Effective vocabulary development for secondary students in weekly small-group sessions

Susan L. Lange
Rowan University

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EFFECTIVE VOCABULARY DEVELOPMENT FOR SECONDARY STUDENTS
IN WEEKLY SMALL-GROUP SESSIONS

By
Susan L. Lange

A Thesis
Submitted in partial fulfillment of the requirements of the
Master of Arts Degree
of
The Graduate School
at
Rowan University
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Approved by
Professor

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The purpose of this quasi-experimental one group study was to (a) ascertain the vocabulary acquisition of low-achieving language students in grades 9 – 11 (n = 14), and (b) to determine if implementation of a program of explicit instruction would lead to a significant improvement of the volume of knowledge of a controlled list of vocabulary words. Results revealed that all participants showed positive change in the number of vocabulary items answered correctly from initial pretest to final posttest (M = +15 items), with an average 97% improvement. The time to acquire one new vocabulary word was approximately 10.6 minutes. Implications for teaching secondary students who are low achieving in vocabulary skills are discussed.
The purpose of this study was to determine if implementation of a program of explicit instruction would lead to a significant improvement of the volume of knowledge of a controlled list of vocabulary words of fourteen low-achieving high school language students. Results showed that all participants exhibited positive change, averaging 97% improvement.
Acknowledgements

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Chapter I

Introduction

Background

Language is one of the greatest human achievements and provides the basis for receiving and expressing ideas, both oral and written; thus, reading is secondary to our language skills. The importance of reading in a modern society can not be overemphasized. Because reading is language written down, students cannot read material that is above their level of language development. Therefore, the more well-developed a student’s language is, the better that student will read (Richek, Caldwell, Jennings, & Lerner, 2002).

Conditions that encourage language learning are exposure to higher-level language and active participation in all forms of language experience such as conversation and listening activities, as well as reading and writing. Students absorb vocabulary knowledge and other linguistic concepts through incidental instruction, and in school they are systematically taught word meanings and language rules through direct instruction (Richek et al., 2002).

Among the causes of deficiencies in language are lack of reading and an impoverished language environment. Because of these variables, many low-achieving students do not have a strong language base upon which to build strong reading achievement. In addition, some students may have a language delay or have language
disabilities that prevent them from absorbing language in ways that most of us take for
granted (Richek et. al, 2002).

Theory

According to Andrew Biemiller (2000), vocabulary is the missing link between phonics and comprehension. Biemiller concludes, “A substantially greater teacher-centered effort is needed to promote vocabulary development, especially in the kindergarten and early primary years. If we are serious about bringing a greater proportion of school children to high levels of academic accomplishment, we cannot continue to leave vocabulary development to parents, chance, and highly motivated reading.”

Because lack of vocabulary development is linked to lack of language exposure and low socio-economic status, Biemiller (2000) hypothesizes that at least 90 percent of students can learn new vocabulary at normal rates, if the students are given enough time to use new words after effective and explicit instruction in word meaning.

Purpose of the Study

The purpose of this study is to develop a curriculum of vocabulary development for secondary students who are low achieving in either reading and/or writing skills. Vocabulary instruction will be based on empirically validated “best practices”, and will be presented explicitly, intensively, and supportively (Foorman & Torgesen, 2001). The overall goal of this study will be to determine if implementation of a program of explicit instruction will lead to a significant improvement of the volume of knowledge of a controlled list of vocabulary words.
Need for Study

According to Richek et al. (2002), approximately 80 percent of students with learning disabilities have reading problems. Reading difficulties are correlated with difficulties in life, including low income, lack of employment, and problems with the law.

Students with reading problems must struggle daily with textbooks above their reading level and the resultant frustration with homework. Often these same students act out with misbehavior or just give up, displaying learned helplessness. As these same young people grow up and move into the world of work, they find many career opportunities closed to them. When the vocabularies of young adults are limited, so are their prospects in life. Society suffers when its citizens cannot read or cannot understand what they read (Richek et al., 2002).

Biemiller and Chall have concentrated on the study of vocabulary for many years. Both educators have concluded that vocabulary development is a key component in reading that does not receive sufficient instructional attention. Biemiller and Chall believe that today's reading curricula needs more planned, explicit instruction in meaning vocabulary, just like the recent move toward improved phonics instruction (as cited in Biemiller, 2000).

Value of the Study

The value of this study is in determining whether explicit instruction helps students increase their word meaning vocabulary to provide the “missing link” between decoding words and comprehending text. If direct instruction is effective in this study, it will encourage further research in explicit instruction for vocabulary development.
Further study will lead to explicit vocabulary instruction in schools, especially in compensatory education classrooms. The ultimate result will be an improvement in the quality of life for those formerly labeled “at risk for failure” in reading and in life.

**Research Question**

Will implementation of a program to teach reading vocabulary to secondary students in weekly small-group sessions lead to a significant improvement of the volume of knowledge of a controlled list of vocabulary?

**Definitions**

The following is a list of terms and their operational definitions that will be used throughout this paper:

*Language* refers to the primary means by which humans communicate. Language skills include the abilities to listen and speak (oral language) and read and write (written language). Language dimensions include reception and expression. The language systems include phonology, syntax, morphology, semantics, and pragmatics (Hallahan, Kauffman, & Lloyd, 1999, and Richek et al., 2002).

*Semantics* refers to the system of language having to do with meaning. Semantics is closely related to *morphology*, the special rules of grammar having to do with the smallest units of meaning in a language (Hallahan, et al., 1999).

*Vocabulary* refers to word meanings, *not* simply words recognized by sight. Vocabulary is the body of words in the English language that students need to know in order to understand what they need to read (Biemiller, 2000).

*Controlled vocabulary* refers to a chosen list of words, with their corresponding meanings, which will be systematically taught by the teacher.
Reading refers to the construction of meaning from the printed text, not just the fluent, oral decoding of the printed word (Richek et al, 2002).

Effective instruction refers to the teaching techniques generally practiced by experienced teachers, such as sequencing of instruction, teacher modeling of tasks, orienting the students to tasks, giving the students enough time to practice skills, and assessing skills systematically (Foorman & Torgesen, 2001).

Intensive instruction refers to training provided on an individual or small group basis (Foorman & Torgesen, 2001).

Explicit instruction refers to training that is more direct, systematic, and comprehensive than is usually provided in the regular classroom (Foorman & Torgesen, 2001).

Low-achieving secondary students refers to pupils enrolled in grades nine through twelve who scored below minimum level of proficiency (as determined by NJ State Department of Education) on standardized achievement tests administered the previous spring.

Delimitations of the Study

The following factors must be taken into consideration when generalizing the results of this study:

1. The study will not attempt to evaluate the students’ knowledge of phonics.

2. The study will not attempt to predict the success of students’ reading comprehension.
3. The study will not attempt to assess the students' long term retention of the controlled list of vocabulary.
Chapter II

Review of the Literature

Vocabulary and Reading Comprehension

Reading

Often we are not conscious of the different elements of the reading process as we read because good readers use these elements unconsciously and automatically. However, in order to help students that do not use these elements automatically because of deprivation, delay, or disability, teachers must be able to analyze reading and identify its components (Richek et al, 2002). Twenty years of research shows agreement on six essential elements of beginning reading instruction for all students: phonemic awareness and phonemic decoding skills, fluency in word recognition and text processing, construction of meaning, vocabulary, spelling, and writing skills (Snow, Burns, & Griffin, 1998, as cited in Foorman & Torgesen, 2001). However, educators and researchers disagree about which component is the most important for success in reading.

Word Recognition

To read, students need to recognize words accurately. In a study by Miller and Yochum (1991), 77 percent of students with reading difficulties believed word recognition was their primary deficit (cited in Richek, Caldwell, Jennings, & Lerner, 2002). Recently, we have seen a renewed emphasis on phonics instruction. While more children learn to decode words with increased phonics instruction, there is not evidence of a corresponding gain in reading comprehension (e. g., Gregory, Earl, and O’Donoghue, 1993; Madden et al., 1993; Pinnell et al, 1994; as cited in Biemiller, 2000).
Regarding instructional intervention for children with reading disabilities, Swanson (1999) performed a meta-analysis in which phonics instruction was added to the variables to predict intervention outcomes. Swanson concluded, "programs that emphasize segmenting information, such as in phonics instruction, are not sufficient for bolstering real-word recognition" [p. 524]. [Admittedly, the correlation between the "segmentation" and "sequencing" components of instruction was 0.73, suggesting that these components almost always co-occurred in program descriptions (as cited in Foorman & Torgesen, 2001)].

Obviously, readers must recognize words accurately, but decoding is only part of the reading act. Readers must also recognize words quickly, or fluently, so the reading process is smooth, pleasant, and maintains meaning. For that reason, Anderson (1981) claims reading fluency as the "missing ingredient" in the instruction of problem readers (as cited in Richek et al, 2002).

Clearly, decoding and fluency are foundational to reading, but they do not guarantee reading success. Chall (1983b) described the "fourth-grade slump", a syndrome observed in students with language disability or delay. Students in first and second grades could read words accurately and fluently. But in third grade they began to fail content area tests and could not successfully meet requirements of intermediate-grade material (cited in Richek et al, 2002). Wesley Becker (1977) observed a similar phenomenon with his DISTAR students who had achieved early success with decoding. By fourth grade, his DISTAR students' reading comprehension had fallen when compared to the comprehension of his students who hailed from a richer language environment (as cited in Biemiller, 2000). Chall and her colleagues (1990) also studied
working class students who were reading successfully by third grade, but whose reading comprehension declined by seventh grade when compared to their more advantaged classmates. Chall et al suggested lack of vocabulary development as the source of their reading problems (as cited in Biemiller, 2000).

Richek et al (2002) assert that students who can pronounce words as they read but cannot understand the words are not really reading. Because reading is a language process, the ability to read cannot exceed the language students can understand and the word meanings they already know.

Word Meaning

True reading is the process of constructing meaning, and comprehension is its ultimate purpose (Richek et al., 2002). What is missing for many children who can decode words easily and fluently, but who do not comprehend well, is vocabulary, the words they need to know in order to understand what they are reading. Therefore, Biemiller (2000) identifies vocabulary as the “missing link” in reading instruction.

An important factor of good reading is understanding word meanings (Richek et al., 2002). Davis (1968) and Stanovich (1986) emphasize that meaning vocabulary is an extremely important element in reading, especially in the middle and upper grades (cited in Richek et al, 2002). Anderson & Freebody (1981) further add that vocabulary is closely related to reading achievement (cited in Richek et al., 2002). Limited vocabulary development can seriously hamper reading.

Ingredients involved in vocabulary development include:

• Size of vocabulary: The number of words that students can use or understand.
Knowledge of multiple meanings of words: Readers must understand that the same word can have more than one meaning.

Accuracy of vocabulary meanings: The reader must judge how much the definition encompasses.

Accurate classification of words: The student must have the ability to group words into appropriate categories.

Relational categories of words: Students must be able to use words that include prepositions; terms used to show comparison; terms indicating time; and terms used to show human relationships. (Richek et al., 2002).

Students that exhibit reading problems are behind average students in both language development and meaning vocabulary (Richek et al., 2002). A primary cause of poor word meaning vocabulary is the home, especially for students from low SES. “... vocabulary growth needed for successful reading comprehension is essentially left to the home. Disadvantaged homes provide little of support for vocabulary growth, as recently documented by Hart and Risley (1995)” (as cited in Biemiller, 2000).

Vocabulary as a Basis for Comprehension

According to Sternberg (1987), “one’s level of vocabulary is highly predictive, if not determinative, of one’s level of reading comprehension’ (p. 90)” (as cited in Jenkins, Matlock, & Slocum, 1989). As a student learns to read, reading vocabulary decoded from text is matched to words in the student’s existing oral vocabulary. If a particular printed word is not in the student’s oral vocabulary, decoding the word will not help the student understand what the printed word means (National Institute of Child Health and Human Development [NICHD], 2000b). Thus, word meaning vocabulary
seems to be the missing link between the fluent decoding and the comprehending of the message on a printed page.

Regarding the importance of skills other than just decoding, Reid Lyon, Chief of the Child Development and Behavior branch of the NICHD, made the following statement:

The ultimate goal of reading instruction is to enable children to understand what they read. Again, the development of phoneme awareness, phonics skills, and the ability to read words fluently and automatically are NECESSARY but NOT SUFFICIENT for the construction of meaning from text. (NICHD, 1998)

Dr. Lyon continued that students who comprehend well also have good vocabularies, since it is very difficult for students to understand what they cannot define. He concluded that reading failure will occur, no matter how strong and fluent a student's decoding skills, if instruction is not explicitly designed to develop vocabulary and other reading comprehension skills (NICHD, 1998).

Methodological Issues in Vocabulary Research

Clearly, word-meaning vocabulary is very important. Nevertheless, the focus of recent research has not attempted to ferret out the importance of the vocabulary component from the whole skill of comprehension. Investigation has determined that vocabulary size is related to reading ability, but research has not established that increasing vocabulary will necessarily increase reading comprehension. Because reading comprehension is a cognitive process that integrates complex skills with the ability to reason, studies that definitively separate out the variable of meaning vocabulary are difficult, if not impossible, to design (NICHD, 2000b).

For research purposes, it is often difficult to separate the definition of vocabulary from the definition of comprehension because both have to do with the meaning of the
Vocabulary is related to understanding individual words, whereas comprehension is related to understanding larger units of printed text. But to understand the larger units of information, students must first understand individual words (NICHD, 2000b).

In 1997, Congress requested the Director of the NICHD at the National Institutes of Health (NIH), in conjunction with the Secretary of Education, to create a national panel to examine the effectiveness of different types of reading instruction. For over two years, the National Reading Panel (NRP) assessed research on different approaches to reading instruction. In April 2000, the NRP submitted “The Report of the National Reading Panel: Teaching Children to Read” (NRP, 2001).

The NRP acknowledged that vocabulary skills are inextricably interwoven with comprehension skills. Yet, the panel agreed with Davis (1942), who attempted to discriminate by showing that comprehension involves two “skills”: knowledge of word meanings (vocabulary) and reasoning in reading (as cited in National Institute of Child Health and Human Development, 2000b). Therefore, the panel examined the scientific evidence on the effect of vocabulary instruction on reading achievement and reported the results as a separate component within the comprehension subgroup research analyses. The two areas of vocabulary examined were vocabulary measurement and vocabulary instruction. Based on trends in the data, an important implication for practice is that vocabulary should be taught directly as well as indirectly (NICHD, 2000b).

**Definition and Measurement of Vocabulary**

According to the NRP, measurement is difficult because “vocabularies” can be defined or categorized in many ways:
- Receptive vs. productive vocabulary—the words students understand as they read or listen as opposed to the words they use when they speak or write.

- Oral vs. reading vocabulary—the words recognized in speaking or listening versus the words used or recognized in print

- Sight vocabulary—the subset of reading words immediately recognized without explicit decoding

- Reading and writing vocabulary vs. speaking and listening vocabularies (NICHD, 2000b)

An additional challenge to research is determining the number of words to be learned or the number of words in a student’s vocabulary. Total word count will differ, depending on which word forms are included in the definition of a vocabulary “word.” Different forms include:

- Root word—the basic morpheme

- Derived word—semantic variations of a root word

- Inflections—syntactic variations

- Compounds (Biemiller & Slonim, 2001).

- Multiple meaning words—homographs and homophones (Dale & O’Rourke, 1981)

Also, measuring the number of words necessary for a competent student vocabulary is challenging. Consider the ever-increasing number of words in the English language. When technical terms were included, Landau (1984) estimated that the English language contained about five million words. The Random House Dictionary of the English Language, second revised edition of 1987 (Flexner & Hauck, 1994) added 50,000 new entries to those in the first edition, totaling more than 315,000 entries (as cited in
Gunning, 1996). Surely, the English language contains even more words today with the growth of the technology field and the information explosion.

Nagy and Anderson (1984) estimated that printed school English contained about 110,000 words, when including homographs and important people's names. Even when words that occurred only once in a billion words of running text were not considered, students were likely to be exposed to about 55,000 different words in printed school English (as cited in Gunning, 1996). Chall (1987) estimated that the average child enters school with a vocabulary of 5,000 to 6,000 words (as cited in Gunning, 1996). Gunning (1996) reported that students learn about 36,000 additional words, or about 3,000 new words per year.

In contrast, other researchers have focused only on root words. Anglin (1993) reported that first graders have an average vocabulary of 3,100 root words (cited in Biemiller & Slonim, 2001) which grows about 1,200 root words a year during elementary school (cited in Biemiller, 2000).

Biemiller and Slonim (2001) examined Dale and O'Rourke's (1981) *Living Word Vocabulary* (LWV), a fairly comprehensive compilation of words known to children, to determine how many root words must be learned per day. The researchers estimated 30,000 word meanings were known by at least 67% of students between Grades 4 and 12. When they corrected for multiple meanings and redundancies, and adjusted the acquisition levels to include Levels 2 through 12, the team reduced the list to 13,009 root words. The researchers concluded that the words could be learned at a rate of about three root words per day year round or six root words per day if all words were to be learned in school (Biemiller & Slonim, 2001).
If Anglin’s (1993) estimated 3,100 root words of first grade is combined with the 13,009 root word list that Biemiller and Slonim (2001) suggested for Levels 2 through 12, the sum would be approximately 16,000 root words to be learned by the end of high school. In consonance, D’Anna, Zechmeister, and Hall (1991) report that college students likely know approximately 17,000 different “base forms”, or root words. They argue that if young adults about 20 years of age know only about 17,000 root words, then the rate of vocabulary growth during the school years must occur at a slower rate than previously estimated by Nagy and Anderson (1984) and Miller and Gildea (1987) (as cited in D’Anna et al, 1991). If so, the task of directly teaching new vocabulary may not be as fruitless as Nagy and Anderson (1984) and Jenkins and Dixon (1983) have suggested (as cited in D’Anna et al., 1991).

**What Does It Mean to “Know” a Word?**

Dale and O’Rourke (1981) point out that knowledge of a word exists on a continuum. Student comments indicate their location on the word knowledge continuum; students might say:

- “I have never seen or heard the word before.”
- “I have seen or heard the word, but I don’t know what it means.”
- “I can figure out the meaning in context, but I don’t know the specific definition.”
- “I know this word.”

Deeper understanding of some word meanings develop over time as students have more encounters and more involved experiences with specific words.

Whereas direct instruction of word meanings may not impart deep understanding of unfamiliar vocabulary words, a rough knowledge about what a word means may improve
students' ability to comprehend what they read (D'Anna et al., 1991). Biemiller (2000) has claimed that schools should do more to promote vocabulary development in the critical years before grade three to offset the disparity in vocabulary size associated with social class—not to make all students alike but to give them similar tools for a good start. Also, with early rapid vocabulary growth, more students would be able to comprehend "grade level" texts in upper elementary grades. Chall and Conard (1991) and Chall and Dale (1995) note that vocabulary load is the main determining factor for "reading grade level" of texts (as cited in Biemiller, 2000). In contrast, D'Anna et al. (1991) believe direct instruction of word meanings as an approach to increasing vocabulary knowledge will be most successful with older children or young adults, because they are more likely to be motivated to do work that exposes them to many vocabulary words and their meanings within short time frames.

The Sequential Nature or Vocabulary Acquisition Offers New Possibilities

Dale and O'Rourke (1981) performed a 25-year study of vocabulary to compile an extensive list of word meanings and their percentage scores of familiarity for students in grade levels four through sixteen. The research culminated in The Living Word Vocabulary, an invaluable resource for determining the grade level at which the meaning of a word can be easily understood. After examining the LWV, Biemiller and Slonim (2001) concluded that vocabulary words are acquired in approximately the same order by most students. Because the nature of vocabulary acquisition is sequential and because the necessary number of words to be learned is reasonable, Biemiller (2000) believes a vocabulary curriculum could be developed. He argues that systematic, direct instruction
of vocabulary is needed to complement the increased emphasis on phonics instruction that has occurred in the last decade (Biemiller & Slonim, 2001).

**Benefits of Defining An Essential Vocabulary For High School Graduates**

**Preparing Students for College**

Biemiller (2000) also contends that the sequential nature of vocabulary acquisition provides the opportunity to identify a common vocabulary needed by high school graduates. Several research studies have shown that college entrants need 11,000-14,000 root words (D'Anna et al., 1990; Coulden et al., 1990; and Coulden et al., 1996; as cited in Biemiller, 2000), though research to accurately identify these words was not complete at the time of the study (Biemiller, 2000). If an essential vocabulary list for high school graduates could be identified and taught, these young adults would be better prepared for taking the Scholastic Assessment Test (SAT) for college admittance or better prepared for entering the world of work.

Jean Chall (1996) of Harvard University concludes, after 30 years of research, that reading achievement has dropped. She cites the declining verbal scores on the SAT as evidence that reading has declined since the 1960s. Chall contends that "... the SAT Verbal Test is essentially an advanced reading test based on vocabulary knowledge and reading comprehension tasks. ..." (p. 306). Chall noted that items on the analogies test were often missed by students because they had *a lack of knowledge of the meanings of the words*. In fact, the SAT scores were "recentered" in the 1990s because of the demographic changes in the test-taking population (Chall, 1996), and in 2005 the analogies section of the SAT will be eliminated (The College Board, 2002).
Preparing Citizens for Life

Other evidence indicates an overall decline in reading ability and a need for vocabulary instruction. In 1980, freshman at the University of Michigan scored lower in vocabulary and reading comprehension than had freshmen in 1930 (Chall, 1996). The 1980s freshman tested especially low on vocabulary. More recently, we have witnessed the expanding number of students in special education, especially those classified as having reading/learning disabilities. Another indication of reading decline is the great increase in private after-school learning centers for reading and writing, and growth in the number of remedial reading courses offered on college campuses. Other evidence is a decrease in newspaper and book reading among U.S. citizens, along with an increase in television viewing (Chall, 1996).

In the future, citizens who are not able to read at higher levels will have difficulty finding and holding jobs. Even at present many corporate executives complain that too many employees do not have necessary reading and writing skills; industry is already spending millions of dollars on literacy training for employees. The changing nature of our economy toward a technology knowledge base will require U.S. citizens to become more proficient in reading and writing—not less (Chall, 1996).

Foorman and Torgesen agree with Mastropieri and Scruggs (1997) who contend that explicit instruction in vocabulary is an important component of reading instruction (cited in Foorman & Torgesen, 2001). Foorman and Torgesen further assert that many children at risk for reading difficulties will require special emphasis on vocabulary and other reading skills. If the language students understand is the natural limit of their reading ability (Richel et al., 2002), then we must systematically increase the language
students understand. Direct vocabulary instruction will increase the possibility of improvement of students' reading ability.

Summary

The last few years has manifested an increased emphasis on phonics instruction. Clearly, phonological awareness, phonics skills, and reading fluency are necessary foundational reading skills, but they are not sufficient to assure that students will be able to construct meaning from text. Comprehension, which is the goal of reading, requires that students have knowledge of word meanings, in addition to the ability to reason while reading.

Therefore, vocabulary development is an important component of reading instruction. Whereas students may indirectly acquire word meaning vocabulary through listening, conversing, and broad reading, direct instruction is reported to be an effective and necessary means by which to increase students' vocabulary. This study is intended to determine if implementation of a program of explicit, intensive, and supportive instruction delivered once weekly to low achieving secondary students will lead to a significant improvement of the volume of knowledge of a controlled list of vocabulary words.
Chapter III
Design of the Study

Participants

Population

The participants were ninth- through eleventh-grade students from a non-public secondary school serving primarily middle- to upper-middle class families in suburban New Jersey. The school’s population, which numbered approximately 1,000 students, was composed primarily of the white race, though various racial and ethnic groups were represented. A subset of the population was enrolled in compensatory education (CE) for small group instruction because standardized test results showed that the students’ basic skills were below minimum levels of proficiency as established by the NJ State Department of Education. The sample was selected from the CE subset.

Method of Sample Selection

Selection was a non-random convenience group of 20 participants. All of the 20 participants were eligible for compensatory education services in the area of communications (reading and/or writing), and their parents had elected the service by signing the required form. (Seventeen of the students qualified for instruction in reading, or reading and writing; three students qualified for instruction in writing only.) The participation group was composed of ten students from grade nine, eight students from grade ten, and two students from grade eleven. At the time of selection, the students’ ages ranged from 14 years 3 months to 16 years 7 months. Fourteen participants were boys and six were girls. Two participants were African Americans, one was Hispanic,
and two were other racial/ethnic groups. One student was classified for special education, and two students were classified as English as a Second Language (ESL).

Instrumentation

Design

This study was a quasi-experimental design that was a hybrid of the one-group pretest-posttest design and the time-series experiment. The entire group of participants was to receive instruction on a controlled list of 80 vocabulary words; no control group was used in the study. The basic design of the study involved administration of an initial comprehensive pretest for a baseline measurement of students' vocabulary achievement prior to treatment; administration of a series of weekly treatments, each consisting of a mini-pretest, instruction with regard to seven new vocabulary words, and a mini-posttest; and finally, administration of a comprehensive posttest to measure students' achievement after all twelve treatments were completed. Figure 1 illustrates the curriculum path.

Figure 1. *Path Model for Vocabulary Curriculum*

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<td>Final Comprehensive Posttest</td>
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</tbody>
</table>
The study served as a legitimate set of lessons to be presented in the compensatory education classes. Generally, the weekly small group CE classes lasted for 20 minutes (three of the twenty students received an additional 20 minutes of instruction per week). The 20 participants were unevenly distributed through eight classes, with no more than four students in a class. The eight classes were scattered across the week, forming one complete weekly cycle. The study lasted for 14 weekly cycles and was performed from October to February.

**Curriculum and Measures**

The *SRA Survey of Basic Skills* (SRA SBS), level 37, Forms P and Q (1985) "Reading: Vocabulary" subtests provided the source of the controlled list of 80 vocabulary words around which the curriculum was developed; each form contributed 40 vocabulary words to the controlled list. Forms P and Q "Reading: Vocabulary" subtests were also used for the pretest and posttest.

The SRA SBS was utilized for several reasons: The test forms were readily available and already familiar to this researcher. Also, the test was out of publication. Therefore, the SRA SBS was not likely to be encountered by the students in assessment sessions unrelated to this study, helping to avoid future situations where test results might be invalidated. In addition, the SRA SBS was published by a reputable organization, indicating that the test had been constructed with care (Hanna & Moreland, 2002, October 7). Moreover, the test was standardized, indicating that the items were constructed at graduated levels of difficulty to accommodate the span of ages and abilities represented in the sample group. All items were analyzed for cultural, social, and sex-role fairness (Hanna & Moreland, 2002, October 7). Finally, the time required to
administer the SRA SBS vocabulary subtest was brief (18 minutes), fitting easily into the 20-minute class periods.

Source of curriculum material. Furthermore, the SRA SBS vocabulary subtest items were useful for the vocabulary curriculum that was to be developed for this study. By compiling the target words (or phrases) from both test forms, a controlled list of vocabulary was generated that contained a reasonable number of items (80 items) at the appropriate level of challenge for the selected sample of participants. Generally, each test item on the SRA SBS vocabulary subtest offered one-word or short answer choices, which provided a ready-made definition that could be easily taught for each target word. Also, each test item contained the target word in a brief sentence which generally did not reveal the meaning of the target word, requiring the participants to know the word meaning in order to determine the meaning of the sentence; therefore, the ready-made sample sentence was useful for instruction.

[This researcher believes that test items, vocabulary definition choices, and sample sentences should be constructed by professionals when possible, especially when parallel test forms are needed for assessment. Test reviewer Kevin Moreland claimed that the development of item content was the strong point of the SRA SBS. He contended that the SRA SBS items were clearly written, well edited, and bias-free (Hanna & Moreland, 2002, October 7). Unfortunately, the technical manual was no longer available from the publisher, which prohibited further examination of the technical merits of the SRA SBS.]

Research-based instructional methods. Ten years of experience with the CE reading/writing subset population has led this researcher to conclude that some of its
members exhibit a passive learning style, which Richek et al. (2002) described as a lack of interest in learning, possibly caused by past frustrations. Before this study, some of the participants appeared somewhat passive and dependent, waiting for the teacher to lead them to the learning. Instead of showing interest and taking the initiative, they expected to be guided step-by-step. Others exhibited inappropriate talking, distractibility, or avoidance behaviors.

Therefore, choice of instructional method was pivotal to achievement of optimal results for this project. The following are some of the research-based ideas incorporated in the instruction method used in this study:

Foorman and Torgesen (2001) contended that students at risk of reading failure must be provided additional reading instruction in a small-group or one-on-one setting (intensive instruction). Research showed that such instruction must be more explicit, comprehensive, intensive, and supportive than that typically provided by schools.

Direct skills instruction—the explicit teaching of skills such as sight word drill, synonyms and antonyms, and punctuation rules—is frequently recommended for use with low achieving and special education students. Direct Instruction is a commercial program based on direct skills instruction. Richek et al. (2002) described Direct Instruction as a program based on principles of behavioral psychology. The scripted program is said to contain drills, repetition, and practice, with teacher praise used as reinforcement. The teacher evaluation of the degree of mastery of individuals and of the group is measured with criterion-referenced tasks and tests. In a study analyzing instructional reading methods utilized by K-12 special education teachers in four Midwestern states, Arthaud, Vassa, & Steckelberg (2000) reported that direct skills
instruction was the most frequently used technique overall. However, frequency of use was indirectly proportional to the grade levels, with senior high teachers reporting only occasional use of direct skills instruction. This researcher was aware from past experience that adolescents prefer to feel “grown up”; they react negatively to any component of instruction that appears “baby-ish”, as explicit instruction might appear to them. Despite the caveat, this researcher cautiously chose to utilize explicit instruction, as supported by Biemiller (2000): He stated that lower vocabulary adolescents “... have been found to benefit little from inferring word meanings (Cain & Oakhill, in preparation; Elshout-Mohr & van Daalen-Kapteijns, 1987) but that more direct approaches have been reported to work well with these children” [p. 28] (Elley, 1989; Feitelson, Goldstein, Iraqi, & Share, 1991; Feitelson, Kita, & Goldstein, 1986; and Whitehurst, Falco, Lonigan, Fischel, DeBaryshe, Valdez-Menchaca, & Caulfield, 1988; as cited in Biemiller, 2000).

**Labor-intensive preparation.** Because the instructional sessions were brief and because direct instruction must be brisk, the following preparation was completed ahead of time: From the SRA SBS, Forms P and Q, a list of the 80 target words and their one-word or short answer definitions was compiled (see Appendix A). The list was duplicated for later distribution. Because of time constraints, the list was divided into groups of seven words per instructional session, with only three words presented in the twelfth instructional session. For drill, a set of flash cards was constructed for each set of 40 words; the target word and sample sentence were written on one side of a card with the definition written on the other side. Flash cards were numbered, hole-punched in the corner, and placed on a ring. For an alternate method of practice, the target words and
definitions were entered into Davidson’s *Word Attack Three* software program (see software manual for instructions), but the 20 minute sessions did not allow time for the extra practice.

**Organization of materials and record-keeping.** A two-pocket folder was labeled with each student’s name; the left pocket contained a copy of the composite word list and the right pocket was available to store test results. All participants in the same small group received the same color of folder. All student folders were stored in the teacher’s desk; after a class completed the weekly lesson, their folders were collected and placed behind all the others so that the folders for the next expected group were always at the forefront. For the teacher, twelve manila instructional folders were prepared for the twelve weekly instructional lessons. Each instructional folder contained necessary materials for the displays that must be prepared ahead for each weekly lesson. (Two and one-half sheets of white construction paper and seven sentence strips were required for each week’s displays.)

**Initial comprehensive pretest procedures.** The initial pretest was administered to students as they presented to the compensatory education classes at their various assigned class times during the weekly cycle: The first 10 students were tested using SRA SBS “Reading: Vocabulary” subtest, Form P and the last 10 students were tested using Form Q. (Because no control group was utilized in the design of this study, the forms were crossed to compensate for any statistical variation in the parallel test forms: When the comprehensive posttest was later administered, the first 10 students were tested using Form Q and the last 10 students were tested using Form P.)
Though a pilot study had not been performed, this researcher had previously administered the SRA SBS “Reading: Vocabulary” subtest to many students from the same subset population as that represented in the present study. Over a ten-year period, test results consistently showed that students who had not received instruction directly related to the test items generally answered correctly to no more than fifty percent of the items on the test. Similar pretest results were expected in the present study. Therefore, if no more than fifty percent of the items were answered correctly on the pretest, then adequate room would exist for improvement to be measured on the posttest. (Expectations were confirmed: Only two students out of twenty answered correctly to more than fifty percent of the items on the pretest.)

The introduction to the vocabulary unit and initial comprehensive pretest were completed in the first weekly cycle; to avoid the Hawthorne effect (Leedy & Ormrod, 2001), no mention was made of this research study to the participants until after the project was completed. Lesson One display materials were prepared and mounted prior to the beginning of the next weekly cycle.

**Lesson One.** Mounted on the side wall, in a location visible to all participants, was a sign that said “Vocabulary Test”; directly under the sign was the numbered set of seven words listed on construction paper. On another sheet of construction paper mounted next to the word list was a scrambled list of definitions, lettered from A to G. Below the vocabulary test were seven sentence strips, each displaying a target word used in a sentence (generally, the context did not reveal the word meaning). The seven target words, definitions, and context sentences were taken directly from the Form P vocabulary subtest; the first seven words were listed in order as they appeared on the subtest.
Lesson Two would present the first seven words from Form Q, and the remaining lessons would alternate seven words at a time, back and forth between the two forms until all words were presented. As each weekly lesson cycle was completed, the corresponding list of seven words was relocated to another wall, the Word Wall (Gunning, 1996.)

As participants entered the class, a sheet of lined paper was quickly distributed. After they headed their papers, the students were instructed to fold the sheets in half, first vertically then horizontally. After sheets were re-opened and a “1” written in the top corner, the upper left quarter was labeled “Pretest”, the upper right quarter was labeled “Posttest”, and both columns were numbered from one to seven. (The sheet would ultimately contain four sets of pretest and posttest results, by utilizing both sides of the paper.)

Mini-pretest. For the mini-pretest, participants were instructed to match the words with their definitions by recording only the letter of the chosen definition beside the corresponding number of the word; a two-minute time limit was imposed. Next, students were told to exchange papers. After participants were instructed to “X” through incorrect responses and then write in the correct letter choice, the instructor held up a half sheet of construction paper listing the correct answer choices; the instructor also read the correct answers aloud. Participants were told to record at the top of the test the number of correct responses over seven, then return the test to its owner. Test results were stored in the right pockets of the individual folders.

Instruction. According to Jenkins, Matlock, and Slocum (1989), the two most common instructional methods for increasing students’ word meaning vocabulary are teaching the meanings of words and teaching how to determine word meanings from
context. Jenkins pointed out that if explicit instruction is used, either the words to be taught must be very useful or a large number of words must be taught in order to make a significant educational impact. Consequently, word meaning instruction must be quick and efficient. Furthermore, Nagey and Scott (2000) observed, “We do not learn an unknown word the first time we are exposed to it. Instead we learn words gradually and need perhaps 20 or more exposures for full mastery” [p. 247] (cited in Richek, Caldwell, Jennings, & Lerner, 2002). A multisensory approach is based on the idea that stimulating several sensory avenues helps to reinforce learning. To stimulate all these senses, students might look at the word list or read the sentence (visual); listen to an explanation or listen to themselves say the words (auditory); write the words and definitions (kinesthetic); and feel the texture of the paper as their pens or pencils form the words during the tests (tactile) (Richek et al., 2002).

Based on the principles mentioned above, the quick and efficient explicit instruction used in this research project focused primarily on teaching a brief word meaning, showing the word as used in context, and exposing the student to the target word as many times and in as many sensory ways as possible in the twenty minute instructional period: After the mini-pretest, this instructor first modeled oral decoding of the seven words; in turn, each student orally decoded the list. Second, the class read chorally each word with its definition from the composite list in the students’ folders, and students were given one minute of silence to memorize the words and corresponding definitions. Third, students were challenged, round robin, to give the definition to a target word; they were allowed to glance at the composite list, if necessary. Composite lists were concealed, and students were orally quizzed again until the instructor was
satisfied that the students' responses demonstrated that learning had begun to take place.
Fifth, students took turns reading a sample sentence containing a target word and explaining the meaning of the sentence. (Word meaning could not be derived directly from context, but the context meaning could not be determined without knowing the meaning of the word.)

The ability to write represents the highest use of language (Polloway & Patton, 1997). Ideally, all the students would have all gone to the board at the same time to construct sentences using each target word; each sentence would have been edited by the teacher to assure accurate expression; and then the sentences would have been read aloud by the students. Because of time constraints, the writing component was only utilized with the three students scheduled to received an additional 20 minutes of instruction per week.

Mini-Posttest. Student progress was evaluated by a mini-posttest. The test paper was folded vertically so that the pretest was concealed. This time each target word, the letter of the answer choice, and the target's short definition were written so the kinesthetic experience would aid memory. As students completed the test, they opened the test paper and compared the corrected pretest answers with the posttest answers in order to self-grade the mini-posttest; as a result, the students received immediate feedback about their learning. The students recorded the number of correct answers over seven at the top of the posttest, and the test papers were stored in the right pockets of the students’ folders.

Review. After each mini-posttest was completed, past target words were reviewed from
the Word Wall, as time allowed. When students were unable to recall a definition, they were encouraged to recall the sample sentence to aid in the recall of word meaning. When necessary, the instructor quickly supplied correct definitions.

Lesson Twelve. Lessons Two through Twelve followed the same procedures as Lesson One. Because only three words were left to be taught during Lesson Twelve, the remaining time was used for an overall review in preparation for the final comprehensive posttest to be administered the following week. For more intensive instruction (Foorman & Torgesen, 2001), students were paired to review from the two sets of flashcards. As time allowed, the teacher reviewed words from the Word Wall. Individuals took turns reviewing using the customized Word Attack Three software.

Final Comprehensive Posttest. A final comprehensive posttest was administered to answer the research question: Will implementation of a program to teach reading vocabulary to secondary students in weekly small-group session lead to a significant improvement of the volume of knowledge of a controlled list of vocabulary? Students who had been pretested using Form P were posttested utilizing Form Q; students initially tested using Form Q utilized Form P for the final testing. The students were allowed 18 minutes to complete the posttest.

Collection of Data

By the end of the sixteen-week vocabulary unit, only fourteen of the original participants had completed the full study, from initial comprehensive pretest to final comprehensive posttest, due of transfer or extended illness. Assessment measurements for the two ESL participants were excluded because the students were unable to fully participate in the treatments and their resulting outlier scores would have unfairly skewed
the results of all measurements. However, the scores of the two ESL students were reported as a matter of interest.
Chapter IV
Analysis and Interpretation of Data

Introduction

This study asked whether implementation of a program to teach reading vocabulary to secondary students in weekly small-group sessions can lead to a significant improvement of the volume of knowledge of a controlled list of vocabulary. To answer the question, a quasi-experimental study was performed which was a hybrid of the one-group pretest-posttest design and the time-series experiment. However, to compensate for the absence of a control group and to achieve more accurate results, the total group of participants was divided into two subgroups for psychometric cross-comparison. Subgroup P/Q was administered pretest Form P and posttest Form Q, and the conversely, Subgroup Q/P received pretest Form Q and posttest Form P.

The study began with 20 subjects. Only seventy percent of the original sample, fourteen participants, completed the entire study from initial comprehensive pretest to final comprehensive posttest; only those results were useful for analysis and tabulation for this investigation.

Results

On the initial comprehensive pretest, most participants demonstrated low achievement in meaning vocabulary. Table 1 displays the percentile rank of each participant, as compared to same grade students in the normative group of the SRA SBS. Percentile ranks ranged from twenty-two to fifty-two (excluding ESL scores, which were
not included in tabulations). The Subgroup P/Q scored a mean percentile of 31.4; the Subgroup Q/P scored a mean percentile of 34.6

Table 1

Initial Comprehensive Pretest: Participants' Percentile Ranks Using Grade Norms

<table>
<thead>
<tr>
<th>Percentile Ranks</th>
<th>Form P&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Form Q&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td>0&lt;sup&gt;b,c&lt;/sup&gt;</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td>23</td>
</tr>
<tr>
<td>23</td>
<td></td>
<td>32</td>
</tr>
<tr>
<td>29</td>
<td></td>
<td>32</td>
</tr>
<tr>
<td>32</td>
<td></td>
<td>32</td>
</tr>
<tr>
<td>35</td>
<td></td>
<td>32</td>
</tr>
<tr>
<td>37</td>
<td></td>
<td>42</td>
</tr>
<tr>
<td>42</td>
<td></td>
<td>52</td>
</tr>
</tbody>
</table>

\[M^b = 27.6 \text{ (including ESL score)} \quad M^a = 30.6\]
\[M^b = 31.4 \quad M^a = 34.6\]


<sup>a</sup>n = 7 for each group. <sup>b</sup>The scores of ESL participants were reported for interest, but their scores were not included in computation of the mean percentile. <sup>c</sup>This participant did not complete the trials.
Table 2 reports the percentile rank of each participant; the number of items answered correctly on the initial comprehensive pretest and the final comprehensive posttest; change in items answered correctly; and percentage of improvement.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Percentile Rank</th>
<th>Form P</th>
<th>Form Q</th>
<th>Change</th>
<th>% Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>42</td>
<td>16</td>
<td>35</td>
<td>+19</td>
<td>119%</td>
</tr>
<tr>
<td>2</td>
<td>37</td>
<td>17</td>
<td>32</td>
<td>+15</td>
<td>88%</td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td>14</td>
<td>33</td>
<td>+19</td>
<td>136%</td>
</tr>
<tr>
<td>4</td>
<td>32</td>
<td>16</td>
<td>32</td>
<td>+16</td>
<td>100%</td>
</tr>
<tr>
<td>5</td>
<td>23</td>
<td>11</td>
<td>21</td>
<td>+10</td>
<td>91%</td>
</tr>
<tr>
<td>6</td>
<td>29</td>
<td>15</td>
<td>30</td>
<td>+15</td>
<td>100%</td>
</tr>
<tr>
<td>7</td>
<td>22</td>
<td>13</td>
<td>35</td>
<td>+22</td>
<td>169%</td>
</tr>
<tr>
<td>[ESL-1]</td>
<td>1</td>
<td>1</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

Subgroup P/Q:

<table>
<thead>
<tr>
<th>M</th>
<th>31.4</th>
<th>14.6</th>
<th>31.1</th>
<th>+17</th>
<th>115%</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD</td>
<td>1.9</td>
<td>4.4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2 (continued)

<table>
<thead>
<tr>
<th>Participant</th>
<th>Percentile Rank(^a)</th>
<th>Form Q(^b)</th>
<th>Form P(^b)</th>
<th>Change</th>
<th>% Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>32</td>
<td>18</td>
<td>30</td>
<td>+12</td>
<td>67%</td>
</tr>
<tr>
<td>9</td>
<td>52</td>
<td>23</td>
<td>36</td>
<td>+13</td>
<td>57%</td>
</tr>
<tr>
<td>10</td>
<td>32</td>
<td>18</td>
<td>35</td>
<td>+17</td>
<td>94%</td>
</tr>
<tr>
<td>11</td>
<td>32</td>
<td>15</td>
<td>23</td>
<td>+8</td>
<td>53%</td>
</tr>
<tr>
<td>12</td>
<td>23</td>
<td>13</td>
<td>23</td>
<td>+10</td>
<td>77%</td>
</tr>
<tr>
<td>13</td>
<td>32</td>
<td>15</td>
<td>30</td>
<td>+15</td>
<td>100%</td>
</tr>
<tr>
<td>14</td>
<td>42</td>
<td>18</td>
<td>38</td>
<td>+20</td>
<td>111%</td>
</tr>
<tr>
<td>[ ESL-2(^c)</td>
<td>0</td>
<td>0</td>
<td>24</td>
<td>+24</td>
<td>240%</td>
</tr>
</tbody>
</table>

Subgroup Q/P

\[ M = 34.6 \quad 17 \quad 30.7 \quad +14 \quad 80\% \]
\[ SD = 3 \quad 5.6 \]

Note. Maximum test score = 40. \(^a\)The percentile rank was determined from the initial comprehensive pretest using grade norms. \(^b\)\(n = 7\), including only those students that participated in the entire vocabulary unit. \(^c\)The scores of ESL participants are displayed as a matter of interest, but their scores were excluded from statistical calculations. \(^d\)This participant did not complete the study.
Summary

The data gathered in this investigation support the hypothesis implicit in this study: A program to teach reading vocabulary to secondary students in weekly small-group sessions can lead to a significant improvement of the volume of knowledge of a controlled list of vocabulary. Every participant exhibited a positive change between pretest and posttest, ranging from +8 to +22 (ESL student exhibited +24); the mean change for Subgroup P/Q was +17 items and for Subgroup Q/P the change was +14 items. The overall mean change was +15.

When corrected for the fact that each test assessed knowledge of exactly half of the treatment words, the assumption can be made that participants increased their vocabulary knowledge by twice as many words as the change recorded in the Table 2. It can be assumed that the fourteen participants increased their vocabulary knowledge by a mean of thirty words. Because the 20-minute treatments, reviews, and tests were administered once a week over a total of a sixteen-week period, the mean time to acquire one new vocabulary word was 10.6 minutes.

Overall, from initial comprehensive pretest to final comprehensive posttest, the participants showed an average of eighty percent improvement in number of vocabulary items answered correctly.
Chapter V

Summary and Conclusion

Summary

The purpose of this quasi-experimental one group study was to (a) ascertain the vocabulary acquisition of low-achieving language students in grades 9 – 11 (n = 14), and (b) to determine if implementation of a program of explicit instruction would lead to a significant improvement of the volume of knowledge of a controlled list of vocabulary words. Results revealed that all participants showed positive change in the number of vocabulary items answered correctly from initial pretest to final posttest (M = +15 items), with an average 97% improvement. The time to acquire one new vocabulary word was approximately 10.6 minutes. Implications for teaching secondary students who are low achieving in vocabulary skills are discussed.

Conclusion

Findings indicate that a systematic procedure of teaching vocabulary does lead to growth of the number of words in students' vocabularies.

Discussion

Regarding the instructional method employed in this study, researchers have claimed that direct instruction is used less often as students get older. The high school participants in this study responded well to the direct instruction method and appeared to enjoy it. In previous years, students in Compensatory Education language classes have openly and freely vocalized dissatisfaction with teaching methods and materials. During
this weekly sixteen-lesson vocabulary unit, not one serious complaint was voiced against the unvarying direct instruction. In fact, on the student evaluations, 86% of the participants responded that the teacher held the interest of the students and 93% answered that the words were well covered. Students appeared to enjoy the predictability of the instruction.

The seven-word mini-tests were highly beneficial to this student population. Though the students did not usually score well on the mini-pretest, students almost always achieved a perfect score on the mini-posttest. For low-achieving language students, the perfect score was immediate positive reinforcement; it built their confidence and made them feel successful in vocabulary skills. (Some of these secondary students even appreciated the star sticker rewards; however, others declined the stickers.)

Reinforcement was an important consideration. If students’ progress is slight, Richek et al. (2002) suggested to highlight every success or to show progress through charting or graphing. Curriculum-Based Measurement is an example of a graphing method that can be used to reinforce and encourage progress. One of the students commented that she liked using video games to learn new vocabulary because she could readily see her progress by keeping track of her scores. This student population seems to require an abundance of easy, immediate, positive reinforcement to increase their confidence and decrease discouragement.

The mini-posttests were primarily a function of short-term memory of the target words.

Regarding memory, one student evaluation commented that too many words were included in the vocabulary unit and that the lessons should be broken up. In future
applications of this curriculum, cumulative subtests should be administered after every three lessons, allowing students to review more often and assessing them on approximately 20 accumulated words at a time. Later, the participants will be less overwhelmed when they review all 80 words for the Final Cumulative Posttest, and they will probably have better long-term memory.

One student evaluation comment expressed appreciation for the multi-sensory techniques (speaking, hearing, reading and writing the words), context clues, and the many repetitions of the words designed into the curriculum to aid memory of new vocabulary words. Other participants commented that they liked learning new words; some reported hearing an occasional target word in other settings; and a few participants said they felt smarter when they used the new vocabulary words in essays and conversation.

One participant made the telling comment that she did not understand how to use some of the words. She said she would not even try using the words if she did not understand how to use them. Active participation is essential for students to learn vocabulary. “To gain full control over language, students with reading problems must be comfortable not only listening to and reading language, but also using it expressively in their own speech and writing. ‘Doing something’ with language gives students a stake in their own learning and helps them overcome the passivity that is a problem for so many low-achieving readers. Language that has been processed deeply, through many different activities, is learned well and used often” p. 246 (Stahl & Fairbanks, 1986 in Richek, Caldwell, Jennings, & Lerner, 2002). Sentence writing with the target words, as an
assessment of word-meaning comprehension, was designed into this study; regretfully, time did not allow for this very important activity.

On occasions when there was time for writing practice, this researcher observed the use of the faulty “plug-in” strategy used by some students. They considered a target word and its synonym, constructed a sentence using the synonym, then merely plugged in the target word—sometimes with humorous results and often with skewed meaning. Because no two words in the English language mean exactly the same thing, the plug-in method often causes students to miss the mark of intended meaning. Students must be taught to look deeper than the one-word definition to the embodied concepts and connotations of the target words.

Vocabulary was a good curriculum choice for the immersed ESL students because the new words were of practical use to them and because the ESL students could participate on somewhat of an equal footing with the first language students. However, each synonym definition was just one more unknown word to the ESL students. A bi-language dictionary proved to be an efficient aid in helping these students understand the new vocabulary words. Interestingly, the ESL participant that completed the study showed the greatest number of new words acquired (approximately 48 new words) and showed the greatest percentage of improvement (240%).

**Implications for Further Study**

Certain evaluation responses were perplexing. Though the target words included in the unit were judged by this researcher to be high-frequency words for secondary students, only 64% of the students said the words were useful. Only 50% of the participants agreed the words were relevant, and a mere 23% of the students thought the
list of words were valuable or likely to be helpful in their other classes. Several students commented that they did not like the “big” words, would never use the target words, or preferred to use slang.

A question that comes to mind: “Why are many of these low-achieving students indifferent to or even hostile to vocabulary acquisition?” Further research needs to discover prime reasons for resistance, indifference, and inability related to vocabulary acquisition. The answer may be uncovered by exploring one or more of the following areas relative to the student:

- innate neurological inability or inborn intelligence level
- lack of exposure to an expanding vocabulary in their environment (immediate family, peer social circles, or media influences)
- socio-economic status (SES)
- lack of reading skills or lack of time spent on pleasure reading
- past failures leading to learned helplessness
- lack of explicit instruction in word meanings and in how to use words meaningfully in listening, comprehending, speaking, reading, and writing

Perhaps the reasons for lack of motivation are different for different students, but teaching cannot be truly effective until the roadblocks are more clearly understood.

Teaching synonym definitions only provides a shallow acquaintance with target words. Because writing is the highest use of language, original sentence writing had been intentionally designed into this curriculum to deepen students’ knowledge of target words. This author believes that writing can also be utilized to reveal whether students truly “know” a target word. In fact, writing could provide the bridge between students’
vacuous memorizing (then forgetting) “useless, irrelevant” synonym definitions, to actually incorporating those words into their usable vocabularies.

A caveat should be noted. This researcher observed original sentence writing in which the target word was correctly used and in which the sentence made sense. However, upon inquiry, it was discovered that student’s intended message did not match with the message the sentence conveyed. The challenge, then, is to perform research that develops a time-efficient and effective instructional method to help students use target words to express their intended message. If students can express themselves accurately in writing with target vocabulary words, they demonstrate a deeper understanding of the word meanings. Further studies could be performed to determine whether subjects who are taught to express themselves accurately in writing with target vocabulary words are consequently able to effectively utilize those same target words in lower language skills, such as reading comprehension.

Perhaps the most interesting discovery of this study was made by informally graphing the items incorrectly answered on the Final Comprehensive Posttest, on both Form P and Form Q. Results from both forms showed that incorrect answers were sparse for the lower level words, but incorrect answers clustered in the higher level words. Knowing that the SRA is a carefully constructed, norm-referenced test, it can be assumed that the target words were chosen to represent a continuum of increasing difficulty intended to differentiate word level acquisition of test takers. In this study, the words were all presented in the same way with the same amount of explanation and emphasis. Why, then, would incorrect answers cluster in the higher level words? This result appears to support research by Andrew Biemiller (2000) which indicates that vocabulary
levels are acquired sequentially. Andrew Biemiller of University of Toronto has recently established a list of 15,000-17,500 word meanings to be learned by grade twelve ("Andrew Biemiller," 2003, April 13; personal communication, April 13, 2003). Unfortunately, Worldbook/Childcraft International has not published the list, nor has the company allowed anyone else to publish the list (see Appendix B). If the list were published, educators could develop an effective curriculum based on the LWV. Using that LWV curriculum, research can then determine whether students are able to fluidly progress through the word-level continuum to completion, or whether they just stop developing at given levels, in spite of good instruction.

The grand experiment of whole language was tried, and it has failed—leaving us many poor readers. Much research has been performed and much has been written about phonics, decoding, and fluency. Clearly, these three skills compose the essential foundation for reading. However, the next wave of reading research should focus on vocabulary, and some researchers are moving in that direction. University of Kansas professor Donald D. Deshler is well known for the LINCS strategy and the Strategic Instruction Method. In a recent correspondence, Deshler (personal communication, October 26, 2002) reported that his lab is just beginning a research of the literature on vocabulary. Also, University of Toronto professor Andrew Biemiller, who believes vocabulary is the missing link between decoding and comprehension, has done recent research at the encouragement of Jeanne Chall of Harvard University. To help those students who are low achieving in reading comprehension, Biemiller has concluded, "If education is going to have a serious 'compensatory' function, we must do more to promote vocabulary" p.29 (2000).
References


National Institute of Child Health and Human Development (2000b). Report of the National Reading Panel. Teaching Children to Read: An Evidence-Based
Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction: Reports of the Subgroups (NIH Publication No. 00-4754). Washington, DC: U.S. Government Printing Office.


VOCABULARY LIST

Form P

1. irksome—annoying
2. impediments—obstacles
3. ethnic—tied to specific cultures
4. jests—jokes
5. aspirations—ambitions
6. commended—praised
7. intuition—hunch
8. proxy—substitute
9. oblivious of—unaware of
10. premonitions—forewarnings
11. mediocre—ordinary
12. antiquated—out of date
13. ornate—elaborate
14. trivial—unimportant
15. perennial—continuing
16. presumptuous—overconfident
17. corroborated—confirmed
18. gregarious—sociable
19. impetuous—rash
20. conjecture—guesswork
21. barreled along—moved speedily on
22. bowled over—surprised greatly
23. dirge—gloomy comments
24. barbarians—unruly
25. utopia—ideal
26. nipped in the bud—stopped early
27. on the strength of—in reliance on
28. cast the first stone—start the criticism
29. food for thought—something to consider carefully
30. burned her bridges—make it impossible to return

Antonyms

31. valiant—brave (cowardly)
32. curtailed—decreased (increased)
33. diligence—effort (laziness)
34. fanciful—imaginative (unimaginative)
35. impartial—fair (prejudiced)
36. naive—simple, natural (sophisticated)
37. antagonism—opposition, hostility (harmony)
38. frivolous—silly (serious)
39. meager—lack of fullness (ample)
40. profound—deep (superficial)
VOCABULARY LIST

Form Q

1. conversion—changeover
2. lethal—fatal
3. transitions—changes
4. explicit—specific
5. comply with—obey
6. immobilized—stopped
7. conveyed—transmitted
8. perceptive—observant
9. ruinous—destructive
10. literal—word for word
11. aghast—surprised
12. excerpts—sections
13. subsidized—helped to finance
14. adamant—inflexible
15. callous—insensitive
16. perplexity—bewilderment
17. avarice—greed
18. placate—soothe
19. periphery—edge
20. sporadically—occasionally
21. armaments—arguments
22. as if she were going to the gallows—frightened
23. a real metropolis—very busy
24. a spectrum—colorful
25. the classroom was an infirmary—nearly everyone in the classroom was sick
26. struck home—had an effect on me
27. make ends meet—have enough money for expenses
28. came to grips with—considered seriously
29. caught fire—became popular
30. cooled their heels—waited a long time

Antonyms

31. vivacious—lively (dull)
32. unsung—not celebrated (celebrated)
33. feasible—possible (impossible)
34. skeptical—full of doubt (certain)
35. optimistic—expecting the best (pessimistic)
36. agitated—disturbed, shaken (calm)
37. admissions—acknowledgment (denials)
38. pugnacious—ready to fight (peaceable)
39. accentuates—emphasizes (minimizes)
40. pliable—flexible (rigid)
### VOCABULARY UNIT--STUDENT EVALUATION

1. Was the teacher knowledgeable about the vocabulary words?  
   - Yes  
   - No  

2. The lessons provided:  
   - relevant words  
     - Yes  
     - No  
   - useful words  
     - Yes  
     - No  

3. The teacher held the interest and attention of the students?  
   - Yes  
   - No  

4. Were the words well covered?  
   - Yes  
   - No  

5. Was the Vocabulary Unit valuable to you?  
   - Yes  
   - No  

6. Would follow-up lessons be beneficial to you?  
   - Yes  
   - No  

7. Will these words help you in other classes?  
   - Yes  
   - No  

8. Please explain what you liked or did not like about the unit:  
   - LIKED:  
   
   - DID NOT LIKE:  

9. Comments and/or Suggestions for next time:
Appendix B
Hello Ms Lange,

I have completed the list of Living Word Vocabulary root words listed between levels 2 and 12 (grades at which the majority of children "know" a particular word meaning). There are about 17,500 such meanings in the dictionary.

Unfortunately, the copyright holder, World Book/Childcraft International, has neither made arrangements to publish this material (preferably as a CD), nor to allow anyone else to do so.

Sincerely, Andrew Biemiller

Andrew Biemiller
Professor, Institute of Child Study
Ontario Institute for Studies in Education/University of Toronto
45 Walmer Rd.
Toronto, M5R 2X2
CANADA

(705) 730 7566
Dear Susan –

Nice to hear from you again! I'm glad that you are doing work on vocabulary....a very important area. We are just beginning a search of the literature ourselves in this area. Unfortunately, at this time, I don't have anything to share with you that we have written.

Good luck in your work.

Sincerely,
Don Deshler

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From: Tim Lange <bigoldhouse@comcast.net>
Date: Sun, 20 Oct 2002 21:33:55 -0400
To: ddeshler@UKANS.EDU
Subject: Thesis Research--Vocabulary for Low-Achieving Secondary Students

Dear Dr. Deshler:

I am doing the literature review for my thesis re: effective vocabulary development for low-achieving secondary students in weekly small-group sessions.

Do you have any research articles you could email or fax about the importance of vocabulary instruction or the effectiveness of LINCS or other strategies? Fax: (856) 346-3828.

You helped me last year with info about test-taking skills. (Thanks! I got an A!) My teacher, Dr. Sharon Davis Bianco of Rowan University in NJ told us of meeting you; she was very impressed by what a wonderful person you are. Having met you and been positively impressed, she said she was not at all surprised that you actually took time to answer my email and send me helpful articles.

As you can tell, I continue to be interested in your research and ideas. Thanks so much for any help you can offer me this time--and keep up the good work!

Sincerely,
Susan Lange
Appendix C
From: "NICHD CLEARINGHOUSE" <nichdclearinghouse@mail.nih.gov>
To: <bigoldhouse@comcast.net>
Sent: Thursday, December 26, 2002 9:00 AM
Subject: RE: IMPORTANT: NRP Comments/questions notification

Dear Ms. Lange:

This is in response to your inquiry to the National Institute of Child Health and Human Development (NICHD) Information Resource Center (IRC) regarding permission to reprint specific items that appear in the Reports of the Subgroups of the Report of the National Reading Panel (NRP): Teaching Children to Read.

The NICHD is part of the National Institutes of Health (NIH) with primary responsibility for conducting and supporting basic and clinical research in the biomedical, behavioral, and social sciences relating to child and maternal health, in medical rehabilitation, and in the reproductive sciences such as reproductive biology.

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Thank you for contacting the NICHD IRC. If we can be of further assistance please contact us at (800) 370-2943 or by e-mail at NICHDClearinghouse@mail.nih.gov.

Sincerely,

Farrah C. Pickering
Information Specialist

-----Original Message-----
From: National Reading Panel Information
To: National Reading Panel Information
Sent: 11/7/2002 10:20 PM
Subject: IMPORTANT: NRP Comments/questions notification
Importance: High

* NRP Web Site Comments/Questions Notification *

- User Information:
  Name: Susan Lange
  Email: bigoldhouse@comcast.net
- Comment/Question:
Dear NRP:

I am writing a Master's thesis on vocabulary development and instruction; therefore, I found your research and reports very helpful. Thank you. May I include in my thesis appendix copies of your chart "Vocabulary Instruction Methods" from your Appendix A (pp. 4-33 to 4-35) and vocabulary instruction "References" (pp. 4-29 to 4-32) from your Reports of the Subgroups? If I may include these parts of your report, will you send me a formal permission message? How do you want the documentation recorded? Thanks for your help!

Sincerely,
Susan Lange
Rowan University

- This message automatically sent by the NRP Web Site.
(www.NationalReadingPanel.org) via user at 68.45.59.32 (68.45.59.32) on 11/7/02 at 10:20:50 PM.
References


Chapter 4, Part I: Vocabulary Instruction
