004). Specifically, one such argument is "The vocabulary of entering first graders predicts not only their word reading ability at the end of first grade but also their 11<sup>th</sup> grade reading comprehension" (p. 31). This stated relationship between word knowledge and reading comprehension dates back to Thorndike's (1917) landmark study and other replication studies as well (Becker, 1977; Cunningham & Stanovich, 1997; Biemiller & Slonim, 2001). While the relationship between vocabulary and reading comprehension appears to be established, instructional methods to effectively increase students' word knowledge and comprehension are not. Determining which instructional method or methods will positively affect students' word knowledge, reading comprehension, and retention of these skills is both timely and significant.

*Statement of the Problem*

Jitendra, Edwards, Sacks, & Jacobson (2004) concluded, "vocabulary and word knowledge *can* contribute to improved comprehension, and it provides a sound rationale for increased emphasis on vocabulary instruction" *italics added* (p. 299). Bromley (2007) reported, "Vocabulary *is* a principle contributor to comprehension, fluency, and achievement" *italics added* (p. 528). Literally, the statement of the problem for this literature review is the words "can" and "is" in the quoted statements above. Does vocabulary instruction improve comprehension?

*Research Question*

Positively affecting reading comprehension and increasing vocabulary are significant teacher tasks. However, being able to affect how students retain and then transfer these skills in

the future must also be considered. Martin-Chang, Levy, and O’Neil (2007) state, “Successful reading instruction entails not only acquiring new words but also remembering them after training has finished and accessing their word-specific representations when they are encountered in new text” ( p. 37).

While there appears to be a relationship between vocabulary, reading comprehension, and the need for students to retain and apply these skills in future reading tasks, one wonders the degree to which these are related. The research question guiding this review of literature was: What is the relationship between vocabulary instruction, reading comprehension and student retention?

#### *Definition of Terms*

cloze procedure - “a multifunctional strategy, which can be used for reading diagnosis and reading comprehension instruction” where students “fill in a missing word in a piece of text or a familiar language pattern” (Chatel, 2001, p. 3)

comprehension – “understanding written text” (Tannenbaum, Torgesen, & Wagner, 2006, p. 381)

context – “the language that surrounds a given word or phrase” (Moats, 2005, p. 66)

phonology – “rules system within a language by which phonemes [individual speech sounds] can be sequenced, combined, and pronounced to make words” (Moats, 2005, p. 68)

semantic mapping – “a categorical structuring of information in graphic form” (Johnson, Pittelman, Heimlich, 1986, p. 779)

vocabulary – “words that a reader recognizes in print” and “learning *meanings* of new words” (Beck, McKeown, Kucan, 2008, p.1)

## Chapter II: Review of the Literature

This review of literature will describe research on vocabulary, vocabulary instruction, reading comprehension, and student retention.

*Vocabulary*

Nash and Snowling (2006) describe vocabulary as “the knowledge of words and their meanings” (p. 336). While Sheehan (2002) states vocabulary is “the ability to understand and use words to acquire and convey meaning” (Vocabulary, para. 1). Vocabulary is an essential element of reading instruction.

Clearly, vocabulary and comprehension are closely connected skills. Each skill is imperative to reading achievement, yet one relies heavily on the other. This intricate relationship has been documented by many researchers. “Vocabulary development is both an outcome of comprehension and a precursor to it, with word meanings making up as much as 70-80% of comprehension” (Bromley, 2002, p. 528). Harmon (2002) notes, “Many students continue to struggle with comprehension because of limited vocabulary knowledge and ineffective strategies” (p. 606).

While many researchers have examined the correlation between vocabulary and comprehension, other researchers have described how a larger vocabulary contributes to other areas of school success. Manzo, Manzo, and Thomas (2006) concluded “word learning can improve the *capacity* to learn” and “a rich vocabulary increases comprehension and, therefore, most all learning” (p. 615). Simply stated, Lubliner and Smetana (2005) declared, “Children with larger vocabularies find reading easier, read more widely, and do better in school” (p. 163). Students with larger vocabularies usually articulate responses to questions and ask better

questions than their peers with limited vocabularies. Vocabulary can not only contribute to achievements in language arts classes, but to other areas of study as well.

Reading researchers emphasize the importance for teachers to utilize an effective vocabulary instruction method to improve comprehension as early as possible. Jenkins, Matlock, and Slocum (1989) stress how students can be negatively affected by poor reading comprehension. “With each year of schooling, texts take on a larger role in instruction, and factors that may inhibit comprehension of these texts, such as a lack of vocabulary knowledge, can be expected to have increasingly detrimental effects on achievement” (p. 217). Recognizing and understanding more words will increase the likelihood that students will comprehend what they are reading and therefore perform better in school.

Although it appears students can benefit from teachers who include vocabulary instruction in their lessons; instructional methods of *effective* vocabulary instruction remain elusive. Bromley (2007) states, “Many teachers know they need to do a better job teaching vocabulary to students who find reading difficult” (p. 528). However, selecting the most appropriate method of vocabulary instruction is a difficult task. Lubliner and Smetana (2005) describe this difficulty in their work, “The ultimate challenge of a vocabulary intervention is not merely to teach a set of words or skills, but to positively affect reading comprehension” (p. 189). Methods of vocabulary instruction vary greatly. Three of the most researched instructional methods, contextual, semantic mapping, and combination instructional approaches are the basis of this literature review.

### *Context and Comprehension*

Contextual vocabulary instruction involves teaching students to use the context, or words appearing directly before and after, of a sentence to determine a word’s meaning. Students can

use the contextual vocabulary method during independent reading as well as during teacher-led vocabulary lessons. “Learning from context is an important avenue of vocabulary growth and it deserves attention and practice in the classroom” (Nagy, 1988, p. 7).

Two types of contextual methods of vocabulary instruction are pedagogical and natural. Each method focuses on teaching students to use context to determine meaning. The first contextual method is called the pedagogical or instructional method. Teachers and/or authors of basal reading series write sentences specifically to teach the meaning of the vocabulary words within context. This contextual method is called the pedagogical or instructional method. One example of an instructional context sentence appears in work by Herman and Dole (1988). “Mastodons became *extinct* years ago when the last one died” (p. 47). Students can use the information from the sentence to determine *extinct*’s definition.

The second approach, natural contextual method, uses sentences containing the vocabulary words; however the sentences were written to communicate information rather than teach word meanings. An example of a natural context sentence is “The cobbler mended my favorite red sandals.” Because this sentence does not tell specifics about a cobbler, students must *infer* the meaning from the rest of the sentence.

Teachers should carefully monitor student inferences when using this method. Based on natural context, students’ inferences about a word’s meaning could be wrong. Nagy used the following example to illustrate this possibility: “Although Mary was thin, her sister was obese”. Students may infer that obese means “normal,” “unconcerned,” or “not jealous” (p. 7). He also noted that this example relied on contrast and other less informative contexts “would allow an even wider range of possible substitutions” (p. 7). Knowing the possibility for student errors while using this method is important for teachers to understand and examine.

Teachers implement contextual vocabulary instruction by training students to use clues in the sentence. Nash & Snowling (2006) described the process as: “Strategies for teaching children how to derive meaning from context focus on using pieces of information (clues) in the context to infer the meanings of target words” (p.337). By showing students how to recognize these clues, students can then use this strategy during independent reading. The contextual methods do not require any specific materials or specialized training for the teacher and can be used on as many words as deemed necessary by the teacher. In the section that follows, I will review three studies conducted to examine contextual strategies in comparison with other instructional strategies and their potential to improve vocabulary, comprehension, and student retention.

#### *Comparison of Definition and Context Instruction*

Nash and Snowling (2006) asked which of two methods of vocabulary instruction was more effective in increasing vocabulary knowledge in students with poor existing vocabulary knowledge. Their purpose was to determine if one method of vocabulary instruction also caused an increase of students’ reading comprehension scores. The two vocabulary instruction methods were a definition program, where students were given the definitions of words and then wrote these words on paper, and a context program, where students were given a few sentences for each word in context and then discussed context cues.

This experimental study began with 71 participants (41 females and 30 males) from a primary school in York, England. Students were screened using tests of receptive vocabulary, narrative skills, and reading. After the screening, 24 children (ten females and 14 males) were determined to be the bottom third of the sample and were then placed into one of the intervention groups. “Children were ranked and assigned in closely matched pairs to one of the two teaching

programs” (p. 339). To ensure only the method of instruction varied between groups, several factors were carefully controlled. Both groups had the same instructor, amount of time per lesson, days of instruction, vocabulary words, and number of students.

Hypotheses tested were: student instruction will show a “difference in favour [sic] of the context group in terms of expressive but not receptive vocabulary score” (p. 339) when compared to the definitions method and “reading comprehension of the passage containing taught words should be significantly better at post-test for the context group than the definitions group” (p. 339).

Students from each intervention group were given two vocabulary post-tests, one immediately after teaching and then three months later.

<b>Vocabulary Scores</b>			
	<b>Pre-test – Expressive Vocabulary</b>  (maximum score = 48)	<b>Post-tests – Expressive Vocabulary</b>	
		<b>Post-test #1</b> (maximum score = 48)	<b>Post-test #2</b> (maximum score = 48)
<b>Definition Group</b>	2.17	11.08	8.41
<b>Context Group</b>	1.92	12.50	13.58

Nash and Snowling determined there was a “significant difference [p < 0.05] between the two groups” (p. 346) on post-test 2 and “a significant decline in expressive vocabulary knowledge from post-test 1 to post-test 2 for the definitions group but a non-significant increase for the context group” (p. 346).

Reading passage comprehension scores were also obtained for the two groups of students. An overall comprehension score and a new vocabulary dependent question score (questions based on a correct understanding of the taught vocabulary) were gathered before and after instruction.

<b>Reading Comprehension Scores</b>				
	<b>Overall Comprehension</b>		<b>Vocabulary Dependent Questions</b>	
	<b>Pre-test</b> (maximum score = 8)	<b>Post-test</b> (maximum score = 8)	<b>Pre-test</b> (maximum score = 4)	<b>Post-test</b> (maximum score = 4)
<b>Definition Group</b>	2.83	4.33	0.83	1.58
<b>Context Group</b>	3.25	5.33	0.75	2.75

Nash and Snowling suggest these data show a “significant difference [ $p < 0.001$ ] in favour [sic] of the context group on the comprehension passage for the questions that relied upon knowledge of the taught words” (p. 349).

These results substantiated each hypothesis, suggesting contextual vocabulary instruction increases vocabulary knowledge of those students with poor existing vocabulary knowledge and may also increase reading comprehension. Further findings implied that students instructed in the context method retained their skills longer than those students in the definitions group.

*Comparison of Direct Teaching and Context Instruction*

Jenkins, Matlock, and Slocum (1989) compared the effects of two types of vocabulary instruction on learning individual words and on deriving word meaning from context for 135 fifth grade students. Six fifth-grade classrooms from different schools in the same school district were selected to participate in the experiment. Three classrooms were randomly assigned to the

two different instruction methods: individual meanings and deriving meaning from context. Each of the six classrooms was then randomly assigned to low, medium, or high amounts of practice for their respective instruction method. Using the California Achievement Test as a baseline, on both vocabulary and reading comprehension, there was “no significant difference between classes for achievement test scores in either vocabulary or reading” (p. 220).

Using teacher scripts to ensure proper implementation of the experimental technique, students in the individual meanings received instruction for 45 words. Students in the low practice group received nine days of instruction with only one exposure to each word. The medium practice group received three exposures to each word over eleven days of instruction. During twenty days of instruction, the high practice group was exposed to each word six times (p. 221).

Students that participated in the deriving meaning instruction groups were taught how to use a strategy to gain understanding of an unfamiliar word. Emphasis was placed on context to gain meaning. Teachers also followed a strict format for this instruction. An acronym was used with the students so they could easily remember the steps. The SCANR strategy is:

Substitute a word or expression for the unknown word.

Check the context for clues that support your idea.

Ask if substitution fits all context clues.

Need a new idea?

Revise your idea to fit the context. (p. 221)

In the deriving meaning instruction group, students were also assigned to different levels of practice. The low practice group had nine sessions with practice in gaining meaning for five words during each session. Medium practice students had eleven sessions with practice in

gaining meaning for fifteen words per session. High practice students had twenty sessions with practice for fifteen words in each session.

Pre- and post-tests were administered to all students to determine skills for words in isolation and words in context. Two pre-tests were given; one required students to write synonyms or definitions for words in isolation, the other required students to write synonyms or definitions for words given in context. With a maximum score of 20, students on the pre-test scored 0.73 on the words in isolation assessment, and 1.12 on the pre-test for words in context. On the post tests, students from all three levels of practice for individual meanings instruction outscored students from all three levels of deriving meaning instruction. The students from the high practice individual meanings group outscored (10.05 – words in isolation, 13.24 words in context) all other students on the post-tests. “There was no significant difference between the three deriving meaning groups” (p. 224).

Researchers suggest, based on their data, higher levels of instruction for individual word meanings leads to a deeper understanding of those words. The next study examines the relationship between context instruction and non-specific instruction.

#### *Comparison of Context and Non-Specific Instruction*

Nelson and Stage (2007) evaluated the effectiveness of a context-based vocabulary instruction program on third and fifth grade students’ word knowledge and reading comprehension. 283 students, 134 from the third grade and 149 from the fifth grade participated in this study. Students were randomly assigned to non-specific or contextual instruction groups. All students were pre- and post-tested in vocabulary and comprehension to determine effects of instruction. Based on their scores, students were placed in one of two groups, low or average to

high. A separate high group was not established because few students ( $n = 7$ ) received scores more than one standard deviation above the mean.

Over the course of four months, teachers provided vocabulary instruction to the students; the control group received non-specific instruction (only the instruction suggested by the basal reading program), while the experimental group received the context-based instruction. Within the context group, teachers were provided with professional development opportunities in how to present lessons using the context method. Teachers executed the context method by selecting the words to be taught and devoting two days of instruction, 20-30 minutes each day, for each word.

When data sets of pre- and post-tests for both initial low scoring and average to high scoring students were compared, “students generally showed improvements in their vocabulary skills from pre to post-treatment” (p. 14). Third grade students that scored low initially showed greater gains than their low scoring counterparts in fifth grade. “Students in the experimental condition showed moderate to large improvements in their reading comprehension skills relative to students in the non-specific treatment condition” (p. 14). Due to time constraints, researchers were unable to determine whether students were able to retain the gains in vocabulary knowledge and reading comprehension over an extended period of time.

The previous studies examined the relationships between context instruction, vocabulary acquisition, and reading comprehension. In the next section, the vocabulary instruction strategy known as semantic mapping will be examined.

### *Semantic Mapping*

Another frequently researched method of vocabulary instruction is semantic mapping. Semantic mapping is a method of vocabulary instruction that allows students to make connections between a new vocabulary word and words that are already known. Johnson,

Pittelman, and Heimlich (1986) define semantic mapping as, “a categorical structuring of information in graphic form” (p. 779). Rupley, Logan, and Nichols (1999) expound upon Johnson *et al.*'s definition, noting students can, “conceptually explore their knowledge of a new word by mapping it with other words or phrases, which categorically share meaning with the new word” (p. 340).

Nagy also described the purposes of semantic mapping as helping to “activate appropriate background knowledge” (p. 11). Often, students do not use what they already know about a word or words unless prompted. Second, “the procedure allows the teacher to identify and assess the specific background knowledge of the students in that class” (p. 11). Using the information obtained, teachers can then relate new vocabulary to students' prior experiences. Finally, semantic mapping can “provide a rich basis for further writing, as well as reading” (p. 11). Pikulski (1989) further describes an important feature of semantic mapping as “the building of an understanding of how the target vocabulary words relate to known words and concepts” (p. 429). Two studies are examined and compare semantic mapping with other

#### *Comparison of Semantic and Definition Instruction*

Bos and Anders (1990) compared interactive methods of semantic vocabulary instruction with definition-based instruction and their effects on word learning, reading comprehension, and long term retention. Sixty-one junior-high students with learning disabilities were recruited to participate in this study. Students were randomly assigned to one of three interactive instructional groups: semantic mapping (SM), semantic feature analysis (SFA), and semantic/syntactic feature analysis (SSFA). The fourth group was considered non-interactive and labeled definition instruction (DI). Students were given pre-tests, then participated in eight 50-minute lessons over a span of seven weeks, and then post-tested.

The students in the DI group were explicitly taught definitions of vocabulary words in groups of five. All students in the interactive methods were instructed to “construct[ed] a hierarchical relationship map from the vocabulary list” (p. 34). SFA and SSFA students also “predicted the relationships among concepts using the relationship matrix.” (p. 34). An additional feature of the SSFA instructional method was to predict “answers for the cloze-type sentences using their matrix as a guide.” (p. 34). The cloze procedure requires students to “fill in a missing word in a piece of text or a familiar language pattern” (Chatel, 2001, p. 3).

Results from this study showed students in the interactive groups gained more vocabulary knowledge than those students in the DI group, both in short term and long term learning. Students from the interactive instruction groups “scored significantly higher” (p. 36) than their DI counterparts both in short term and long term learning. The researchers suggested that semantic vocabulary instruction positively impacts word learning and comprehension, as well as student retention of these skills.

In the next study, researchers further investigate the effects of semantic learning on acquiring new vocabulary and increasing reading comprehension.

#### *Comparison of semantic learning and phonological learning*

Nation, Snowling, and Clarke (2007) instructed students with poor reading comprehension skills in semantic learning and phonological learning. Phonology is the “rules system within a language by which phonemes [individual speech sounds] can be sequenced, combined, and pronounced to make words” (Moats, 2005, p. 68). This experimental group was then compared to a control group of skilled comprehenders.

To select students to participate in the experiment, the researchers screened 118 children aged 8-9 that attended the same school, assessing their reading accuracy and comprehension.

Randomly selected from the larger sample, the control group of 12 students was comprised of eight girls and four boys. The experimental group was comprised of twelve poor comprehenders, seven girls and five boys. The two groups “did not differ in terms of chronological age, decoding, reading, accuracy or non-verbal ability” (p. 133).

The researchers hypothesized the poor comprehenders would be comparable to skilled comprehenders in phonological learning, but would demonstrate weaknesses in semantic learning.

Using cards printed with four three syllable non-words and four picture representations of these non-words, all children were provided with instruction. Non-words, or nonsense-words, are letters grouped together that can be sounded out, but are not actual words. “Corbealyon” and “groshumble” are two examples of non-words from this study (p. 135). Two sessions, one week apart, were used for this experiment; the first session was used for instruction and recall and recognition tasks, the second session, held one week later, was used for recall and recognition tasks (p. 135).

During instruction, students were shown a picture and then told the matching non-word and its definition. Students were then instructed to repeat the word and definition. The same procedure was followed for all four words, with words being presented in random order. Immediately following the instruction, students were asked to name the pictures. After students attempted naming the cards, feedback was given, either affirming the students’ responses or correcting the responses. These steps, instruction, student attempts, and feedback, were considered one block.

When students were able to name a picture in two consecutive blocks, experimenters considered this item “learned.” All students participated in a minimum of four blocks and a

maximum of twelve. If after twelve blocks students had not learned all four items, they were eliminated from this study. Phonological learning was measured by the number of blocks needed to learn the four words (p. 135).

Semantic learning was measured directly after the vocabulary training. Students were given a nonsense word from the previous task and asked for the definition. This procedure was followed for each of the four nonsense words. Depending on the information students supplied, they were awarded zero to four points for each word, with 16 total possible points.

Immediately after the semantic learning assessment, students' recall was tested. The experimenter shared a definition and students were asked to supply the word. Each of the four words was presented in random order with one point being awarded for each correct match and pronunciation. This same procedure was used one week later as a measure of delayed recall.

For the phonological learning assessment, poor and skilled comprehenders' scores were comparable. Poor comprehenders required a mean of 8.50 blocks to learn the four non-words; skilled comprehenders required a mean of 7.58 blocks to learn the same information.

Semantic learning, as well as delayed recall, showed significantly different results for the two groups. Poor comprehenders' definition knowledge (12.33 out of 16) was significantly ( $p < .02$ ) weaker than the skilled comprehenders (14.25 out of 16). Immediate recall scores were similar for poor comprehenders (2.50 out of 4) and the skilled comprehenders (2.33 out of 4). Delayed recall scores, however, were different. "The recall of skilled readers was at similar levels at immediate and delayed tests, whereas poor comprehenders tended to forget significantly [ $p < .01$ ] more items between immediate and delayed test" (p. 136).

Nation *et al.* used the data from their study to confirm their hypothesis: poor comprehenders have similar phonological abilities when compared to skilled comprehenders, but

have semantic difficulties which interfere with acquiring new words and recalling those new words in the future. This suggests poor comprehenders have the phonological ability to learn and recall new words, but are hindered by their lack of semantic abilities. The researchers further explain the relationship between semantic learning and vocabulary acquisition:

The present findings underscore the role of semantic representations in vocabulary learning, while not denying the possible reciprocal influence of vocabulary growth on the status of both semantic and phonological representations. (p. 137)

The previous section reviewed literature regarding the relationships between vocabulary learning, semantic mapping/learning, and reading comprehension.

#### *Combination of instruction*

Along with contextual and semantic mapping vocabulary instruction, researchers have also explored a combination of vocabulary instructional approaches.

#### *Comparison of combination instruction and traditional textbook instruction*

In a landmark study by Beck, Perfetti, and McKeown (1982), 27 fourth grade students participated in an experimental 5-month series of vocabulary instruction. Thirty-nine students served as the control group and received traditional textbook instruction. All fourth grade students came from one small, urban public school.

Instruction for the control group took place in 5-day cycles, with 8 – 10 words in each cycle. An estimate for the amount of time spent on each cycle was about 2.5 hours. The variety of instructional practices utilized for the experiment was:

defining tasks, sentence-generation tasks, classification tasks, oral and written production tasks, gamelike tasks that must be completed under timed conditions,

and tasks that take advantage of the semantic or affective relationships between the target words and previously acquired vocabulary. (p. 509)

Two other features of the experimental condition were “Word Wizards” and review cycles. Becoming a “Word Wizard” was a motivational strategy encouraging students to use instructed words outside of the classroom or bring in proof of an encounter with a word from a magazine, newspaper, etc. Six review cycles were used to revisit words that were selected to be maintained over the course of the program (p. 510).

Students were pre-tested using the Reading and Vocabulary subtests of the Iowa Tests of Basic Skills (ITBS). Post-tests included the ITBS, an experimental vocabulary test, and “tasks aimed at tapping comprehension at the word level, at the sentence level, and at the discourse level” (p. 511). On the vocabulary pre-test, the experimental group had a mean percent correct of 15.04 compared to the control group’s 15.78. The reading subtest scores for the experimental and control groups was a mean of 18.17 percent correct. Following the five month experiment, the experimental group had a mean percent correct of 21.48 on the vocabulary test and 27.30 on the reading subtest. The control group’s mean percent correct on the vocabulary test was 18.48 and 22.96 for the reading subtest.

One of the post-tests also examined students’ ability to recall portions of story content and to use instructed words in the retelling. From the story that contained “many” of the instructed words, the experimental group recalled 27% of the story, whereas the control group recalled 19% of the story. In the retelling of the story, the experimental group used an average of 4.8 words, while the control group used only .5 words.

Data from the study allowed researchers to suggest the following ideas. First, vocabulary knowledge can be increased with instruction employing a combination of techniques. Second,

students' performance on the recall of stories suggests that increasing vocabulary knowledge can increase reading comprehension. This idea had been disproved by researchers prior to this study.

In contradistinction to some previous vocabulary training studies, we have shown that a vocabulary training program can lead to gains in comprehension.

Furthermore, we have shown performance gains on other tasks that suggest mechanisms for such gains. Following instruction, subjects process individual word meanings more accurately and more rapidly. Improvements in comprehension follow, because construction of passage meaning, especially noncentral content, is made easier because individual word meanings are understood. (p. 520)

Following the publication of this study, researchers have conducted experiments to determine if similar results could be obtained.

*Comparison of Rich Instruction and no instruction*

Beck and McKeown (2007) compared students' vocabulary gains following two different methods of vocabulary instruction. Students participating in this study attended a single school in a small urban school district, which was in danger of state takeover due to student achievement. The study began with 119 kindergarten and first grade students, but pre- and post-test scores were only available for 98 of these children.

Forty-six students were part of the control group, while 52 students were in the experimental group. Over a ten week period, students in both groups listened to daily teacher read-alouds, which were comparable in their "strong story lines and high-quality language" (p. 257). Control group students received no vocabulary instruction, whereas, experimental group

students received vocabulary instruction after each story. All words were taught using Rich Instruction. Attributes of this program include:

explaining word meanings in a student-friendly language, providing multiple examples and multiple contexts, and requiring students to process words deeply by identifying and explaining appropriate and inappropriate uses and situations and creating multiple contexts. (p. 254)

Teachers using Rich Instruction attended a 3-hour workshop before beginning the program, used scripts, and were observed by the researchers throughout the ten week experiment.

Students' vocabulary knowledge was screened prior to the start of the experiment. Researchers analyzed the data from students' Peabody Picture Vocabulary Tests (PPVT) and found no significant difference ( $p = .793$ ) between the experimental and control groups. Pre- and post-tests were designed by the researchers and consisted of 22 words for the kindergarten students and a different set of 22 words for the first grade students. Pre-tests were given in February, while vocabulary was taught in March and April. Administration of the post-tests occurred one week after vocabulary instruction had finished. Like the PPVT, these assessments required students to select a picture from a group of four. Unlike the PPVT, these assessments were "not a straightforward picture-recognition task" and "asked students to decide which picture portrayed a situation described by a target word" (p. 258).

Kindergarten and first grade students' data was analyzed separately. On the pre-test, the mean percentage correct for kindergarten students receiving no instruction was 42.36, while the instructed students' mean was 45.27. Kindergarten post-test scores were 47.09 and 66.09 for no instruction and instruction, respectively. "The instructed kindergarten group showed significantly higher [ $p = .000$ ] gains than the comparison classes" (p. 258).

First grade results were similar. The mean pre-test score for the no instruction group was 52.46, and the instruction group score was 55.68. On the post test, the no instruction group mean was 62.50; whereas the instruction group's mean was 72.24.

Researchers suggest that the Rich Instruction method significantly increases students' vocabulary learning when compared with students receiving no formal instruction. Although the pre- to post-test gains for the control group were small, there were some gains suggesting some incidental learning of vocabulary can occur through exposure to print, like teacher read-alouds.

The next study examines incidental learning through repeated readings of stories along with combination vocabulary instruction.

*Comparison of incidental learning and combination instruction*

Penno, Wilkinson, and Moore (2002) investigated whether incidental vocabulary learning occurs when young students are repeatedly exposed to the same text and what effect a combination of vocabulary instructional techniques has on students' word learning.

Forty-seven students were selected to participate in this study. Young students were selected to participate to ensure any gains were due to listening to the texts rather than through reading the texts. The students were from two classrooms within the same school in New Zealand. Class A (mean = 6 years 6 months) was comprised of 15 boys and 8 girls (23 students total), all of whom spoke English as their first language. Class B (mean = 5 years 8 months) had 9 boys and 15 girls (24 students total), some of whom did not speak English as their first language. All instruction in both classrooms was primarily English.

One to two months prior to the experiment, all students were given the Renfrew Action Picture Test (RAPT) and the Word-Finding Vocabulary Scale (WFVS) to "provide pretreatment measures of language and vocabulary skills" (p. 25). The RAPT is a measure of expressive

language through the use of pictures, questions, and the structure of the subject's response (p. 25). Students named objects in pictures presented to them while taking the WFVS test (p. 25). Words on the pre-tests did not appear in the stories used during the experiment.

Multiple choice tests were developed for each of the two stories and were used as pre- and post-test measures. Examiners said a word and students chose from one of four pictures. Thirty words were selected from the stories (15 from each), with 10 words from each designated as target words and the remaining 5 from each being generalization words. The first test was administered one week before the reading of the first story.

A retelling task was used after the reading of each story. "The retelling task was designed to measure the children's use of the target and generalization words" (p. 25).

#### *Student retention*

While many methods of vocabulary instruction exist, how well students can retain and apply these strategies in future reading tasks is important. Understanding how students retain and then transfer information is critical for teachers to recognize and then apply in student learning tasks. The level at which students understand, recall, and store words is an essential piece of teacher knowledge.

#### *Retention and transfer tasks for two types of vocabulary instruction*

Martin-Chang, Levy, and O'Neil (2007) conducted an experiment comparing students' abilities to retain and transfer skills in future tasks after two separate methods of vocabulary instruction. Second grade students from schools using mainly whole language instruction were screened for this experiment. Some students were not included in the sample, including English as a Second Language (ESL) students or those with developmental delays.

After obtaining parental permission, 69 students took the reading screening subtest. Forty-eight students' scores fell within the normal range and were then asked to read two different passages. Students making fewer than ten errors were not chosen to participate. Those making ten or more errors were part of the final sample, which consisted of 28 children (16 boys and 12 girls).

Individualized instructional materials were created for each student. Subjects participated in both types of instruction; isolated word training and context training. Sessions lasted for 15-20 minutes over two weeks, for each training program. Program schedules were: day one was a pre-test, days two through four were training days, days five through eleven were a retention period, and on day twelve a retention task and transfer task were given.

During the isolated word training, students read words from personalized sets of cue cards. Students were given 1.5 seconds to respond. If the student was correct, no feedback was given and the experimenter showed the next card. If the student was incorrect or did not respond in the allotted time, the experimenter said the word correctly and then moved on to the next word. Twelve repetitions, "2 word repetitions per list x 2 trials x 3 days = 12 word repetitions in total," (p. 43) of each word occurred over the three day training period.

During the context training, students read individualized reading passages with the experimenter. Each story contained target vocabulary words, which the students would read, while the experimenter read the rest of the story aloud to the student. Following the same procedure as the isolated word training, students were given 1.5 second to respond. Correct responses meant the experimenter continued reading. Responses taking longer than 1.5 seconds or incorrect responses resulted in the experimenter saying the word and then continuing to read the rest of the passage.

Eight days after training, students were given a retention task and then a transfer task. Retention tasks used the same materials used in training, while the transfer task used the original screening passage, which students had only seen one time twelve days earlier.

Words used during both conditions were words students were not able to read during the pretest. Isolated word training mean scores were obtained after each of the six trials. From trial one to trial six, the mean went from 40.93 percent accuracy to 95.61 percent accuracy. Context word training mean scores were also obtained after each of the six trials. From trial one to trail six, mean scores went from 48.64 percent accuracy to 97.89 percent accuracy. Both sets of data show an increase in word reading accuracy from trail one to trial six. These gains suggest both methods of instruction can increase word reading accuracy over time.

In the retention task, when students were asked to read the same words eight days later, students in the context group scored 97 percent accuracy, while the isolated word group scored 94.5 percent accuracy. For the transfer task, where students read a novel passage, students from the context group scored 85 percent accuracy, and the isolated word group scored 70 percent accuracy.

Data gathered from this experiment appear to show a positive relationship between learning words in context and the ability for students to retain and transfer these words. The data also suggests there is a greater relationship between learning words in context and the retention and transfer of these words than learning words in isolation and retaining and transferring words.

In this chapter, numerous research studies have been examined and analyzed to investigate types of vocabulary instruction, their effectiveness in positively affecting reading comprehension, and how student retention and transfer can be measured.

## Chapter III: Results and Analysis

Several vocabulary instructional methods and their effects on reading comprehension and student retention were analyzed in the previous chapter. Although no one method of vocabulary instruction emerged as *the* most effective for positively influencing reading comprehension, there are some patterns throughout the research.

Increasing the number of words students know *can* have a positive effect on reading comprehension (Beck et al., 1982; Nash & Snowling, 2006; Nelson & Stage, 2007).

Vocabulary instruction methods reviewed resulted in an increase in the number of words students learned, however, some methods of instruction resulted in larger gains than others.

Using data obtained by Jenkins, Matlock, and Slocum (1989) learning vocabulary by direct instruction is more effective than learning through context. Context instruction appeared to have little effect on word learning, irregardless of time spent practicing the strategy. Individual meaning instruction appeared to be a highly effective method of teaching words, especially when practiced on multiple occasions.

Repeated exposure to vocabulary positively impacts word knowledge, therefore may increase comprehension (Beck et al., 1982; Jenkins et al., 1989; Penno et al., 2002; Beck & McKeown, 2007).

Data gathered from the Martin-Chang *et al.* study should be viewed skeptically. The reading passage given to student participants was the same for both pre- and post-tests, resulting in a desensitization of the assessment tools. Another area of concern from this study is the time limit on 1.5 seconds for naming tasks. This amount of time seems unrealistic and difficult to accurately measure.

More information needs to be gathered on the relationship between word knowledge, retention, memory, and how these areas are linked to vocabulary and comprehension.

Herman and Dole (1988) best describe the difficulties of selecting a vocabulary instruction method. “No simplistic solutions exist to the instructional dilemmas teachers face as they approach the teaching of vocabulary” (p. 46). Although the dilemmas exist, the next chapter will provide recommendations to teachers based on the information from this literature review, as well as an experimental design for future research.

## Chapter IV: Recommendations and Conclusions

The information in this chapter provides recommendations for teachers to use while designing vocabulary and comprehension activities as well as an experimental design for future research.

### *Recommendations*

Vocabulary instruction of nearly any kind can positively affect students' word knowledge. While a combination approach appears to have the most positive affect on students' word knowledge, all methods researched showed some improvement.

Repeated exposure to the same word is essential to deepen students' understanding of that word. Student-friendly definitions should be shared. Interactive strategies that allow students to use the words in context, form relationships between words/concepts they already know, and have fun with vocabulary are strongly recommended.

### *Areas for Further Research*

Many conclusions and recommendations can be made based on the information from this literature review. However, there are many areas that warrant further research.

A possible future research project could be designed to determine the effect that the Rich Instruction method of vocabulary instruction impacts reading comprehension. The data from the original Beck and McKeown (2007) study shows tremendous gains in Kindergarten and first grade students' vocabulary knowledge, however, does not connect these gains to increases in reading comprehension. In order to have students complete reading comprehension tasks, the students would have to be older than Kindergarten and first grade.

For this project, the students selected would be second and third students from a medium-sized local school district. A desired sample size of 100 or more students for each grade level

would be randomly selected to participate in one of two groups. All student participants would need a signed parental permission slip. The groups would receive two different types of vocabulary instruction. Rich Instruction would be the experimental condition, while basal vocabulary instruction would be the control.

Prior to any instruction, students would be screened using the Peabody Picture Vocabulary Test (PPVT). This screening tool asks students to select the picture that matches the given word. Students would also be given a DIBELS (Dynamic Indicators of Basic Early Literacy Skills) grade-level appropriate reading passage to read and then do an oral retelling. This tool would be used as a baseline for students' reading comprehension.

Instruction would occur at the same time each day for all student groups. Teachers involved with the Rich Instruction groups would receive training on proper implementation, be observed by the researcher, and participate in focus groups, following the procedure used by Beck and McKeown.

A vocabulary pre-test would be developed, based on words from books selected for instruction. The post-test would be similar to the pre-test in format, but the order of words and questions would be different. Multiple-choice questions would not be used. Instead, students would be required to give synonyms or a definition.

Words chosen for instruction in this experiment would be: unfamiliar to the students, likely to be encountered in the future, and critical to the understanding of the story from which they come. These words would appear on the pre-test and post-test. A pre- and post-test would also be developed to determine comprehension. Oral retelling of the sequence of the story, as well as answering comprehension questions would be used. Using vocabulary in the retelling and comprehension questions would be included.

The experiment would take place over sixteen-weeks. All assessments would be analyzed by the researcher. A procedure would be established for the administration of the assessments, due to the large number of students involved in the experiment.

Grade level and instructional groups' data would be calculated separately and then compared. Mean scores for the pre- and post-tests, along with any correlations would be determined upon analysis.

### *Summary and Conclusion*

The purpose of this literature review was to determine the relationship between vocabulary instruction, reading comprehension, and student retention. No one method of vocabulary instruction was determined to have the greatest effect on reading comprehension. A positive relationship between vocabulary and reading comprehension was established, with future study needed in the areas of student retention and vocabulary, comprehension, and memory tasks.

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A short reading comprehension about daily routines in the present simple tense. Suitable for beginners and low level Elementary learners. 82,416 Downloads. Aren't firefighters cool? " reading comprehension + By zailda. Another worksheet of the series "jobs", designed for intermediate students. It contains a short text + 6 tasks + keys. The tasks are rela... This worksheet will help to reinforce Simple Present. It contains a text for reading comprehension as well as gap fill exercise, answer 70,848 Downloads. Days of the Week - simple reading comprehension. By redyelruc. A short reading comprehension using the present simple tense to talk about activities on different days of the week. Suitable for young | 61,129 Downloads. instruction, reading comprehension, and student retention. Vocabulary can affect comprehension; however the most effective method of vocabulary instruction has yet to be determined. Context, semantic mapping, and a combination of instructional approaches are examined. Many types of vocabulary instruction can have a positive effect on comprehension, particularly when these methods rely on multiple exposures to a word and interactive approaches. The research question guiding this review of literature was: What is the relationship between vocabulary instruction, reading comprehension and student retention? Definition of Terms cloze procedure - "a multifunctional strategy, which can be used for reading diagnosis and. Comprehension-Fostering and Comprehension-Monitoring Activities. In order to fully understand how a student learns from texts, one cannot ignore any of the four main factors of decoding fluency, considerate texts, compatible content, and strategic activity. In a review of both the traditional reading education literature and recent theoretical treatments of the problem, we found that six functions were common to all (Brown, Palinscar, & Armbruster, in press): (1) understanding the purposes of reading, both explicit and implicit; (2) activating relevant background knowledge; (3) allocating attention so that concentration can be focused on the major. We needed, then, a mode of instruction that would ensure that the students would A literature review is a survey of scholarly sources on a specific topic. It provides an overview of current knowledge, allowing you to identify relevant theories, methods, and gaps in the existing research. Writing a literature review involves finding relevant publications (such as books and journal articles), critically analyzing them, and explaining what you found. There are five key steps: Search for relevant literature. You should be able to answer it based only on a review of existing publications. Because reading comprehension is challenging and multifaceted it must be explicitly taught. Most readers do not infer how to make meaning of texts. They need to be instructed in a variety of strategies for understanding what they are reading. In addition, young readers need to be taught and given opportunities to practice reading comprehension using a variety of texts in a variety of different settings. This is one of the reasons why the partnership between parents and teachers is so important. In the classroom, teachers should work with children as a whole class, in guided reading groups and