Effectiveness of Explicit, Rich Vocabulary Instruction on Reading Comprehension and Word Knowledge of High School Students

by

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Abstract

This study investigated the effects of explicit, rich vocabulary instruction on the word acquisition and reading comprehension of high school students. The quasi-experimental study employed a two-group pretest-posttest design, using students from two intact sophomore English classes. The treatment group received daily, explicit, rich vocabulary instruction, using semantically grouped words, for a period of eight weeks. The comparison group received traditional vocabulary instruction, using the same word lists as the treatment group; additionally, the comparison group received daily reading strategy instruction for the eight weeks. A fifty-item, multiple choice vocabulary assessment was administered as a pretest and posttest to both groups. Reading comprehension levels for treatment and comparison groups were measured through the use of the Star Reading (STAR) assessment (Renaissance Learning, 2011) as the pretest and the Alabama-mandated Quality Core End-of-Course Test for English 10 (ACT, 2011) as the posttest.

While the treatment group's vocabulary pretest-to-posttest scores showed a statistically significant increase, the anticipated accompanying increase in reading comprehension scores was not evident. The comparison group posttests also showed a statistically significant increase in vocabulary, and a lack of statistically significant improvement in reading comprehension results. Although previous research indicated the need for rich vocabulary instruction to improve reading comprehension, the results of this study indicate that a better method may be a combination of rich vocabulary instruction and reading comprehension strategies. In either case, findings from

this study and others show that rich vocabulary instruction should be an integral part of the high school Language Arts curriculum.

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List of Abbreviations

ACT	American College Testing Service
AU	Auburn University
AHSGE	Alabama High School Graduation Examination
CCRS	Alabama's College and Career Readiness Standards
CCSS	Common Core Standards
CSI	Comprehension Strategies Instruction (comparison group)
EOC	Quality Core End-of-Course Test for English 10 by ACT, Inc., Quality Core Vantage
JV	*The Joy of Vocabulary* (This is a book, and is included in citations and references.)
NAEP	National Assessment of Educational Progress
QC	Quality Core, QC Vantage, Division of American College Testing Service
RVI	Rich Vocabulary Instruction (treatment group)
STAR	Star Reading Assessment by Renaissance Learning, Inc

Chapter I

Introduction

Background of the Problem

Vocabulary is crucial to the comprehension processes of skilled readers, but there has not been enough research in the area to develop a broad instructional plan for teaching vocabulary. In fact, research on vocabulary instruction, especially in the upper grades, is so sparse that it is difficult to say which instructional programs are most effective. Studies in the elementary grades, however, provide a robust body of evidence indicating that explicit vocabulary instruction improves overall reading comprehension (NICCH, 2000; Greenwood, 2002; McKeown, 1993) and a rationale for examining and extending the existing research on vocabulary instruction and learning for older students.

In my experience as a high school reading and Language Arts teacher for the past eight years, and as a special education teacher for seven years prior to that, I have encountered too many students who struggle with both vocabulary acquisition and reading comprehension. In my classroom, I have used a variety of instructional methods while trying to increase student achievement and improved standardized test scores. Seeking answers for ways to educate my own students led me to conduct this research study.

From 1992 to 2005, the number of high school seniors scoring Proficient on the reading tests administered by the National Assessment of Educational Progress (NAEP) dropped significantly, while during that same period, the number of fourth-graders scoring Proficient increased significantly (NCES, 2009). Indeed, research reveals that poor vocabulary acquisition is a factor in the decline of reading comprehension of students in middle school (Chall & Jacobs, 2003; Hirsch, 2003). Programs like Alabama's Reading Initiative and the federal government's

Reading First Initiative have focused resources on reading programs in grades K-4. Left behind are students in high school, who receive little or no reading or vocabulary instruction, whose reading time in school has dwindled to about 20 minutes per day, and whose reading time outside school is about half that amount (Deshler & Hock, 2006; NEA, 2007).

The recent focus on standardized testing as the major measure of academic achievement indicates that students may be failing reading assessments that require analogical reasoning due to insufficient breadth and depth of vocabulary knowledge. Research reviewed in this dissertation indicates that rich vocabulary instruction yields greater improvement than traditional vocabulary instruction and that traditional methods of teaching words and meanings have not improved students' vocabularies. Rich instruction includes discussion, categorization, and multiple encounters with words (Beck, McKeown, & Kucan, 2002; Beck, Perfetti, & McKeown, 1982; Greenwood, 2002; McKeown, Beck, Omanson, & Pople, 1985).

Statement of Purpose

The purpose of this study was to compare the effects of two instructional techniques, rich vocabulary instruction and reading comprehension strategies instruction, on two learning outcome measures, i.e., pre- to post-test scores of vocabulary acquisition and reading comprehension. The treatment group, designated RVI, received daily vocabulary instruction using semantically grouped words, in the manner described in Beck, et al.'s 1982 study. The comparison group, designated CSI, received incidental, embedded vocabulary instruction, using a traditional format. As used here, traditional format means giving a list of words to students at the beginning of the week, requiring them to find definitions from classroom dictionaries, textbook glossaries, or online dictionaries, and then administering a matching-type vocabulary quiz at the end of the week. The primary difference between traditional and rich instruction is

that the traditional instruction requires little or no teacher-student interaction and no discussion of the words and their meanings.

Research Questions

While most of the literature reviewed for this dissertation indicates that rich, explicit instruction is more effective and most likely does improve comprehension, the majority of vocabulary studies have been conducted in grades kindergarten through fourth, or with English language learners (Beck, et al., 1982; Coyne, McCoach, & Kapp, 2007). The overarching purpose of this study was to investigate the connection between rich, explicit vocabulary instruction and reading comprehension for high school students. This study was undertaken to answer three questions:

1) To what extent does rich, explicit vocabulary instruction impact students' word acquisition at the high school level?
2) To what extent does increased vocabulary knowledge impact student scores on the reading comprehension section of the Quality Core End-of-Course Test for English 10?
3) To what extent does either rich vocabulary instruction or reading comprehension strategy instruction yield an effect on students' QC EOC test scores?

Definition of Terms

As used here, explicit, rich vocabulary instruction is defined as daily vocabulary practice using semantically grouped words, activities involving discussion of word meanings, examples and non-examples, possible-sentence writing, and illustration of words. Traditional instruction consists of students providing word meanings through dictionary work or literature textbook

glossary only, as is the case in several of the school site's classrooms where this study was conducted.

Significance of Study

In the past 10 years, the reading proficiency level of high school students has been in decline (NCES, 2007). Research on ways to increase secondary students' vocabulary acquisition could have a profound effect on their reading comprehension and generate recommendations that can improve current classroom instruction.

Limitations

One limitation of this study is the sample size. A larger student sample would have increased the potential for detecting effects of the treatment and for producing results and generalizations that have an impact on school curricula.

A second limitation is the use of different measurement instruments for reading comprehension from pre- to post-test. The STAR reading test was the assessment of choice for this study, but after the pretest had been administered, an unforeseen lack of available student licenses prevented the use of STAR for the post-test. The school site where the study was completed purchases a specific number of STAR licenses (seats) each year. Students in general and remedial reading classes are given priority for those seats, because those classes administer STAR assessments weekly. Those students replaced the research participants in the STAR seats after the pretest. After consulting with the school system's curriculum and testing coordinators about the situation, I was made aware of similarities between STAR reading and the State-mandated ACT Quality Core English 10 EOC test. I obtained information from Renaissance Learning, the publisher of the STAR tests, on how the STAR Reading and the EOC test reading

comprehension elements align, which STAR scores to use for comparisons, and how to convert STAR scores to be comparable to EOC test scores (C. Yusten, personal communication, October 1, 2012). After reviewing the information from both the STAR and EOC test publishers on a method for converting and comparing results, I made the decision to use the QC EOC test as the posttest instrument (QCVantage.com, personal communication, October 3, 2012).

Another limitation is the lack of incentive for students to do well on the Quality Core End-of-Course (EOC) tests. The EOC tests have replaced the Alabama High School Graduation Examination (AHSGE) in Alabama schools as the accepted, standardized measure of reading, writing and language usage proficiency. Whereas in previous years, passing the AHSGE was a requirement for graduation, currently students are not required to attain a particular score on the EOC tests. The State Department of Education will not set a passing score for the EOC tests until after the 2013-2014 academic year. Lack of a need, or a desire, to excel on the EOC tests may have had an impact on the reading comprehension results obtained in this study.

A fourth limitation was testing format. The first administration of the EOC test was a pencil-and-paper format; the second and subsequent administrations were and will be a computer-based format. Students who were more computer literate might have tended to pay more attention to the reading passages and questions, while students who were more comfortable with pencil-and-paper tests might have been intimidated by the computer-based test. Both administrations of the EOC tests were spread over two days, according to State guidelines. While the EOC tests were not advertised as timed tests, the computer-based version timed out and stopped students' work after 45 minutes. Students did have the option of logging back in to complete the test on the next testing day. Finally, if a student was absent for either part of the EOC test, no score was returned for any part of the test. This factor resulted in a reduced number

of usable scores and served as an additional limitation related to sample size and robustness of the design and data set for this study.

Organization

This chapter introduced the background of the research study, the statement of purpose, research questions, definition of terms, significance, and limitations. Chapter Two includes an extensive literature review on research studies of vocabulary instruction, reading comprehension, and links between the two. Chapter Three describes a field test of the vocabulary lessons and assessments that was conducted with college students, the design of this quasi-experimental study, the high school setting and participants, and procedures. Chapter Four presents the findings of this research study—the data collected, results, and data analysis. Finally, the discussion, conclusions, and implications for future research are included in Chapter Five.

Chapter II

Review of Literature

According to the NRP report (2000), vocabulary is crucial to the comprehension processes of a skilled reader, but research on vocabulary instruction was so sparse that the NRP found very few studies in their review of the scientifically based research on this component of reading instruction. A scarcity of vocabulary research is especially evident in middle and secondary school grades. Current research with elementary students indicates that explicit vocabulary instruction is more effective than implicit instruction, and that implicit instruction is more effective than none (Coyne, McCoach, & Kapp, 2007). The majority of research reviewed consisted of very brief studies, with the exception of a study conducted by Beck, et al., (1982). Hardly any studies have been done with secondary students.

In 2000, when the NRP noted that vocabulary instruction is one of the five components necessary for effective reading instruction, the panel pointed out that there has not been enough research in the area to develop an explicit instructional plan for teaching vocabulary (NICHHD, 2000). In fact, research on vocabulary instruction that met the rigorous NRP criteria for experimental or quasi-experimental research was limited to only four studies (NICHHD, 2000).

In my own review of the research literature on vocabulary instruction that is presented in this chapter, I found that the NRP findings were substantiated. Even with relatively lax criteria, compared to those required for the NRP review, it was difficult to find quantitative vocabulary research to include in this chapter. The initial scope of this review was vocabulary instruction in the secondary grades. However, searches for studies with participants at these grade levels yielded so few studies that the scope was broadened to include all grades, kindergarten to grade twelve.

Beck, et al.'s 1982 study of the effects of long-term vocabulary instruction on reading comprehension was one of the first to look at categorical groupings of words. Beck et al. studied the relationship between knowledge of word meanings and semantic processes in long-term vocabulary instruction. The purpose of their study was to see whether semantic vocabulary instruction methods might lead to increased vocabulary knowledge that could transfer across contexts.

The quasi-experimental design conducted by Beck et al. (1982) included 27 fourth-grade students in the treatment group and a control group that received no vocabulary instruction. The treatment group received rich vocabulary instruction: categories of words were taught each week of the treatment using word association, timed matching of words/definitions, and affective associations consisting of connotations of good or bad related to words. Students also generated sentences using the target words, and read stories comprised of target words. Students worked individually and with partners in these activities. Experimenters divided words into many, some, and none types, relative to the number of times students were exposed to the words during instruction.

Beck and colleagues (1982) did their study over a period of 18 weeks, and 104 words were presented during a 12-week instruction period. At the end of the instruction period, students were given multiple-choice assessments to determine gains in word meaning knowledge. Students were also given the Iowa Test of Basic Skills (ITBS) as pre- and post-tests and experimenter-designed tests for vocabulary knowledge, sentence generation, semantic decisions, and story recall.

Effect sizes were reported by Beck et al. (1982) only for reading comprehension and vocabulary subtests of the ITBS (.44 and .36 respectively). However, students in the treatment

group showed significant gains over the control group students in these areas: ITBS post-test, vocabulary knowledge post-test, verification of words correctly used in sentences, and recall of story details.

My review of this study by Beck et al. (1982) generated several questions: Was the rich instruction the significant factor? Was semantic grouping the best way to teach vocabulary? Could students transfer the gains to commercial reading programs? The stories used in the study were experimenter-designed using the target words. Would gains have been as significant if the students' regular reading series had been used? And if target words had been taken from the basal texts? These questions are important to me as a researcher because finding a method that increases knowledge transfer to reading programs already in use in the schools would be a significant advantage, in that teachers would not have to design reading passages for daily use.

A similar study that Beck and colleagues did was completed three years later. This time they looked at which types of instruction produced gains in word knowledge proficiency, the effectiveness of high- and low-frequency encounters with target words, and the relative effectiveness of Traditional, Rich, and Extended/Rich instruction (McKeown, Beck, Omanson, & Pople, 1985). The three instruction types were capitalized in the McKeown et al. (1985) research design.

Beck et al. (1985) assigned four fourth-grade classrooms to one of three treatments and one control group. Intact classes were assigned to treatment and control groups, and there was no randomization. For all the treatment groups, instruction consisted of 14 daily 30-minute sessions, with 24 target words taught in two cycles over six days each in which students worked with high- and low-frequency words. On the seventh day following each cycle, students were given a true/false test to measure target word knowledge, lexical access fluency, context interpretation,

and story comprehension. Lexical access fluency was defined as the students' ability to quickly retrieve information from their mental dictionaries.

The three types of instruction presented by Beck et al. (1985) were Extended/Rich, Rich, and Traditional. Traditional instruction consisted of worksheets and game activities after students were given words and their definitions. The Rich instruction group was given partial definitions, and then words were discussed to derive complete definitions. They also completed activities similar to those in Beck, Perfetti, and McKeown's 1982 study with measures of word association, semantic decision tasks, sentence generation, etc. The only difference between the Rich and Extended/Rich groups was an outside-of-class activity to encourage use of target words in other contexts. Students were rewarded with points for bringing in examples of vocabulary words seen and heard beyond the classroom.

Beck et al. (1985) found that the Extended/Rich and Rich instruction groups' performance was somewhat greater than that of the Traditional instruction group in story comprehension, and all three treatment groups showed an increase over the no-instruction control group in word knowledge and story comprehension. The data seemed to indicate that frequency of words in instruction, as much as, or more than, type of instruction made a difference in lexical access fluency as well as in word knowledge accuracy. The Traditional group, using worksheets, appeared to have had as many gains as the other groups in all areas except lexical access fluency.

All three treatment groups demonstrated an increase in word knowledge and story comprehension. The Extended/Rich and Rich instruction group advantages seemed to be in the areas of story comprehension. The greatest unanswered question here is whether vocabulary

instruction of any type would increase reading comprehension, or is frequency of word exposure the most important variable?

Over a decade later, Beck and McKeown (2007) completed additional studies of vocabulary instruction using read-alouds with kindergarten and first-grade students. The two main questions posed by these researchers were: 1) To what extent can kindergarten and first grade children learn sophisticated vocabulary words? and 2) What amount of instruction is needed for young children to learn and understand sophisticated words? The research was conducted as two separate studies, the first with 98 students, and the second with 76.

In Study 1, Beck and McKeown (2007) used a between-subjects quasi-experimental, pretest and posttest control group design. Of 98 participants, there were four classes of kindergarten and four classes of first grade in one school. Two classes were designated experimental groups and two comparison groups. The comparison group received no vocabulary instruction. The experimental treatment group received Text Talk vocabulary instruction. Text Talk was defined and implemented as discussion of the vocabulary words and their meanings when the words were encountered in stories. The treatment groups learned almost twice as many words as the non-instructed comparison groups.

For Study 2, Beck and McKeown (2007) worked with three kindergarten classes with 36 children and three first-grade classes with 40 children. Study 2 also used the Text Talk instruction program, using six sets of words chosen from seven trade books. The Rich treatment condition involved contextualizing word meanings for students, presenting the words in a student-friendly manner, and giving examples in multiple contexts for six words. The More Rich treatment condition was similar except that three of the six words were studied for three additional days. The More Rich words were also reviewed twice; once after four weeks of

instruction, once after seven weeks. For both treatment conditions, the researchers developed a script that was used in instruction.

As anticipated, results for Study 1 seemed to indicate that any vocabulary instruction was better than none. The experimental group received vocabulary instruction; the control group did not. In Study 2, the variables were Rich instruction and More Rich instruction. The Rich instruction treatment results were somewhat lower than the More Rich treatment results.

Results of the two recent studies done by Beck and McKeown (2007) raised several questions as I read them. Is vocabulary instruction in kindergarten or first grade similar to upper-grade vocabulary instruction? Because these children are just beginning to read, how much of what occurred in these two studies could be considered vocabulary instruction rather than new word learning? There is a fine line here since these students are still in the learning to read phase. McKeown, in a 2008 presentation to the Massachusetts Reading First program based on the Beck and McKeown (2007) study, says that choosing which words to teach should be based on the difficulty, or unfamiliarity, of words. Kindergarten and first grade students are learning basic words, but too often vocabulary at this grade level often only means sight word instruction; at higher grade levels, students begin vocabulary study with high-utility words (McKeown, 2008).

Coyne, McCoach, and Kapp (2007) used a similar approach to that of Beck and McKeown (2007) and compared Extended, Embedded, and Incidental vocabulary learning during read aloud sessions for young children. Their research focused on three items: the effectiveness of Extended vocabulary instruction during storybook reading; whether Extended instruction results in greater word learning than Incidental exposure; and whether students maintain their knowledge of word meanings without planned review or instruction.

Coyne et al. (2007) chose six target words from *The Three Little Pigs.* The story was slightly modified so that the six words appeared only once. Extended Instruction Version A taught students three of the six words; Version B taught the other three words. In addition, the Extended instruction included a pre-reading review of target words and a direction for students to raise a hand if they heard one of the "magic words" when the story was read aloud. At that point students were asked to identify the word, and then the teachers reread the sentence containing the word, but replaced the vocabulary word with its definition. Students were again asked to pronounce the target word as reinforcement. After-reading activities were intended to engage students in interactions with the target words in various contexts. Each activity began with a reintroduction to the target word and how it was used in the story. Students also engaged in activities to encourage deep processing and increase exposures to target words. Students were asked open-ended questions to extend and elaborate on initial responses. Teachers provided corrective feedback by restating and reinforcing student responses. In contrast, the Incidental and Embedded instruction methods only required students to hear the target words while the story was read three times. Incidental instruction was defined as teachers reading the story without direct instruction of the vocabulary words. Embedded instruction was defined as including targeted vocabulary definitions within the read-aloud stories. For these treatments, there was no discussion of the words, their meanings, or any vocabulary activities.

Results from this study by Coyne et al. (2007) revealed a correlation between Extended vocabulary instruction and definition knowledge. Students who received the Extended instruction treatment scored significantly higher on measures of expressive and receptive definitions than students in either the Incidental or Embedded instruction groups. The researchers stated they were concerned about the durability of results over a long period. Initial effect size

for the expressive definitions measure, for example, was +2.27 at the immediate post-test. At the delayed posttest, six weeks after the treatment, the effect size dropped to +1.36; still significant even though reduced almost by half. The researchers noted that there had been no intentional vocabulary instruction on target words between the two post-tests. Questions remain as to whether the effect size would have increased if the instruction had been continued during the six to eight weeks between tests.

Wixson (1986) also researched the link between story reading, vocabulary instruction, and comprehension. She questioned the effects of pre-teaching words of central and non-central importance to a text on children's comprehension. The study also sought to determine whether a question measure specific to the pre-taught words produced different results than a general recall measure of comprehension? Wixson's study compared effects of pre-teaching words using a dictionary method and concept-of-word method of instruction. Wixson recruited 125 fifth-grade students, who were average and above-average readers as determined by performance on the ITBS, from two schools in Michigan. Students were randomly assigned to eight groups, and the groups were then randomly assigned to one of two instruction methods, word type and basal reading stories. Each of these conditions is described below.

Instructional method conditions used a dictionary or concept approach (Wixson, 1986).The dictionary method required students to look up word definitions in a dictionary, copy them, and generate sentences with the words. The concept method was similar to previously described Rich vocabulary instruction (Beck & McKeown, 1991). This method involved giving students examples and non-examples of word attributes, then having them discuss the words to derive at meanings. These students reviewed the words prior to reading the story and at the end of instruction.

Word types in Wixson's (1986) study were based on whether words were central (relevant) or non-central to the stories. Graduate students chose these words, selecting five central and five non-central for each story. Students were not aware of the status of the words they were studying. Students were pre-taught the words before reading the stories silently. Wixson (1986) selected the two stories from a leading commercial basal reading series. The basal reading text was not from a series used in the school district. Student participants were randomly assigned to read one of the stories entitled *Cave* and *King.*

Wixson's (1986) results indicated that the students who received the central word concept instruction scored higher on comprehension measures than those who received non-central word dictionary instruction. Students who received either dictionary or concept instruction of central words performed better on the vocabulary measure of central words. Students who received either instruction method of non-central words performed better on the non-central vocabulary measure. Results seemed to indicate that pre-teaching vocabulary improved story comprehension, regardless of whether the words were considered central or non-central to the story. Wixson (1986) noted that while instruction did appear to have an effect on comprehension and word knowledge, the results may have varied with children's interest in the story they read. On review, she theorized that using the same story for all subjects might have given different results.

Story reading as a tool for vocabulary instruction also featured prominently in a study by Schwanenflugel, Stahl, and McFalls (1997). This research sought to determine whether the development of vocabulary acquisition of partially known and unknown words for elementary school children is a function of story reading. Forty-three fourth-grade students were randomly assigned to either a story or no-story condition. All students were given a vocabulary checklist

containing words, pseudo-words, non-words, and targeted words from four selected stories. On the checklist, students were asked to write either a definition or a sentence for all words that were known to them. Then they were asked to check off words for which they did not know meanings, but which were familiar words. Next, they were asked to circle items they thought were words, but for which they did not know meanings. One week after completing the checklist, story-condition students were randomly assigned to read two of four possible stories which contained some, but not all, of the partially known and unknown words. Three days later, students were given a multiple-choice definition test to check comprehension of story vocabulary.

Results of the study conducted by Schwanenflugel et al. (1997) showed that there is a positive correlation between story reading and vocabulary growth, especially for unknown and partially known words. However, the study's phases of students checking off words and writing sentences provided no instruction other than presentation of words in the stories. Given the scope of the vocabulary checklist, one might wonder whether results were an effect of story reading, or of previous vocabulary knowledge. Effect sizes were not reported between the story and no-story conditions, but two ANOVA's completed on results show significant growth in word knowledge for the story condition group. The question left unanswered for me was whether the growth in word knowledge was due to any factors other than story reading.

The next four studies presented illustrate the erratic foci of vocabulary research. Mastropieri, Scruggs, and Fulk (1990) and Rosenthal and Ehri (2008) studied the links between comprehension and mnemonic keywords and spellings; Kolich (1991) and Yip and Kwan (2006) looked at computer-assisted vocabulary learning. Mastropieri et al. (1990) and Yip and Kwan (2006) studied special populations: students with learning disabilities and English language learners, respectively. Each of these studies is described in the paragraphs that follow.

Rosenthal and Ehri (2008) studied whether students learn and remember pronunciations and meanings of new words better when they see spelling forms in addition to hearing spoken forms. They completed two experiments: one with second-grade students and one with fifth graders, focusing on spelling-present versus spelling-absent conditions.

Students at both grade levels were randomly assigned to three treatment groups by Rosenthal and Ehri (2008) for a total of six groups. Second-graders were given random sets of six low-frequency, concrete, CVC (consonant-vowel-consonant) nouns; fifth-graders were given sets of 10 low-frequency, concrete, multi-syllabic nouns. Three types of teaching cards were used: one set showed pictures of the nouns; one set showed the written words; one set showed both pictures and words. Students were randomly assigned to be taught using one set of cards. Students who were not given the written words were given extra trials to pronounce words and meanings. Students who were given the written words had a study period during which they could see and study the written words. Experimenters in all three treatments gave the definitions to students orally, and students responded orally in recall tasks. Post-tests for both second and fifth graders consisted of recall of words, definitions, and spellings.

This study sought to determine whether spellings of words influence retention of vocabulary meanings when taught together. Results indicated that students do learn pronunciations and meanings of new vocabulary words better when spellings of the words are given. Researchers thought initially that a smaller difference would be seen with the fifth-grade group, due to higher decoding ability. However, both groups exhibited improved performance in pronunciation and meanings of new words when taught with the written word forms. If these results were replicable, Rosenthal and Ehri's (2008) work would greatly impact vocabulary

instruction methods for elementary students. It would also be interesting to see whether the results are true for older students at the middle or high school level.

Mastropieri, Scruggs, and Fulk (1990) used a mnemonic keyword method to determine if it was more effective than a traditional skill-and-practice method for students with learning disabilities. Twenty-five students from resource room settings were randomly assigned to either a Mnemonic Keyword instruction group or a Rehearsal/Direct Instruction group. Eight abstract and eight concrete target words were selected from a "list provided by Johnson Adams, and Bruning (1985, p.137)." Students in the Keyword group were shown both a Keyword and a Mnemonic picture along with the definition of each word. Students in the Direct Instruction group were told the definitions and asked to repeat each definition to the experimenter. Students in both groups were given production and comprehension tests following approximately 15 minutes of instruction. The untimed tests were read aloud to students by the researchers, and answers recorded.

Mastropieri et al. (1990) found that students in the Mnemonic Keyword group scored higher in all areas than those in the Direct Instruction group. Effect sizes were +3.25 overall for the Production Test and +1.83 overall for the Comprehension Test. Test results were further disaggregated into abstract items and concrete items. In those results also, the Mnemonic Keyword group attained higher scores: Abstract Production +3.43; Concrete Production +2.11; Abstract Comprehension +1.96; Concrete Comprehension +1.15. The experimenters noted that the higher levels of comprehension were measured by a task in which students were asked to provide vocabulary words for new contexts. This was an important result because previous studies on mnemonic instruction methods have indicated that the instruction method was more useful for literal recall than using in different contexts.

While the results reported by Mastropieri et al. (1990) were impressive, it must be noted that the tests were administered immediately after instruction and there were no follow-up tests administered, or at least none reported. It would be interesting to see if the Mnemonic Keyword instruction method has long-term effects. Another unanswered question is whether the results obtained for students with learning disabilities would be attained within the general education population using the Mnemonic Keyword method.

All of the research reviewed thus far has focused on 20th century teaching methods of vocabulary instruction. The final two studies that follow bring us into the technologically driven 21st century and look at the use of computer software programs in vocabulary instruction.

In 1991, Kolich completed a study in rural Pennsylvania to determine the effectiveness of computer-aided vocabulary instruction that lasted for four weeks. The study included 171 high school juniors, who were randomly assigned to one of four treatment conditions: 1) Definition, 2) Contextual, 3) Arcade, and 4) Mixed. Treatments one and three were both multiple-choice test activities. The Definition treatment gave students four choices for each word; two chances to answer before a miss was recorded. Arcade treatment was similar to Definition, except that a seven-second time limit per word was imposed. Contextual treatment consisted of sentence completion, with definition or synonym provided if needed. All four treatment conditions were computer-based programs, with the Mixed treatment being a combination of the other three.

Kolich (1991) reported that the results of immediate post-tests indicated that the Contextual treatment was more effective than the Definition or Arcade activities. Also, combining the Contextual and Mixed activities was more effective than the Definition activities alone. However, post-test results after two weeks indicated no retention of gains in vocabulary.

In Kolich's (1991) study, none of the students were in a true control group because all were involved in computerized activities. There was no alternative treatment with no computer work for a control group. Adding a control group doing pencil-and-paper activities would improve the design of this study. Lack of retention of words learned over time appears to be an issue as well. No explanation for this was given in the article. One is left to wonder if gains were noted in the immediate post-tests due to the novelty of the computer-based learning experience rather than true learning. A longer term study of the benefits of the Contextual approach and others with delayed and immediate post-test may yield needed information about retention of words and meanings learned with different approaches to computer-delivered instruction.

Yip and Kwan (2006) carried Kulich's (1991) work one step further when they studied whether learning words with vocabulary-game websites was more effective than activity-based learning. Their research involved three teachers and 100 engineering students, all of whom were English language learners, in a quasi-experimental study for nine weeks. Students were arbitrarily placed in six groups; three of which were chosen as experimental and the remaining three as control. The computer-based treatment group learned vocabulary while using games at two carefully selected web sites: Professional Word Web and University Word Web. The control group was taught using activity-based vocabulary lessons. Both groups had two 50-minute lessons per week during the course of the study. Targeted words were selected from a variety of content areas.

It is important to note that one of the pretests and post-tests that Yip and Kwan (2006) administered to all participants was an English proficiency test. Scores increased significantly in this area from pre- to post-test. Statistically significant differences were higher in the computer-

based treatment group, whose average English proficiency score increased nearly three points in nine weeks. The effect size for the computer-based treatment group was also significant at +1.40.

One factor that was addressed at length in the article by Yip and Kwan (2006) was the fact that all the students in the study were engineering majors. As such, they most likely had experience with computers, games, and the Internet. This may have been a reason for the higher scores in the treatment group than the control group. Although the participants in the study were all English language learners, similar results in vocabulary acquisition might be obtained with native English speakers. Games of any kind are an enticement to adolescents, and using games to increase vocabulary might have a positive impact on motivation to learn as well.

The effect of time as a factor was not addressed in the majority of the vocabulary studies reviewed. With the push toward research-based curricula, it would not be prudent to base new instructional programs on a handful of research studies that lasted less than a month. Long-term effects of vocabulary instruction at all grade levels, but especially at the high school level, need to be thoroughly examined in additional research projects. The NRP commented on the dearth of research results on vocabulary instruction in its Report, and after completing the literature review, I concur that the area of vocabulary teaching and learning is in dire need of further exploration.

The review presented in this chapter indicated that explicit vocabulary instruction is more effective than implicit instruction, which is also called embedded and incidental instruction, and that rich instruction is more effective than traditional approaches to teaching words and meanings, but results are inconclusive. The majority of research on vocabulary has been completed with elementary students, but significant vocabulary and reading comprehension problems are evident in the upper grades as well. More research is needed to determine whether

explicit vocabulary instruction, and what *type* of explicit instruction, is indeed more effective in increasing vocabulary for students in middle and high school. Only one of the studies presented in this review included participants who were secondary students. One other study found for this review involved participants at the college level. Neither of these studies were designed to compare effects of different types of explicit and implicit vocabulary instruction for students beyond the elementary level.

All of the studies reviewed have inspired my research focus, but probably none more than the work of Beck, Perfetti, and McKeown (1982). Beck et al. (1982) studied the effects of teaching semantically grouped words using rich instruction methods, with elementary school students. My research study described in Chapter Three is an alternate version of Beck et al.'s (1982) study, completed with high school students. Beck et al.'s (1982) research compared three groups of students, but mine reduces that number to two groups while retaining the semantic word lists and rich instruction features.

Chapter III

Methods

Field Test

A field test of vocabulary and reading-strategy lesson plans, instructional procedures, and assessments was conducted during the summer of 2008 with 20 undergraduate college students enrolled in a Developmental Reading course at Auburn University. Dr. Bruce Murray (2008) created the lesson plans and assessments, and the course was conducted under his direction. Dr. Geralyn Murray and I served as instructors and collaborated with Dr. Bruce Murray to develop materials for the course. We concentrated our efforts on two areas: reading comprehension strategies and instruction. We used two textbooks: *Ten Steps to Building College Reading Skills* by John Langan and *The Joy of Vocabulary* by Harold, Norman, and Robert Levine. The basic outline for the course was developed using Beck and McKeown's principles of vocabulary instruction, which features semantic groupings of words (Beck, et al., 1982). *The Joy of Vocabulary* text was selected because of its semantic groupings of words, rather than alphabetical lists. In the first week of the course, a 50-item vocabulary pretest was administered to the students. During the seven-week term of the reading course, Dr. Geralyn Murray and I taught almost 240 words, in chapters of 20 words each, averaging 40 to 60 words per week. After the completion of each chapter study, a 10-item multiple-choice quiz was administered to the students. The words for the quizzes were selected on the basis of word utility.

Throughout the course, students were introduced to words in the category for a particular chapter. For example, the category in Chapter 1 of *The Joy of Vocabulary* was Number Words. On Day One of each week, all 20 words in a chapter were presented individually, with instructors giving definitions, contexts, and non-examples. Instructors introduced a particular

word in context, and then followed up with a question based on the context (Appendix B). Students used the words in practice exercises from the textbook, applying the words in a variety of contexts. On Day Two, students reviewed for the quiz by being presented with a new context and new questions for each word. The ten-item quiz was given on Day Two, immediately after review. The first quiz was not a word-and-definition-matching activity; instead, students had to choose the correct word to complete a statement. Finding that the fill-in-the-blank quizzes were too difficult for some students, Dr. Bruce Murray changed the format to multiple choice after the first week. Day Three was a repeat of Day One, and Day Four repeated Day Two activities. Students were given a 10-item vocabulary quiz every other class day for the entire seven weeks. The culminating post-test of vocabulary was the same assessment that was administered in week one; however, the students' reading strategies were assessed only at the end of the course. Mean scores on the vocabulary tests showed an increase of 3.444 words from pre- to posttest. This gain was statistically significant at the .005 level, and the correlation for pre- to posttest scores was .687, which was significant at the .000 level (Appendices D & E).

Participants and Setting

The study reported in this dissertation was conducted in a 974-student rural high school in the Southeastern United States. The study was structured as a two-group, pretest-posttest, treatment-and-comparison group design (Campbell & Stanley, 1963). Participants were selected from two intact sophomore English classes, for which I was the only instructor. For the sixteen-week study, classes were randomly assigned to two groups: one treatment and one comparison. I taught a total of four tenth grade English classes; from these, two were randomly selected for inclusion in the research study. The random selection was done by placing four pieces of paper, numbered one through four according to the class period, in an envelope from which I chose two.

The first class number chosen was named as the treatment group, designated RVI for Rich Vocabulary Instruction, and the second class number chosen was the comparison group, designated CSI for Comprehension Strategy Instruction. The two classes selected contained a combined total of 53 students. As teacher and researcher, I was not aware of which students were participating until the end of the treatment period, but I did know which classes were the treatment and comparison groups. Only scores from those students whose parent or guardian gave consent for their participation were included as data for this study, and the consent forms were not given to me until after the students were no longer in my class.

The school population included 584 (60%) White, 365 (37%) Black, 19 (2%) Hispanic, three (.5%) Asian, and three (.5%) Multi-race students. Of that number, 483 (49.6%) were female and 491 (50.4%) were male. The treatment group of 17 students included 11 White, five Black, and one Hispanic, of which thirteen were female and four were male. The comparison group's 22 students included 11 Black and 11 White; 14 females and eight males. Neither of the two groups was completely representative of the school's population, although the treatment group's racial make-up was very similar at 64% White and 35% Black and Hispanic. Both groups had a greater number of females than males, with 76% female in the treatment group and 64% in the comparison; percentages which are well above the school's 49.6% female.

Because the treatment group's vocabulary instruction is part of my regular Language Arts curriculum, even students whose data were not used may have benefitted from the instruction. See Table 1 for the placement and number of participants.

Table 1

Participants

Treatment (RVI)	Comparison (CSI)	Total
17	22	39

Research Design and Procedure

The research questions that guided the design of this study were these:

1) To what extent does rich, explicit vocabulary instruction impact word knowledge?
2) To what extent does vocabulary instruction effect reading comprehension scores in these same students?
3) To what extent does either vocabulary instruction or reading comprehension strategy instruction impact students' QC EOC test scores?

As in the field test conducted with college students, this research was patterned after Beck, et al.'s (1982) research using words grouped by concept in semantically related groups. The major difference between this study and the one done by Beck and colleagues was the grade level of participants. The Beck et al. study was completed using elementary-age children, and this one involved students at the secondary level. The primary independent variable was method of instruction. For eight weeks, the treatment group received daily, explicit, rich vocabulary instruction using semantically grouped words and passages from *The Joy of Vocabulary* textbook. Both the treatment (RVI) and comparison (CSI) groups participated in vocabulary and reading comprehension pretests during the first week of the study, weekly vocabulary quizzes, vocabulary posttests at week eight, and at week sixteen a delayed reading comprehension

posttest, which was the Quality Core English 10 End of Course (EOC) test mandated by the Alabama Department of Education.

The vocabulary pretest consisted of the 50-item multiple-choice, CLOZE-type test, incorporating randomly selected words from *The Joy of Vocabulary* textbook, which Dr. Bruce Murray created for the Developmental Reading course at Auburn University (2008). The reading comprehension pretest was the STAR Reading assessment with the number of questions ranging from 30 to 40, depending on student skill level. The STAR reading test has a .94 reliability rating, and was renormed in 2011 to align with the American College Testing Service's Explore, PLAN, and ACT assessments (RenLearn.com, 2013). STAR assessments are also in the CLOZE format, beginning as one sentence for each item, progressing to paragraph-length reading passages of varying difficulty. These tests were administered on consecutive days, such that all students took the vocabulary pretest on one day and the reading pretest the next. These tests were a regular part of my first-week-of-term procedures for all students, because students' scores on these formative assessments guided my lesson planning for the course. While there was a slight possibility that the use of a pretest would skew posttest results due to students being familiar with the words, the possibility of a testing effect was miniscule due to the large number of words and the fact that students had limited exposure to the 50 words targeted for testing.

The RVI group received explicit, rich vocabulary instruction for 15-20 minutes per day for eight weeks. The format of the instruction was very similar to that employed during the 2008 field test, except that only 20 words per week were introduced, rather than the 40 to 60 per week at the college level. On Day One of each week, a list of semantically grouped words from a chapter in *The Joy of Vocabulary w*as presented to the class. The instruction included a Power Point presentation containing the words, context usage, definitions, and pictorial representations

to illustrate the vocabulary. During the presentation, the instructor discussed word meanings and posed questions to the class about how the words were used. (Appendices B and C.) Students were encouraged to take notes during the presentation, especially for words that were unknown to them. Students participated in discussions about the words, and began developing a vocabulary section in their class notebooks. Conversely, the CSI group received the same 20 words each week, but only in the form of an unadorned list of words projected on the screen at the front of the room. The teacher read the list aloud to the class, reminded students they would have a vocabulary quiz on Friday, advised them of the options for finding definitions, i.e., dictionaries in the room, online dictionary sites, and the literature textbook glossary. They were also told that they could work in small groups or on their own to define the words. The CSI group students were given 30 minutes of class time on Day One to find definitions, and they were instructed to complete the definitions at home if they did not finish in class. The CSI group received no other in-class vocabulary instruction during the week, but were administered the same vocabulary quizzes every Friday as the RVI group.

On Days Two, Three, and Four, the RVI group had 15-20 minutes of vocabulary instruction, which included using the words in CLOZE-type activities from *The Joy of Vocabulary* textbook, finding synonyms and antonyms, solving analogies, illustrating words, creating definitions using paraphrases, and developing possible sentences. Day One instruction for the Treatment group was a whole-class activity; Days Two, Three, and Four combined independent, collaborative group, and whole-class activities. Completing the CLOZE activities and solving analogies were independent activities: students completed the exercises in the text, and then we reviewed their results in class. Because of the way *The Joy of Vocabulary* text is arranged, the CLOZE activity was usually on Day Two and the analogies were on Day Three.

Day Four was a combination of illustrating words, creating paraphrased definitions, and writing sentences with the vocabulary words. Students were allowed to work with a partner for Day Four activities. Day Four also included a brief review of the words for Day Five's quiz.

On Day Five, both the RVI and CSI group students took a multiple-choice quiz that included 10 of the 20 words for that week (Appendix D). As in the field test, the words chosen for these quizzes were based on high-frequency and high-utility considerations. Both groups were allowed five minutes to review their words prior to the quiz; however, I led an oral review of the words for the RVI group, using the context questions from Dr. Murray's vocabulary chart (Appendix B). This weekly scenario was repeated every week for eight weeks, at which point the vocabulary post-test was administered. It was at the end of the eight-week period that I discovered that my research participants had been displaced in the STAR program, as previously described in the Limitations section of Chapter One. After consulting with the school system's testing coordinators and representatives from both STAR and ACT on how to make comparisons between the two tests' results, I made the decision to use only the State-mandated ACT Quality Core English 10 End-of-Course (EOC) test as the reading comprehension posttest for both groups. The EOC test was administered during week 16 of the course, as a delayed post-test. Like the STAR assessment, the EOC test presents reading passages with accompanying comprehension questions of varying degrees of difficulty (Appendix G).

The CSI group received traditional vocabulary instruction once per week for the first eight weeks of the sixteen-week study, using the same word lists as the Treatment group. In the school where the study took place, traditional vocabulary instruction consisted of students being given a list of vocabulary words each week, finding their own definitions, and being quizzed on Fridays. In addition, the CSI group received reading strategy mini-lessons at the rate of one

strategy per week for the eight weeks, using the *Ten Steps to Building College Reading* Skills textbook. This textbook has ten chapters, each one devoted to a particular reading strategy; the eight included in the CSI group's comprehension strategy lessons were: 2) Vocabulary in Context; 3) Main Ideas; 4) Supporting Details; 5) Locating Main Ideas; 6) Relationships I; 7) Implied Main Ideas; 9) Inferences; and 10) Basics of Argument. One chapter was taught each week, in daily 20-minute reading strategy lessons consisting of one of the following: a publisher-provided Power Point presentation, practice exercises, mastery tests of varying difficulty, nonfiction articles to read and analyze. There were no formal weekly reading strategy quizzes; however, students were allowed the option of completing the publisher's online learning center quizzes for extra points. Only five students actually took advantage of this opportunity.

It was unlikely that participants were influenced by the idea of being part of an experiment because they were told that the vocabulary and reading strategy instruction methods were the norm for their English classes. They were also advised that I, as their teacher and the researcher, would not know which students had agreed to participate until after the end of the course. This assurance that I did not know who were the participants in the study was reinforced by having them return their consent forms to another teacher at the school, who kept them unopened until the end of the term.

Chapter IV

Results

Introduction

According to Isabel Beck and her colleagues, there should be a strong connection between vocabulary and reading comprehension. They stated, "If comprehension depends in part on facile access to word meanings, then vocabulary instruction ought to affect comprehension" (Beck, et al., 1982, p. 156). This premise provided the basic framework for developing questions addressed in this research study. Two null hypotheses were generated to guide data collection and statistical analysis of results that might answer questions about the effect of rich and traditional vocabulary instruction on students' word learning and comprehension.

1) Vocabulary scores of the RVI group students receiving explicit, rich vocabulary instruction did not show a statistically significant difference from vocabulary scores of the CSI group that received traditional vocabulary instruction.
2) Reading comprehension scores of the RVI group did not show a statistically significant difference from those of the CSI group that received reading strategies instruction.

Data Analysis

Student learning outcomes for the RVI and CSI groups were compared for the vocabulary pretest/posttest results and the reading comprehension STAR pretest and EOC test posttest results. Both the RVI and CSI groups were assessed four times—vocabulary pre- and posttests and reading comprehension pre- and posttests, for a total of 156 scores. However, some students were absent when one or more of the tests were given, and their scores have been deleted from the data analysis. In order to match cases, I decided that if a participant missed even one assessment, it would be best to omit all of his/her scores. While the original number of cases to

be analyzed was 39, scores that were incomplete were omitted, leaving a total of 24 cases with complete data. As a result of matching each student's individual scores, the participant number was reduced to 11 in the RVI group and 13 in the CSI group.

Table 2 shows the descriptive statistics for pre- and posttest scores for vocabulary. There are two noteworthy items in this table: 1) The RVI group pretest mean was 4.82 points higher than the CSI group; and 2) The RVI group mean increased by almost fourteen points (13.36), to 39.18, which is 15.49 higher than the CSI group.

Table 2

Descriptive Statistics for Treatment (RVI) and Comparison (CSI) Groups, Pre- and Posttest Vocabulary Scores

		M	SD	N
Pretest	RVI	25.82	4.35	11
	CSI	21.00	4.41	13
Posttest	RVI	39.18	5.31	11
	CSI	23.69	5.59	13

An Independent-Samples *t* Test was conducted using the vocabulary gain scores from pretest to posttest, to evaluate the null hypothesis that rich vocabulary instruction had no effect on word knowledge acquisition. The test was significant, $t\ (22) = 8.365$, $p = .000$. The data analyses, shown in Tables 2, 3 and 4, indicated that the RVI group vocabulary means from pre- to posttest showed a significant increase ($M = 25.82$, $M = 39.18$). In addition, the RVI group posttest mean ($M = 39.18$, $SD = 5.31$) was significantly greater than the CSI group posttest mean ($M = 23.69$, $SD = 5.59$). The 95% confidence interval for the difference in means between

groups ranged from 8.03 to 13.31. The eta square index was 0.76, a very large effect size, even given such a small sample size. The null hypothesis for vocabulary was rejected.

Table 3

Independent Samples t Test – Group Statistics – Vocabulary Gain Scores

	Group	N	Mean	Std. Deviation	Std. Error Mean
Vocab Gain Scores	Treatment (RVI)	11	13.3636	2.65604	.80083
	Comparison (CSI)	13	2.6923	3.44927	.95665

Table 4

Levene's Test – Vocabulary Gain Scores

	Levene's Test for Equality of Variances	F	Sig.
Vocab Gain Scores	Equal variances assumed (EVA)	1.030	.321
	Equal variances not assumed (EVNA)		

	t-test for Equality of Means					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
(EVA)	8.365	22	.000	10.67133	1.27566	8.02576	13.31690
(EVNA)	8.553	21.841	.000	10.67133	1.24760	8.08287	13.25979

Levene's test for equality of variances evaluates the assumption that the population variances for the two groups are equal. The test was not significant, F (1.03), p = .321, meaning that the equality-of-variance assumption was not violated (Green & Salkind, 2008, 177-180).

Table 5 contains the descriptive statistics for pre- and posttest scores for the RVI and CSI groups' reading comprehension. In this assessment, the pretest means were somewhat more disparate than in the vocabulary pretest means; the RVI group was 6.10 higher. In the reading comprehension posttest, the CSI group's mean actually surpassed the RVI group by 1.63 points.

Although this is a small number, this increase represents a total improvement of 6.00 points in the CSI group on reading comprehension. In an unusual turn of events, the RVI group reading comprehension mean dropped by 1.73. However, when using STAR scores as a covariate, neither group showed a statistically significant change from pre- to posttest.

Table 5

Descriptive Statistics – Treatment (RVI) and Comparison (CSI) Groups – Reading Comprehension Scores

		M	SD	N
STAR Reading (Pretest)	RVI	21.18	6.81	11
	CSI	15.08	2.99	13
EOC Test (Posttest)	RVI	19.45	4.13	11
	CSI	21.08	4.96	13

Comparing pre- and posttest results for reading comprehension was difficult because of the difference in the test instruments used. Although both the STAR and EOC test publishers advised me on how to use data from each test to compare results, it was still possible that these comparisons would be flawed. To account for the possible cofounding issue of using STAR as a pretest and EOC test as a posttest, two one-way analyses of covariance (ANCOVAs) were conducted, both with STAR as the covariate, one with vocabulary gains as the dependent variable, and the other with the EOC test results as the dependent variable . Tables 6, 7, and 8 show the results of the first ANCOVA using group (treatment/RVI or comparison/CSI) as the independent variable, vocabulary gain scores as the dependent variable, and STAR pretest scores as the covariate.

Table 6

ANCOVA #1 – Descriptive Statistics – Dependent Variable: Vocabulary Gains

Group	Mean	Std. Deviation	N
Comparison (CSI)	2.6923	3.44927	13
Treatment (RVI)	13.3636	2.65604	11
Total	7.5833	6.22699	24

Table 7

Levene's Test of Equality of Error Variances[a] - Dependent Variable: Vocabulary Gains

F	df1	df2	Sig.
1.114	1	22	.303

a. Design: Intercept + STAR Reading + Treatment/Comparison Group

Table 8

ANCOVA #1 – Test of Between-Subjects Effects – Dependent Variable: Vocabulary Gains

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	680.994a	2	340.497	33.914	.000	.764
Intercept	75.567	1	75.567	7.527	.012	.264
STAR Reading	2.475	1	2.475	.247	.625	.012
RVI/CSI Groups	452.307	1	452.307	45.051	.000	.682
Error	210.839	21	10.040			
Total	2272.000	24				
Corrected Total	891.833	23				

a. R Squared = .764 (Adjusted R Squared = .741)

Results show a statistically significant difference between treatment (RVI) and comparison (CSI) groups on the vocabulary gain scores when using STAR scores as a covariate, $F(1, 21) = 45.05$, $p < .01$, and partial eta square = .68, indicating a fairly large effect of group

membership on the gain scores. The treatment group mean score was 13.36, with a standard deviation of 2.66, and the control group mean score of 2.69, with a standard deviation of 3.45. Levene's test indicated no statistically significant differences in the variances for the two groups, $F(1, 22) = 1.11$, $p = .30$.

Tables 9, 10, and 11 show the results of the second ANCOVA using group (treatment/RVI or comparison/CSI) as the independent variable, EOC English 10 test scores as the dependent variable, and STAR pretest scores again as the covariate.

Table 9

ANCOVA #2 – Descriptive Statistics – Dependent Variable: EOC Test Scores

Group	Mean	Std. Deviation	N
Comparison (CSI)	21.0769	4.95751	13
Treatment (RVI)	19.4545	4.13192	11
Total	20.3333	4.57466	24

Table 10

Levene's Test of Equality of Error Variances[a] - Dependent Variable: EOC Test Scores

F	df1	df2	Sig.
.159	1	22	.694

a. Design: Intercept + STAR Reading + Treatment/Comparison Group

Table 11

ANCOVA #2 - Tests of Between-Subjects Effects - Dependent Variable: EOC Test Scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	74.387a	2	37.193	1.919	.172	.155
Intercept	337.885	1	337.885	17.436	.000	.454
STAR Reading	58.704	1	58.704	3.029	.096	.126
RVI/CSI Groups	54.988	1	54.988	2.838	.107	.119
Error	406.946	21	19.378			
Total	10404.000	24				
Corrected Total	481.333	23				

a R Squared = .155 (Adjusted R Squared = .074)

The second ANCOVA analyzed treatment (RVI) and comparison (CSI) group scores on the EOC test, with STAR as the covariate. It does not show a statistically significant difference between the two groups on reading comprehension when using STAR scores as a covariate, F(1, 21) = 54.99, p = .11, which is greater than both the .01 and .05 significance levels, and partial eta square = .12, indicating a small effect of group membership on the reading comprehension scores. The treatment group mean score was 19.45, with a standard deviation of 4.13, and the comparison group mean score was 21.08, with a standard deviation of 4.96. Levene's test indicated no statistically significant differences in the variances for the two groups, $F(1, 22)$ = .16, p = .69.

Summary

The study compared the effects of two instruction methods on vocabulary acquisition and reading comprehension of high school students. It was hoped that variables such as individual ability, teacher effects, and Hawthorne effects were controlled enough to disallow threats to

validity. All subjects in the experiment received some type of vocabulary instruction, but the expectation was that the subjects who received the rich, explicit vocabulary instruction would show the most significant improvement, especially on measures of vocabulary knowledge for words taught. While this was true of vocabulary growth, with the RVI group's mean score improving from 25.82 to 39.18, it was not true of reading comprehension. The reading comprehension mean score actually decreased from 21.18 to 19.45 for the RVI Group, while the CSI group's mean score increased from 14.55 to 20.73.

The analysis of the data would indicate that any vocabulary instruction is better than none, as seen in the increase in vocabulary means in both RVI and CSI groups. The RVI group increase was significant, at $p < .01$, meaning that the explicit, rich vocabulary instruction yielded a greater change in achievement than the traditional vocabulary instruction. The CSI group increase, at $p = .016$, was borderline significant, which could mean that any type of vocabulary instruction can make a difference in a student's word acquisition. The vocabulary-reading comprehension connection did not appear to be as strong as Beck, et al. (1982) and I had hypothesized. The null hypothesis for reading comprehension was retained.

Chapter V

Discussion and Conclusions

This research study examined the effects of rich, explicit vocabulary instruction on both word knowledge and reading comprehension of high school students. This chapter includes a summary of the research findings, conclusions based on the data analyses, and implications for teaching practices and future research. The quasi-experimental study was conducted in two intact sophomore English classes during the 2012-2013 academic year, at a rural high school in the Southeastern U.S. The two classes were randomly designated as either treatment (RVI) or comparison (CSI) groups, but the students were not randomly selected for the classes. However, the regular high school registration and scheduling process for grouping students in classes may be considered random. I served as the only instructor participating in the study, and the materials used were those used regularly in my tenth-grade English Language Arts curriculum.

In the first week of the term, students in both the RVI and CSI groups were given a vocabulary pretest (JV) and a reading comprehension pretest (STAR). These tests were administered on consecutive days, such that all students took the vocabulary pretest on one day and the reading pretest the next. These tests are a regular part of my procedures during the first week of the term for all students because students' scores on these formative assessments guided lesson planning for the course. Therefore, at the time of the pretests it was not known which students or classes were participating in the study.

The following Monday started the eight weeks of explicit, rich vocabulary instruction for the RVI group and traditional vocabulary instruction for the CSI group. Both groups were taught the same 20-word list each week and 160 words total, over the eight-week period of the study, as described in the Methods section of Chapter Three. The RVI group interacted with the

vocabulary words on a daily basis; the CSI group only once each week. Alternatively, the CSI group had eight weeks of daily reading strategy instruction. At the end of eight weeks, the vocabulary posttest was given; then at sixteen weeks, the reading comprehension delayed posttest (EOC test) was administered. In the interim eight-week period, both groups were taught only incidental vocabulary lessons that were part of the regular English curriculum, the story-specific words found in the tenth-grade literature textbook, archaic words from Shakespeare, and literary terms. Also during this interim period, I taught reading strategies only as the literature curriculum dictated. For example, one unit in the literature text was focused on identifying elements of rhetoric and persuasion, another on identifying literary elements, and a third on identifying author's purpose, main idea, and supporting evidence. While the latter two reading strategies were also part of the CSI group's lessons from *Ten Steps to Building College Reading Skills* during the initial eight-week period, the version in the literature textbook was more an overview than an in-depth examination of these two concepts.

The vocabulary gains for the RVI group were significant at the .01 level, $p = .000$, and the mean difference in vocabulary scores from pre- to posttest was 13.36 points, a gain almost five times that of the CSI group. The CSI group's vocabulary mean scores increased 2.69, which is significant at the .05 level, $p = .016$. I believe that the results in both groups illustrate the idea that any vocabulary instruction is better than none, and with the RVI group, explicit, rich vocabulary instruction has made a tremendous impact on students' vocabulary test scores.

The initial data analysis on the reading comprehension scores was somewhat disheartening. The results showed that the RVI group means actually dropped from 21.18 to 19.45, while the CSI group's mean score increased almost six points, from 14.55 to 20.73. However, the use of different assessments for the pretest (STAR) and posttest (EOC) made it

difficult to "trust" the side-by-side comparison, even after using the score conversion instructions by the test publishers. Because of this discrepancy, I ran two ANCOVAs, using the STAR reading pretest as the covariate and vocabulary gains as dependent variable in the first ANCOVA, and EOC test scores as dependent variable in the second ANCOVA. Using these analyses, the reading comprehension scores did not show a statistically significant increase for either the RVI or CSI group. The null hypothesis for reading comprehension was retained.

Although the findings of the study were not exactly what I was anticipating in the area of vocabulary-reading comprehension connections, the findings are still important for guiding decisions about classroom instruction. Historically, vocabulary instruction has not been a high priority for secondary students, except for technical or course-specific words. Most of the time, the vocabulary instruction for high school students has resembled that which was conducted with the CSI group in this study and consisted of traditional, look-up-the-words-and-test-Friday routines. The vocabulary findings from this study did support the previous vocabulary work of Beck, et al. (1982), although the link between vocabulary instruction and reading comprehension was not evident in my results.

Limitations

As mentioned in Chapter One, there were many limitations inherent in this research, any one of which could have contributed to the difference in expected and actual outcomes. The difference between students' age as tenth graders in this study and the one done by Beck, et al. (1982) with elementary students should not have been a limitation because older, more mature students should be more prepared and, perhaps, more motivated to achieve academically and make gains in vocabulary and reading comprehension. The sample size probably could have been increased had I not chosen to be unaware of which students were participating until after

the course ended. However, not knowing which students were participating in the research while it was ongoing, kept me from unduly influencing the outcomes. Lack of incentive to do well on the EOC tests was a difficult limitation to overcome. Most students tend not to do well on tests where they say that they do not get anything in return for doing well. Perhaps in the future, the EOC will be a test that counts in some way, so that the students will feel the need to excel.

The lack of consistency between the reading comprehension pretest and posttest instrumentation was most likely the greatest limitation of this study. The STAR and EOC test publishers' representatives gave me detailed information on how to compile the raw scores based on how many items students answered correctly on each test, and how to convert those to scores that could be compared equally. The two tests are aligned in concept and skill, and in fact, one of the renormed STAR's selling points is that it can be used as a predictor of ACT and EOC test success, but still, they are not exactly the same. So, there is the remaining question of whether different results in reading comprehension would have been seen, had the same test been used for pre- and posttests.

Implications

Findings in this study indicated that explicit, rich vocabulary instruction did have a significant impact on students' word acquisition. That skill in itself could lead to increased reading comprehension as students add more words to their working vocabulary, even though the results here do not support that theory. The findings here indicated that a combination of vocabulary study and reading strategy instruction could be the ideal tool to increase reading comprehension in high school students. As course work becomes more rigorous as a result of the push to adhere to both the Alabama College and Career Readiness Standards and the national Common Core Standards, teachers will be searching for ways to increase students' achievement

levels in both vocabulary knowledge and reading comprehension. The findings of this study could be an integral part of informing curricular decisions for both the immediate and long-term future of reading education.

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Appendix A – Vocabulary Pre- and Post-Test

Vocabulary Knowledge Assessment

Directions: Write the letter of the word that best completes each sentence.

1. The apes are unusual mammals because they are not _____.
a. quadrupeds b. antipathies
c. bibliophiles d. chauvinists

2. The black plague _____ the population of Europe.
a. excised b. equivocated
c. malingered d. decimated

3. Diplomats from a dozen major nations were able to reach a/an _____ agreement on chemical weapons.
a. inchoate b. fratricidal
c. multilateral d. posthumous

4. After six shoplifting convictions, we wrote off Kerry as a confirmed _____.
a. xenophobe b. kleptomaniac
c. polygamist d. dermatologist

5. Another heavy rain _____ the flood problems that already plagued our area.
a. impersonated b. bowdlerized
c. exacerbated d. decimated

6. Judaism, Islam, and Christianity are all _____ faiths.
a. monotheistic b. hypersensitive
c. intramural d. quixotic

7. Both sisters showed a/an _____ for outdoor sports.
a. veracity b. ultimatum
c. collusion d. penchant

8. After numerous clashes with the editor, William quit and was replaced by a more _____ writer.
a. extraneous b. Machiavellian
c. bellicose d. subservient

9. The charges of _____ were false; Allen was a loyal employee with a strict code of ethics.
a. chutzpah b. antithesis
c. duplicity d. hepatitis

10. We called the police after the new cashier ____ with the day's receipts.
a. absconded b. exacerbated
c. malingered d. equivocated

11. The misspelling was a/an _____ error in an otherwise brilliant essay.
a. interdependent b. venial
c. garrulous d. hypercritical

12. The ruined banker managed to maintain a/an _____ of wealth.
a. faux pas b. megalomania
c. vivisection d. façade

13. The comedian could _____ celebrities with uncanny accuracy.
a. reconcile b. impersonate
c. connive d. boycott

14. The teacher had a/an _____ method of summarizing complex ideas.
a. mendacious b. sublethal
c. incisive d. ingenuous

15. The company looked forward to the _____ of their new product line.
a. prognosis b. triumvirate
c. polyglot d. debut

16. Reeve wrote an unusually ____ analysis of likely developments after the war.
a. prescient b. taciturn
c. extramarital d. antediluvian

17. Janet was such a _____ that her den looked like a library annex.
a. duplicity b. dichotomy
c. gingivitis d. bibliophile

18. You have to be careful in giving advice to Tim; he's _____
a. multicultural b. hypersensitive
c. intravenous d. alfresco

19. Having lived in isolation from other cultures, the natives have marked _____.
a. façade b. hypothermia
c. xenophobia d. debut

20. My ideas were so _____ that I had trouble starting my paper.
a. inchoate b. interurban
c. concise d. subservient

21. Juan was a secret _____ who managed to lead a double life.
a. monologue b. tyro
c. polygamist d. cache

22. Rod has learned to _____ to escape the duties the rest of us have to endure.
a. malinger b. predecease
c. carp d. demur

23. We had trouble studying because Marcia kept raising _____ topics.
a. prescient b. extraneous
c. hypothetical d. monotheistic

24. We left after it became clear that the speaker was not noted for his _____.
a. score b. acrophobia
c. arthritis d. veracity

25. Jon and his seeing-eye dog were _____.
a. venial b. interdependent
c. transitory d. incisive

26. Several employees were acting in _____ to embezzle from the company.
a. pyromaniac b. neurology
c. collusion d. swan song

27. We participated at a/an _____ art show on campus.
a. intramural b. hypercritical
c. hypothetical d. bellicose

28. Either a virus or a toxin (poison) can cause _____.
a. postmortem b. malapropism
c. anticlimax d. hepatitis

29. The special tragedy of a civil war is that it is inevitably _____.
a. fratricidal b. garrulous
c. transitory d. Machiavellian

30. My friend suggested I see a _____ about my rash.
a. kleptomaniac b. quadruped
c. dermatologist d. triumvirate

31. The heroic Navy Seal won a _____ award for bravery.
a. multilateral b. concise
c. sublethal d. posthumous

32. The boss gave us a/an _____: Shape up or ship out.
a. kudos b. ultimatum
c. odyssey d. antiseptic

33. My editor suggested I _____ any statements that might be taken as insults.
a. feign b. excise
c. mesmerize d. intersect

34. Gerald had the _____ to claim that he did it right and everyone else did it wrong.
a. chauvinist b. posterity
c. coup de grace d. chutzpah

35. The new salesman used _____ tactics to become the regional manager.
a. Machiavellian b. hypersensitive
c. intramural d. alfresco

36. Wiping your mouth on the tablecloth was a/an _____.
a. penchant b. faux pas
c. polyglot d. malapropism

37. Sandra's _____ disregard for money left her perpetually broke.
a. quixotic b. interdependent
c. ingenuous d. posthumous

38. Our cat overcame her natural ____ toward the beagle pup.
a. veracity b. xenophobia
c. antipathy d. chutzpah

39. The _____ junior officers had to be cautioned by the combat veterans.
a. venial b. subservient
c. bellicose d. multilateral

40. Elizabeth's response to the bullying was the _____ of cowardice.
a. cache b. anticlimax
c. megalomania d. antithesis

41. The attempt to _____ *Tom Jones* ruined the book out of the best of intentions.
a. bowdlerize b. abscond
c. divert d. boycott

42. The report on Robert's conduct was transparently _____; no action was taken.
a. mendacious b. inchoate
c. extramarital d. quixotic

43. The _____ was favorable; the inflammation had been caught early.
a. duplicity b. collusion
c. debut d. prognosis

44. Skillful politicians can _____ to avoid offending those who disagree.
a. exacerbate b. equivocate
c. carp d. connive

45. Calvin was _____ to a fault; I never knew what he was thinking.
a. incisive b. multicultural
c. taciturn d. monotheistic

46. Love of country can develop into uncritical _____ without a higher ideal.
a. antipathy b. antithesis
c. hypothermia d. chauvinism

47. Despite our efforts to negotiate, we could not _____ the former friends.
a. demur b. intersect
c. reconcile d. excise

48. An evening with my _____ grandmother made an early bedtime welcome.
a. extraneous b. prescient
c. antediluvian d. garrulous

49. The travelers entertained us long into the night with accounts of their _____.
a. odyssey b. façade
c. dichotomy d. posterity

50. The children tried to _____ sleep, but we knew they were awake.
a. decimate b. feign
c. bowdlerize d. divert

(Bruce A. Murray, PhD, Auburn University, May 2008)
.

Appendix B – Sample Vocabulary—*Joy of Vocabulary*
Chapter 3: "One" and "Many" Words
(Chart developed by Bruce A. Murray, PhD, Auburn University)

Word	Meaning	Example	Initial question	Follow-up question	Quiz question
Monograph	Scholarly article on one subject.	I read a monograph on the metabolism of an amoeba.	Would a scientist write a monograph?	Would a polymath write a monograph?	
Monologue	Long talk by one speaker.	The comedian's monologue kept us laughing uncontrollably.	Would a mime deliver a monologue?	Could a monologue be multifaceted?	1. The actor's ___ was interrupted by a cell-phone ringtone. a) monorail, b) uniform, c) monologue
Monorail	Railway with trains supported by one rail.	Miami has a free monorail for downtown travel.	Have you ever ridden a monorail? Where?	Is a monorail unique?	
Monosyllabic	Having only one syllable; not polysyllabic.	The word *thumb* is a monosyllable; *finger* is polysyllabic.	Is the word *syllable* monosyllabic or polysyllabic?	Would the words in a monograph be monosyllabic?	2. Anyone with a ___ vocabulary needs to read more. a) multifaceted, b) monosyllabic, c) polymath
Monotonous	Tedious because it is always one thing; boring from lack of variety.	The professor's monotonous lecture lulled me to sleep.	If a job required you to perform the same action over and over, would it be monotonous?	Is a monologue monotonous?	3. After the ___ scenery of the Great Plains, we were relieved to see the Rocky Mountains. a) monotonous, b) multimedia, c) unanimous

Multicultural	Including several national or ethnic groups.	Most large universities are multicultural, with large student populations from foreign countries.	Would xenophobia cause conflict in a multicultural society?	Does a multicultural community have a uniform way of life?	
Multifaceted	Having many aspects; complex.	Ethical questions are often multifaceted; e.g., honest answers may be hurtful, so that strict honesty is not always best.	Are the causes of high gas prices multifaceted ?	Might a polymath give good help in solving a multifaceted problem?	4. The ___ problem required us to investigate eleven related issues. a) multifaceted, b) monotonous, c) polytheistic
Multilateral	Having many sides, versus bilateral (2 sides) or unilateral (only 1 side)	The multilateral talks involved North Korea, Japan, China, and the US.	If a married couple isn't getting along, is that a unilateral problem?	Would you expect unanimous views at a multilateral negotiation?	
Multimedia	Featuring a combinatio n of media, e.g., TV, radio, and newspapers.	A multimedia website offers text, images, and video clips.	Which of your classes have used multimedia sources to present content?	Would a monograph be a multimedia presentation?	

Word	Meaning	Example	Initial question	Follow-up question	Quiz question
Multinational	Involving two or more countries.	IBM is multinational company with offices around the world.	Would a farmer's market be multinational? Might it be multicultural?	Would a multinational corporation develop multicultural sensitivity?	
Polygamist	Man married to two or more wives.	Police are investigating a polygamist cult in Texas for forcing young girls to marry older men.	Would jealousy be a problem among polygamists' wives?	Would a polygamist have multifaceted relationships?	5. The cult leader was arrested for being a ___. a) polyglot, b) polygamist, c) polymath
Polyglot	Person who speaks several languages.	Europeans almost have to become polyglots to communicate with their neighbors.	Would polyglots be found in a multicultural society?	Does a polyglot have a uniform language?	6. The multinational corporation needed a ___ to resolve translation issues. a) polyglot, b) polygamist, c) polytheist
Polymath	Person with expertise in many areas.	Leonardo da Vinci was a polymath; he was a scientist, mathematician, engineer, inventor, anatomist, painter, sculptor, architect, botanist, musician and writer.	Would a polymath get his education at a polytechnic institute?	Might a polymath give a monologue?	

Polytechnic	Offering instruction in a variety of industrial arts, applied sciences, or technical subjects	Auburn University was a polytechnic institute before it became a university.	Would a polytechnic institute be a good place to study music?	Does a polytechnic college have a uniform curriculum?	
Polytheistic	Believing in multiple gods, vs. monotheistic, believing in one God.	Hinduism is a polytheistic faith, with 100,000 gods and goddesses.	Were the Hebrews monotheistic when most other religions were polytheistic?	Does a polytheistic religion have a unique God?	7. For ___ believers, no deity is all powerful. a) unisex, b) multicultural, c) polytheistic
Unanimous	Of one mind; in complete agreement.	The vote to adopt the new constitution was unanimous.	If a person won a plurality, was the vote unanimous?	Is a unanimous decision typical in a unicameral legislature?	8. The teachers were ___ in approving the principal's plan. a) unanimous, b) polytechnic, c) unisex
Unicameral	Having one legislative body.	Nebraska has the only unicameral legislature among the states.	Is the US Congress unicameral?	Is Nebraska's unicameral legislature unique among the states?	

Word	Meaning	Example	Initial question	Followup question	Quiz question
Uniform	Always the same; consistent, without variations.	We expect uniform quality in the medicine we buy.	Would a monotonous speech be uniform in tone?	Would you expect a uniform diet in a multicultural community?	9. Through the work of Noah Webster, American English has developed ___ spellings. a) unicameral, b) multinational, c) uniform.
Unique	One of a kind.	Dick Fosbury developed a unique high jump technique of jumping with his back to the bar and landing on his back.	Is Fosbury's high jump method still unique?	Does a polymath have a unique specialization?	10. The archeologist unearthed a ___ copy of the original text. a) unique, b) unanimous, c) monotonous
Unisex	Designed for either sex; not specially male or female	Unisex hair stylists accept both male and female clients.	Are flipflops unisex shoes?	Are unisex fashions monotonous?	

Appendix C – Vocabulary Lesson Example – Power Point Slide
(Created by Bruce Murray, PhD, Auburn University)

Multimedia

- Featuring a **combination** of media, e.g., TV, radio, and newspapers.

Appendix D

The Joy of Vocabulary Chapter 1, Quiz 1

_____ 1. Irving Berlin, born in 1888, became a _____ in 1988.

a) septuagenarian, b) octogenarian, c) centenarian.

_____ 2. Presidential elections and the Summer Olympics are ____ events..

a) quadrennial, b) sesquicentennial, c) bicentennial

_____ 3. The _____ is the five-sided U.S. military headquarters building in Washington D.C.

a) Hexagon, b) Triangle, c) Pentagon

_____ 4. Dogs, cats, and cows are known as ___ because they have four feet.

a) quadruplets, b) quadrupeds, c) mammals

_____ 5. If we had a fortnight to eat a baker's dozen pies, how many days would we NOT have pie?

a) 13, b) 14, c) 1

_____ 6. Julius Caesar was one-third of the ____ that ruled Rome.

a) dichotomy, b) triumvirate, c) tricameral

_____ 7. Every athlete in a ___ participates in 10 track-and-field events.

a) decathlon b) pentathlon, c) polytheistic

_____ 8. If you and I each have a brace of pistols, how many do we have total?

a) 2, b) 4, c) 6

_____ 9. Auburn University was established in 1856, and celebrated its ___ in 2006.

a) bicentennial, b) tercentennial, c) sesquicentennial.

_____ 10. If a flood literally decimated a village of 1000 residents, how many are still alive?

a) 100, b) 10, c) 500

Appendix E
Difference Between Pre-and Post Test Groups
Auburn University, August 2008

Statistically significant differences between pre-and post-test scores. Scores on the post- test were higher than the scores on the pre-test. Here we put all the pretest scores together and all the post test scores together, ignoring Group membership.

Paired Samples Statistics

		Mean	N	Std. Deviation	S1d. Error Mean
Pair 1	preraw	24.14	36	7925	1321
	postraw	27.58	36	9327	1.554

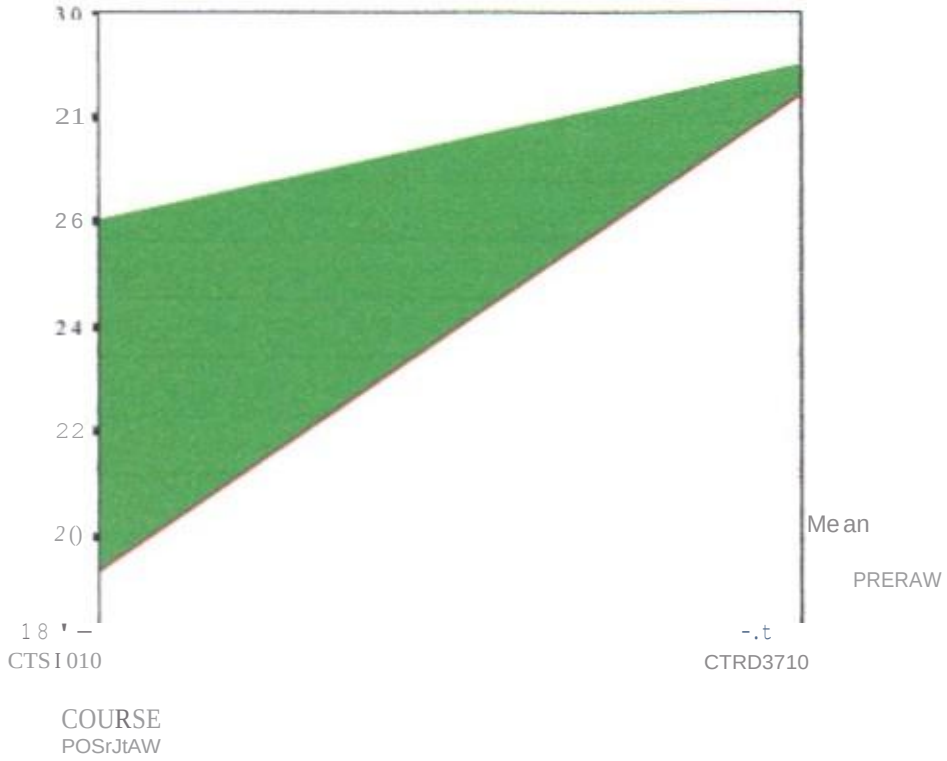
Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	preraw & postraw	36	.687	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Inteival of the Difference Lower	Upper			
Pair 1	preraw - postraw	-3.444	6.947	1.158	-5.795	-1.094	-2.975	35	.005

Appendix F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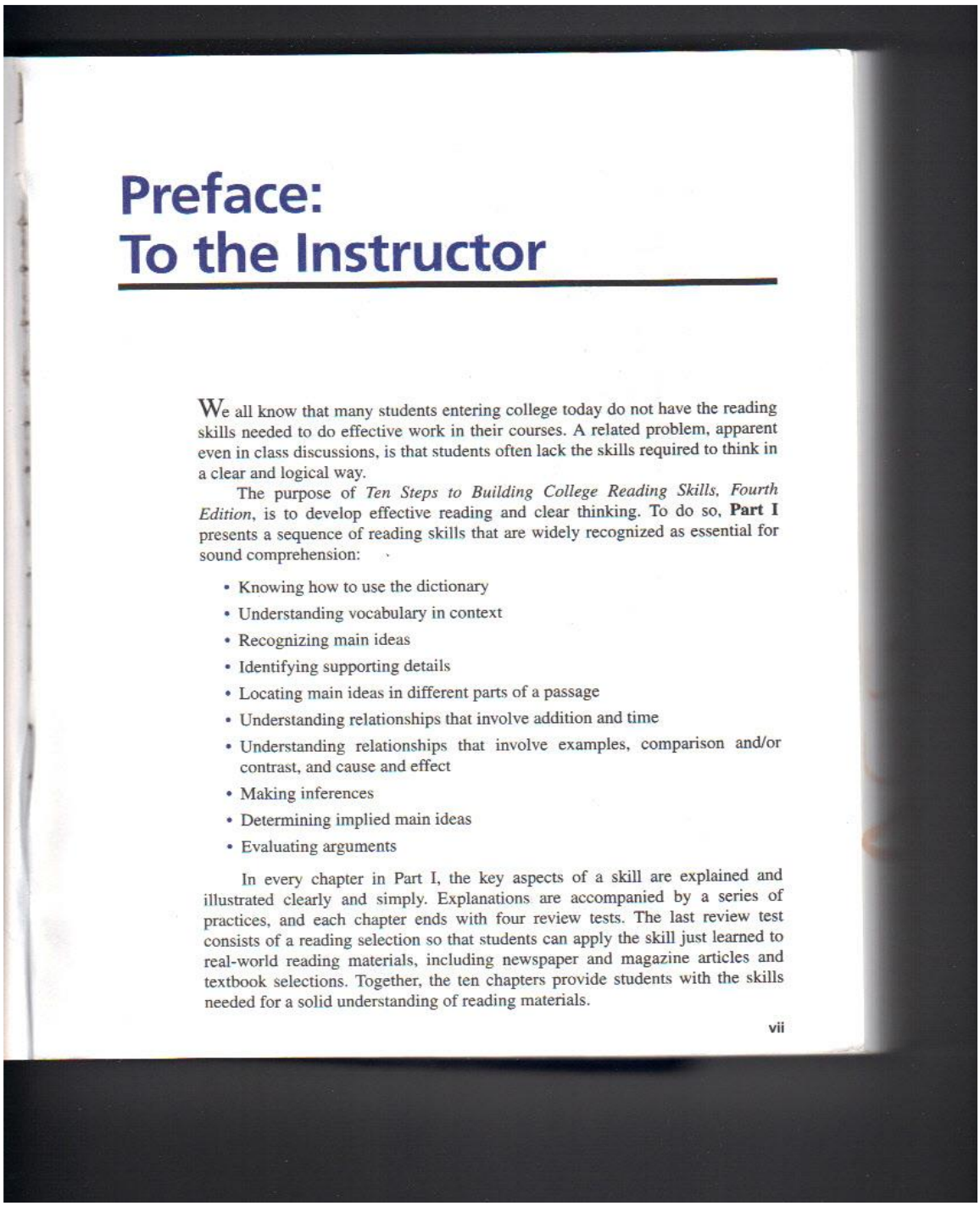
Appendix G –*Ten Steps*



Preface: To the Instructor

We all know that many students entering college today do not have the reading skills needed to do effective work in their courses. A related problem, apparent even in class discussions, is that students often lack the skills required to think in a clear and logical way.

The purpose of *Ten Steps to Building College Reading Skills, Fourth Edition*, is to develop effective reading and clear thinking. To do so, **Part I** presents a sequence of reading skills that are widely recognized as essential for sound comprehension:

- Knowing how to use the dictionary
- Understanding vocabulary in context
- Recognizing main ideas
- Identifying supporting details
- Locating main ideas in different parts of a passage
- Understanding relationships that involve addition and time
- Understanding relationships that involve examples, comparison and/or contrast, and cause and effect
- Making inferences
- Determining implied main ideas
- Evaluating arguments

In every chapter in Part I, the key aspects of a skill are explained and illustrated clearly and simply. Explanations are accompanied by a series of practices, and each chapter ends with four review tests. The last review test consists of a reading selection so that students can apply the skill just learned to real-world reading materials, including newspaper and magazine articles and textbook selections. Together, the ten chapters provide students with the skills needed for a solid understanding of reading materials.

vii

3

Main Ideas

THIS CHAPTER IN A NUTSHELL

- Recognizing an author's main idea, or point, is the most important reading skill.
- Learn to think as you read by asking yourself, "What is the author's point?"
- The main idea is a general idea supported by specific ideas and details.
- It may help to find the topic or general subject of a selection and to then ask yourself, "What point is the author making about the topic?"
- Certain "clue words" such as *several reasons* or *a number of causes* or *three factors* often signal a main idea.
- Certain other words such as *first of all, second, also,* and *finally* often follow a main idea.

WHAT IS THE MAIN IDEA?

"What's the point?" You've probably heard these words before. It's a question people ask when they want to know the main idea that someone is trying to express. The same question can guide you as you read. Recognizing the **main idea**, or point, is the most important key to good comprehension. To find it in a reading selection, ask yourself, "What's the main point the author is trying to make?"

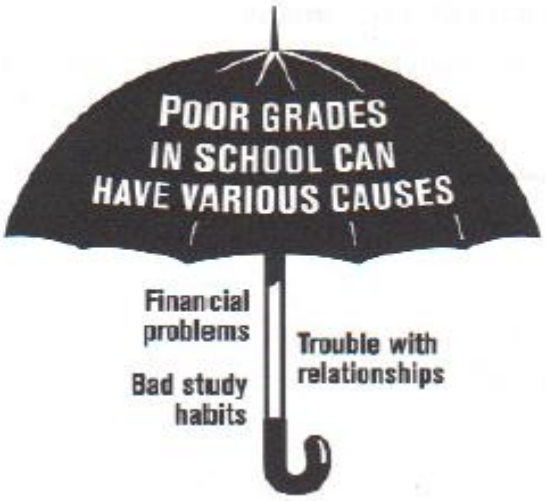
For instance, read the following paragraph, asking yourself as you do, "What is the author's point?"

Sentence C: This sentence also mentions only one specific cause: bad study habits. "Bad study habits" is not general enough to include the other two causes presented in the paragraph.

Sentence D: This sentence lists three specific study problems. It does not cover the other material in the paragraph.

he Main Idea as an "Umbrella" Idea

Think of the main idea as an "umbrella" idea. The main idea is the author's general point; under it fits all or most of the other material of the paragraph. That other material is made up of specific supporting details—evidence such as examples, reasons, or facts. The diagram below shows the relationship:



The explanations and activities on the following pages will deepen your understanding of the main idea.

OW DO YOU RECOGNIZE A MAIN IDEA?

To recognize the main idea of a passage, you must **become an active reader**. Active readers *think* as they read. Instead of merely taking in words, an active reader constantly asks, "What's the point?" In addition, active readers use a variety of other strategies to determine an author's main idea. Below are three active reading strategies you can use to help find the main idea in a passage.

CHAPTER REVIEW

In this chapter, you learned the following:

- Recognizing the main idea is the most important key to good comprehension. The main idea is a general "umbrella" idea under which fits all the specific supporting material of the passage.
- Three strategies that will help you find the main idea are to 1) look for general versus specific ideas; 2) use the topic (the general subject of a selection) to lead you to the main idea; 3) use clue words to lead you to the main idea.

The next chapter—Chapter 4—will sharpen your understanding of the specific details that authors use to support and develop their main ideas.

On the Web: If you are using this book in class, you can visit our website for additional practice in recognizing main ideas. Go to **www.townsendpress.com** and click on "Online Exercises."

Review Test 1

To review what you've learned in this chapter, answer each of the following questions by filling in the blank or writing the letter of the correct answer.

1. The umbrella statement that covers all of the material in a paragraph is the *(topic or main idea?)* ___main idea___. See page 111.
2. The supporting details are always more *(general or specific?)* ___specific___ than the main idea. See pages 112–113.
3. To help yourself find the *(topic or main idea?)* ___topic___ of a paragraph, ask yourself, "Who or what is this paragraph about?" See page 118.
4. To help you decide if a certain sentence is the main idea of a paragraph, ask yourself, "Is this sentence ___supported___ by all or most of the other material in the paragraph?" See page 121.
5. One way to help find the main idea is to look for **addition words** like *first, second, also,* and *finally.* Such words often introduce the supporting ___detail___s for a main idea. See page 125.

Name _____
Section _____ Date _____
SCORE: (Number correct) × 5 = _____%

MAIN IDEAS: Test C

A. In each pair below, one idea is general and the other is specific. The general idea includes the specific one. Do two things:

a Underline the idea in each pair that you think is more general.
b Then write in one more specific idea that is covered by the general idea.

1.	flounder	fish	_____
2.	amount	pound	_____
3.	outerwear	wool scarf	_____
4.	yogurt	dairy product	_____
5.	sofa	furniture	_____
6.	fictional character	Cinderella	_____

B. (7–10.) In the following group, one statement is the general point, and the other statements are specific support for the point. Identify the point with a P and each statement of support with an S.

_____ The biggest female stars make less money than the most famous male stars.
_____ Very few good roles are written for older women.
_____ The film industry tends to treat women as second-class citizens.
_____ Only a handful of women have been allowed to direct major motion pictures.

C. (11–18.) Each group of items below includes one topic, one main idea (topic sentence), and two supporting details. In the space provided, label each item with one of the following:

T—for the topic
MI—for the main idea
SD—for the supporting details

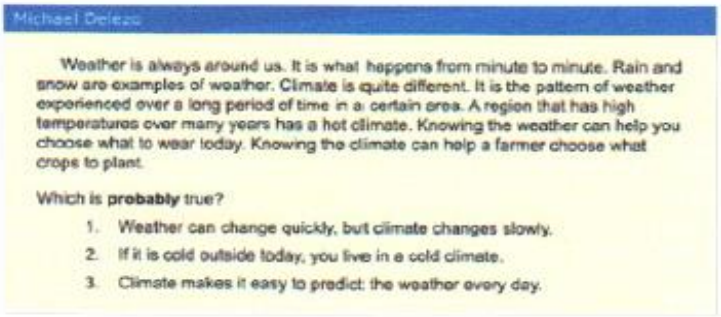
Group 1

_____ Young Amish boys learn to help their fathers tend crops and livestock.
_____ Amish children are taught to assist their parents with family work.
_____ The children in Amish families.
_____ Amish girls are taught to help their mothers cook, clean, and sew.

(Continues on next page)

Appendix H – STAR Sample Questions

Highly trained designers, writers, and editors follow research-based practices to ensure STAR Reading's test items meet high standards for reliability and validity. STAR Reading's large item bank allows for multiple administrations without risk of overexposure, and new test items are continually developed and calibrated to support frequent testing. STAR Reading Enterprise includes new skills-based items to provide an even greater depth of reading assessment.



Michael Delezo

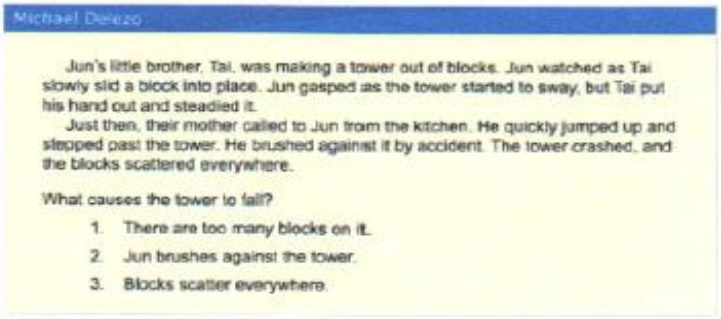
Weather is always around us. It is what happens from minute to minute. Rain and snow are examples of weather. Climate is quite different. It is the pattern of weather experienced over a long period of time in a certain area. A region that has high temperatures over many years has a hot climate. Knowing the weather can help you choose what to wear today. Knowing the climate can help a farmer choose what crops to plant.

Which is **probably** true?

1. Weather can change quickly, but climate changes slowly.
2. If it is cold outside today, you live in a cold climate.
3. Climate makes it easy to predict the weather every day.

This test item measures: **Understand Comparison and Contrast**

Grade 6: Draw conclusions based on similarities and differences in a text (e.g., assess a character based on his/her similarities to another character)



Michael Delezo

Jun's little brother, Tai, was making a tower out of blocks. Jun watched as Tai slowly slid a block into place. Jun gasped as the tower started to sway, but Tai put his hand out and steadied it.

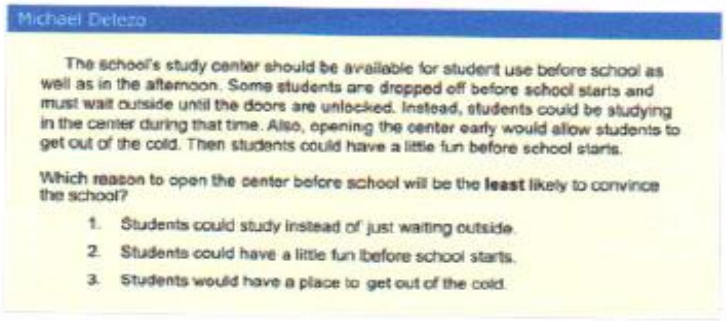
Just then, their mother called to Jun from the kitchen. He quickly jumped up and stepped past the tower. He brushed against it by accident. The tower crashed, and the blocks scattered everywhere.

What causes the tower to fall?

1. There are too many blocks on it.
2. Jun brushes against the tower.
3. Blocks scatter everywhere.

This test item measures: **Understand Cause and Effect**

Grade 4: Recognize cause-and-effect relationships by comprehending the meaning of a whole passage rather than by identifying individual cue words



Michael Delezo

The school's study center should be available for student use before school as well as in the afternoon. Some students are dropped off before school starts and must wait outside until the doors are unlocked. Instead, students could be studying in the center during that time. Also, opening the center early would allow students to get out of the cold. Then students could have a little fun before school starts.

Which reason to open the center before school will be the **least** likely to convince the school?

1. Students could study instead of just waiting outside.
2. Students could have a little fun before school starts.
3. Students would have a place to get out of the cold.

This test item measures: **Evaluate Reasoning and Support**

Grade 4: Recognize cause-and-effect relationships by comprehending the meaning of a whole passage rather than by identifying individual cue words

Appendix I

Quality Core End of Course Test (EOC) Sample Reading Passage

Grub

My platter arrives, the waitress urging, "Eat up, hon," before she hustles away. The omelet has been made with processed cheese, anemic and slithery. The toast is of white bread that clots on my tongue. The strawberry jelly is the color and consistency of gum erasers. My mother reared me to eat whatever was put in front of me, and so I eat. I look around. At six-thirty this Saturday morning, every seat is occupied. Why are we all here? Why are we wolfing down this dull, this dangerous, this terrible grub?

So why are we here in these swaybacked booths eating poorly cooked food that is bad for us? The answer, I suspect, would help to explain why so many of us are so much bigger than we ought to be. I sniff, and the aroma of grease and peppery sausage, frying eggs and boiling coffee jerks me back into the kitchen of my grandparents' farm. I see my grandmother, barefoot and bulky, mixing biscuit dough with her blunt fingers. Then I realize that everything Ladyman's serves she would have served. This is farm food, loaded with enough sugar and fat to power a body through a slogging day of work, food you could fix out of your own garden and chicken coop and pigpen, food prepared without spices or sauces, cooked the quickest way, as a woman with chores to do and a passel of mouths to feed would cook it.

"Hot up that coffee, hon?" the waitress asks.

"Please, ma'am," I say, as though answering my grandmother. My father stopped at places like Ladyman's because there he could eat the vittles he knew from childhood, no-nonsense grub he never got at home from his wife, a city woman who had studied nutrition, and who had learned her cuisine from a Bostonian mother and a Middle Eastern father. I stop at places like Ladyman's because I am the grandson of farmers, the son of a farm boy. If I went from booth to booth, interviewing the customers, most likely I would find hay and hogs in each person's background, maybe one generation back, maybe two. My sophisticated friends would not eat here for love or money. They will eat peasant food only if it comes from other countries—hummus and pita, fried rice and prawns, liver pâté, tortellini, tortillas, tortes. Never black-eyed peas, never grits, never short ribs or hush puppies or shoofly pie. This is farm food, and we who sit here and shovel it down are bound to farming by memory or imagination.

With the seasoning of memory, the slithery eggs and gummy toast and rubbery jam taste better. I lick my platter clean.

Adapted from "Grub" by Scott Russell Sanders, from *Wigwag*, June, 1990.

7) By contrasting his parents' backgrounds, what does the author imply?

A. Although he eats at Ladyman's, the food inspires unpleasant memories.

B. His tastes in food are both sophisticated and common.

C. He will eat almost anything because it is all the same to him.

D. He looks down upon Ladyman's food because his father would never eat it.

8) The author describes his friends' attitudes toward peasant food like grits, short ribs, and shoofly pie. What does the author imply about his friends?

A. They will not eat peasant food because it is too costly.

B. They think peasant food is less healthy than European food.

C. They dislike the atmosphere of restaurants like Ladyman's where peasant food is served.

D. They do not like peasant food because it is not part of their family history.

9) Which information, if added to the fourth paragraph (lines 39–65), is most consistent with the content of that paragraph?

A. A description of the food the author's father ate as a child

B. A description of the restaurant's appearance

C. A description of the taste of black-eyed peas or grits

D. A description of the careers of the author's friends

10) Which statement best explains how the author's memory of his grandmother contributes to the passage?

A. It fails to contribute anything relevant to the author's discussion of grub.

B. It suggests to the author how to answer the questions in the first paragraph.

C. It illustrates that only people who grow up on farms can appreciate home-cooked food.

D. It shows that his grandmother liked to prepare food for her grandson.

11) What occurs between the arrival of the author's platter in the first paragraph and the act of licking it clean in the last paragraph?

A. He explains why he prefers the food at Ladyman's to the food at all other restaurants.

B. He explains why he looks down upon those who regularly eat at Ladyman's.

C. He realizes that eating plain and sometimes unhealthy food is part of his heritage.

D. He argues against his friends who claim that other countries have better food.