

A STUDY EXAMINING THE IMPACT OF VOCABULARY INSTRUCTION ON  
THE VOCABULARY GROWTH AND ACQUISITION OF ADULTS ENROLLED IN  
A COMMUNITY COLLEGE DEVELOPMENTAL READING COURSE

by

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A Dissertation Submitted to the Faculty of  
The College of Education  
in Partial Fulfillment of the Requirements for the Degree of  
Doctor of Education

Florida Atlantic University

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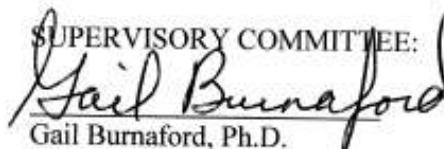
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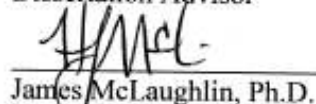
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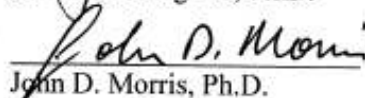
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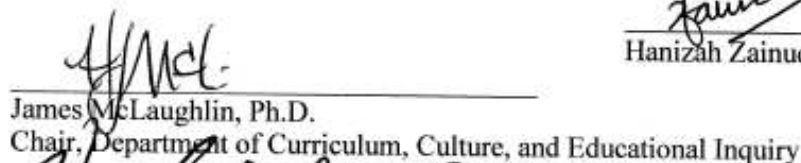
  
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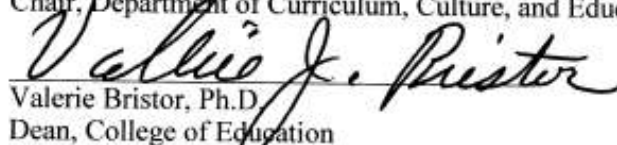
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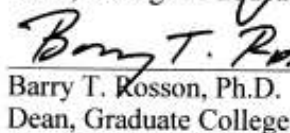
  
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## ABSTRACT

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Title: A Study Examining the Impact of Vocabulary Instruction on the Vocabulary Growth and Acquisition of Adults Enrolled in a Community College Developmental Reading Course

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The purpose of this study was to examine the effects of four instructional methods - context clues, definition, elaboration technique, or word parts and word families- on the vocabulary growth and acquisition of adults enrolled in a community college developmental reading course. The study investigated whether performance in any or all of the four instructional methods was moderated by age or language. Seventy-three respondents participated in the study. Participants were enrolled in one of five sections of College Reading Preparatory II (REA0002) offered in the Spring of 2009 at Indian River State College in Fort Pierce, Florida. All five sections of REA0002 were taught by the same professor, a tenured faculty member, chair of the developmental reading department and Associate Professor of Developmental Reading at Indian River State College. The instruction and tests in all five sections of REA0002 were consistent with the research design which insured continuity and consistency in the use of the four instructional methods. All participants received the same treatment and quizzes. During

the course of the study, participants first received a pretest, then the treatment or instruction, followed by an instructional quiz, and a delayed post-test was administered at the end of the study.

An analysis of the data, which included the pretest, instructional quizzes with four quizzes independently and then combined for an aggregate score for an immediate post-test, and the delayed post-test, yielded mixed results. The four instructional quizzes independently showed definition instruction to have the highest positive impact on student learning. In a measure of gains from pretest to instructional quizzes immediately after treatment, significant improvement in student learning was found only with word parts instruction. In a measure of performance from pretest to immediate post-test (aggregate score of instructional quizzes) there was a significant gain in students' vocabulary competence, and from pretest to delayed post-test there was a significant decrement in students' vocabulary competence. Age and language moderated vocabulary competence. Further tests of equivalency were mixed and should be interpreted cautiously, as there were a very small number of students in the group of 25 years or older and non-native English speakers.

## DEDICATION

To my wonderful husband Dave, whose support, patience, and love encouraged me to complete my doctoral degree.

To my parents, who instilled in me the value of education as a young girl. Your example as lifelong readers was my model. You taught me how reading can open a new world of ideas and experiences. My hope is to pass on this passion for reading to my students on a daily basis.

To my grandparents who understood with their limited educational backgrounds the importance of a good education and shared with me this value. I know they would be very proud of me and this accomplishment.

To my nephew Stephen, who was operated on for a brain tumor in my first semester of classes. He has persevered through things I can't even imagine. It was his fighting spirit and desire to overcome all of the obstacles confronting him that inspired me to accomplish this task of completing my doctoral program.



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## Chapter I

### *Introduction to the Study*

Higher education systems are seeing an increasing number of students enter college ill-equipped to tackle their required coursework. Many students lack the necessary reading comprehension skills that enable them to successfully complete their required coursework (Falk-Ross, 2001/2002; Weiner, 2002). As a result, more systems of higher education are adding remedial courses to prepare students for the necessary coursework (Weiner).

The literature regarding reading comprehension traditionally emphasizes the importance of vocabulary knowledge and its powerful impact on the reader's ability to comprehend text (Anderson & Freebody, 1981; Blachowicz & Fisher, 2000; Bukowiecki, 2006; Davis, 1968; Terman, 1916). In 2000, the National Reading Panel (NRP) identified vocabulary as one of the key areas for discussion and commissioned intensive studies in the area of vocabulary and its impact on reading comprehension. The NRP was created in 1997 when Congress asked the "Director of the National Institute of Child Health and Human Development (NICHD), in consultation with the Secretary of Education, to convene a panel to assess the status of research-based knowledge, including the effectiveness of various approaches to teaching children to read" (NICHD, 2000 b, p. 1-1). This panel was comprised of 14 individuals, including (as specified by Congress) "leading scientists in reading research, representatives of colleges of education, reading teachers, educational administrators, and parents" (p. 1-1). The NRP built and expanded

on work completed by the National Research Council (NRC) Committee, which had identified and summarized research in the acquisition of beginning reading skills; however, it had not addressed how critical reading skills are most effectively taught and what methods of instruction are most beneficial to students with varying abilities. The NRP culled studies and selected prioritized topics relevant to determining the effectiveness of reading instructional methods and approaches. The findings of the NRP are important to note because they included experts in the field of reading whose findings were reported to Congress, and they further impacted policy regarding reading and, specifically, vocabulary.

The reviews depicting vocabulary instructional methods at the National Institute of Child Health and Human Development (2000) provide a number of specific recommendations:

The instructional methods must be appropriate to the age and ability of the reader and dependence on a single vocabulary instruction method will not result in optimal learning. Vocabulary should be taught both directly and indirectly with repetition and multiple exposures to vocabulary items. Learning in rich contexts, incidental learning, and use of computer technology all enhance the acquisition of vocabulary, and direct instruction should include task structuring as necessary and should actively engage the students. (p. 5)

Among educators, there is a responsibility to all students to look closely at the process of vocabulary instruction. How word knowledge is transmitted should not only provide an understanding of vocabulary, but it should arouse inquisitiveness about words. The importance of the vocabulary instruction and the selection of the words are made more convincing by the understanding that, ultimately, it is the skill with which the words used

pull the listener closer and guide the reflection on the message being shared (Aria & Tracey, 2003).

Petty, Herold, and Stoll (1968) indicate the importance of proficiency with vocabulary as demonstrated daily, both in the school environment and outside school in a social and work environment. In the classroom, the achieving students possess the best vocabularies. Because of the verbal nature of most classroom activities, knowledge of words and ability to use language are essential to success in these activities. This suggests that students who have a more expansive vocabulary will be more successful in their ability to express themselves with classmates and the teacher, whether it is to express comprehension or a need for clarification in a subject. After schooling has ended, adequacy of vocabulary is almost equally essential for achievement in vocations and in society. This indicates that students who have larger vocabularies are able to communicate better and will obtain and possess more desirable jobs.

A study by Davis (1968) concluded that comprehension among mature readers is not a unitary mental skill or operation. A large part of the mental abilities used in the eight skill areas that are judged to be central for comprehension are separate from one another. The implication for the teaching of reading is clear; after basic mechanical skills have been established, carefully planned lessons in secondary school should include a variety of strategies. One such strategy is to make students familiar with as many words as possible. The words may be derived from any number of areas and should include a graded series of passages that introduce the most generally useful words in appropriate contexts. Since reading comprehension is vital for success, determining which methods of vocabulary instruction will help students acquire and retain vocabulary and, ultimately, increase reading comprehension, is a worthy goal.



The relationship of vocabulary to reading comprehension has long been recognized. Seminal research indicated a relationship between vocabulary development and reading comprehension. Nevertheless, Blachowicz and Fisher (2000) discovered a dearth of research regarding effective vocabulary instruction over the past 30 years. Only recently have educators begun to re-examine methodology and theory in this realm. This study will focus on four methods of vocabulary instruction (i.e., context clues, definition, elaboration technique, and word parts) and their effects on achievement in pre- and post-tests on vocabulary, instructional vocabulary quizzes, and a reading comprehension test of adult students enrolled in a college developmental reading course.

### *Theoretical Framework*

The overarching theory that will form the framework of this study is centered in the notion of constructivism. Dewey projected a blend of directed and constructivist methods of teaching. He felt that having “knowledge” was not the consciousness of information. One does not “know” something simply because he or she can restate it. Dewey felt one cannot “know” something unless he or she is purposefully involved in the creation of the original knowledge of it (Feldman, 1938). The work of Dewey further influenced Lev Vygotsky’s (1978) sociohistorical constructivism and Jerome Bruner’s (1960) social constructivism. “Both sociohistorical and social constructivism are concerned with how factors outside the head, such as the culture of a classroom, influence what students do in the name of learning” (Alvermann, Phelps, & Ridgeway, 2007, p. 22). Both of these theories place a heavy influence on the interactions between students and their teacher and collaboration with peers.

Vygotsky believed that one experiences cognitive development throughout life and that development depends on the interactions one has with others. This place where

learning occurs is referred to by Vygotsky as the Zone of Proximal Development (ZPD). Vygotsky describes it as the gap between what can be completed at an independent level as determined by independent problem solving and the level the individual is capable of achieving as determined through problem solving with the assistance of adults or more capable peers. For learning to take place and students to be pushed to the next level, it is vital that instruction be in the ZPD, which allows them to interact with more capable peers and faculty and construct meaning in their existing framework.

Adult learners are increasingly exposed to complex and challenging text, with vocabulary being a major obstacle to their success with comprehension. In working with adult students and vocabulary instruction, teachers must be aware of their students' ZPD and the students need to be actively engaged in the learning process. Adult students, inclusive of second language learners, need more opportunities to interact and negotiate with word meaning to develop an understanding of words and their use both inside and outside the classroom. Creating an environment in which students can work collaboratively and allowing opportunity for natural communication promotes vocabulary growth. A classroom environment that involves collaborative learning is non-threatening and decreases student anxiety. Parroting activities, including memorization and mechanical drilling, where there is little reliance on collaborative learning, appears to do little to encourage the development of fluent conversational skills (Dulay, Burt, & Krashen, 1982). Bruner (1960) echoed this sentiment:

It has been suggested that the best way to create interest in a subject is to render it worth knowing, which means to make the knowledge gained usable in one's thinking beyond the situation in which the learning has occurred. Knowledge one

has acquired without sufficient structure to tie it together is knowledge that is likely to be forgotten. (p. 31)

In selecting words and providing learning opportunities within the students' ZPD, the teacher provides students opportunities to build from ideas or concepts their classmates share and allows them to negotiate meaning that fits into their existing schemata. All students, but specifically non-native English speakers, need to be able to negotiate and scaffold off of the meaning of new, difficult, or challenging vocabulary. The opportunity to listen to more capable classmates or teachers provides students who are in the ZPD with an opportunity to achieve or grasp a concept that they may not be able to learn independently.

An additional support to the framework of this study that blends nicely with the ZPD is Communicative Language Teaching (CLT), with its origins found in the changes in the British language teaching tradition dating from the late 1960s (Richards & Rodgers, 2001). CLT reverted back to a traditional perspective that looked at word use and the meaning of words as conveyed by a speaker or writer. Those who follow this approach look at the ability to communicate and make meaning when one speaks or writes as the central focus. The CLT framework placed less emphasis on the structure of the language, which meant having more than linguistic competence; it required communicative competence – as coined by Hymes, 1972 – or knowing how to express oneself based on the social and interpersonal circumstances.

The criterion for success in *pre-communicative* activities, which is a consideration in vocabulary competence, is not necessarily the ability to convey an intended meaning, but to produce an acceptable piece of language. The activities also help the learner to create links with meaning that can be used later for communication purposes. Learners

eventually become more controlled by the need to produce language in response to the functional and social demands of social interaction (Littlewood, 1981). There are four key areas that make up a learner's communicative competence. First, learners must develop their ability to manipulate the linguistic system so that it can be used spontaneously and flexibly to express meaning. Teachers need to provide collaborative discussion opportunities that permit learners to manipulate and negotiate the meaning of words so that the word can later be easily retrieved for communicative purposes. Second, learners must be able to understand the linguistic competencies mastered and how they function in a communicative aspect. Third, learners must develop skills and strategies that will enable them to communicate as effectively as possible. (Again, through collaborative discussions, students file new learning with existing schemata so that they can effectively communicate meaning to others.) Fourth, learners need to develop an understanding of socially acceptable meanings so that appropriate communicative forms are used and insulting ones are avoided.

Sociohistorical constructivism and CLT provide the infrastructure for this study. The blend of working collaboratively to negotiate meaning and construct it around existing schemata within a natural learning environment is important. Motivation and interest increase, and relationships are developed that allow students to move just beyond their independent learning level and engage in the learning process. It is this particular framework in which this study occurs.

### *Statement of the Problem*

In 2003 the National Center for Education Statistics (NCES) reported that 28% of entering freshmen enrolled in at least one remedial reading, writing, or mathematics course in the fall of 2000. The NCES projects that from 2004 to 2014 there will be an

increase of 11% of students enrolling in college under the age of 25 and an increase of 15% of those students who are 25 years and older. Given these statistics, there will undoubtedly be an increase in the number of students enrolling in remedial classes. The urgency of research identifying effective vocabulary instructional methods is affected by the increasing number of students entering college unprepared to take college credit courses.

Since the 1960s, there have been numerous studies and dissertations written regarding teaching practices related to vocabulary instruction and the impact of vocabulary knowledge related to reading comprehension, but many of these studies have addressed students in the primary and elementary grades. While there is a relatively detailed knowledge base for understanding the relationships between decoding and comprehension abilities of the younger student, little is known about this relationship in the college student. A limited number of studies suggest that the reading problem of college students continues to include difficulties with phonological awareness and printed-word identification (Martino & Hoffman, 2002). The findings from these studies suggest that an important component necessary to address reading comprehension skills in college students includes effective vocabulary instruction that builds vocabulary and improves reading comprehension.

It is necessary for students at all levels to develop independent strategies for the new words they will encounter in school, in work, and in other areas of life. A reader can determine the meaning of an unknown word in a variety of ways, such as examining context for general clues, looking at the structure and morphology of the word for clues, or consulting a reference. In the area of research on learning and teaching vocabulary, the

research has been limited and inconclusive, specifically in the area of developing independent word learning strategies (Blachowicz, Fisher, Ogle, and Watts-Taffe, 2006).

### *Purpose of the Study*

The purpose of the study is to investigate the variable impact of four types of vocabulary instruction (context clues, definition, elaboration, and word parts and word families) on community college adult students' competence and use of relevant content-specific vocabulary. Improvement was measured by pre- and post- instruction vocabulary tests and by instructional vocabulary quizzes.

### *Research Questions*

- 1) Does vocabulary instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) in a community college developmental reading course affect vocabulary competence on vocabulary quizzes after treatment?
  - a) To what degree is the effect of type of instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) on vocabulary quizzes moderated by age?
  - b) To what degree is the effect of type of instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) on vocabulary quizzes moderated by native language?
- 2) Does vocabulary instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) in a community college developmental reading course affect gain among the types of instruction from pretest to vocabulary quizzes after each treatment or type of instruction?

- 3) Does vocabulary instruction in a community college developmental reading course affect gain from pretest to immediate post-test and pretest to delayed post-test for each instructional method?
  - a) Is gain from pretest to immediate post-test and pretest to delayed post-test moderated by age?
  - b) Is gain from pretest to immediate post-test and pretest to delayed post-test moderated native language?

*Null Hypotheses*

- 1) There is no statistically significant difference in students' vocabulary competence on vocabulary quizzes using different types of instructional method (i.e., context clues, definition, elaboration technique, or word parts and word families).
  - a) The difference in performance among the four instructional methods (i.e., context clues, definition, elaboration technique, or word parts and word families) is not significantly moderated by age.
  - b) The difference in performance among the four instructional methods (i.e., context clues, definition, elaboration technique, or word parts and word families) is not significantly moderated by native language.
- 2) There is no statistically significant difference in vocabulary gain among the types of vocabulary instruction (i.e., context clues, definition, elaboration technique, or word parts and word families).
- 3) There is no statistically significant difference in vocabulary gain from pretest to immediate post-test and pretest to delayed post-test for each instructional method (i.e., context clues, definition, elaboration technique, or word parts and word families).

- a) The difference in vocabulary gain from pretest to immediate post-test and pretest to delayed post-test was not significantly moderated by age.
- b) The difference in vocabulary gain from pretest to immediate post-test and pretest to delayed post-test was not significantly moderated by native language.

### *Significance of the Study*

The NCES (1996) estimated a decade ago that 30% of students enrolled in higher education were enrolled in some form of reading and study strategy development programs. Given the increasing numbers of adult students whose literacy skills leave them unprepared for college level courses, vocabulary instruction and its impact on reading comprehension is an important area of study. In order to further examine the adequacy of preparation for college level work, research on vocabulary instruction in the classroom is warranted. Identification of effective vocabulary instruction for adult students at a community college will provide higher education instructors with information on how to assist adult students with vocabulary competence in their content courses.

The study may contribute to the literature on reading instruction for adult students in a community college as well. While the study will use a small sample, results may provide support for specific vocabulary instruction to enhance students' vocabulary development and for vocabulary questions presented in a contextual reading comprehension test. Results from this study can contribute to a framework for future research.

### *Definition of Terms*

For the purpose of this study, the following definitions will be used.



Indian River State College: Indian River Community College (IRCC) became Indian River State College (IRSC) a four year degree granting college offering limited degree programs in 2007. For the purpose of this study, reference will be to Indian River State College (IRSC).

Developmental Reading Student: Based on scores on the College Placement Test (CPT), a student is placed in college preparatory courses, specifically, one of two developmental reading courses. A score between 20-57 places a student in *College Prep Reading I or REA0001* and a score between 58-82 places a student in *College Prep Reading II or REA0002*. A student must progress from college preparatory to college-level coursework within two attempts in each of the courses. College preparatory courses may not be used to meet degree requirements (Indian River State College Catalog 2008-2009, p. 69).

College Prep Reading I (REA0001): The lower of two remedial reading courses required for completion of incoming college students who have not scored at an acceptable level on either their Scholastic Aptitude Test (SAT) or CPT.

College Prep Reading II (REA0002): The higher of two remedial reading courses required for completion of incoming college students who have not scored at an acceptable level on either their SAT or CPT.

Vocabulary: The breadth and depth of all the words we know—the words we use, recognize, and respond to in meaningful acts of communication (Vacca, Vacca, Gove, Burkey, Lenhart, & McKeon, 2006). A word may be in a student's receptive vocabulary (recognized when seen or heard), yet may rarely or never be part of that person's expressive vocabulary, used in speech or writing (Alvermann et al., 2007).

Vocabulary Instruction: The instructional techniques used center on how to enhance retention of new vocabulary at the word-meaning level and to transfer this knowledge to

assist with the comprehension of text. Students must learn strategies for independently developing a deeper understanding of the conceptual meanings of words that often constitute vocabulary found in content-area text (Bryant, Goodwin, Bryant, & Higgins, 2003). For the proposed study, the following types of vocabulary instruction have been identified: Definition Strategy / Traditional Instruction, Context Clues, Elaboration Technique, and Morphological Analysis (affixes, roots, and cognates).

Definition Strategy / Traditional Instruction: Dictionary look-up of a word's meaning, memorizing the definition, and writing the word in a sentence (Bukowiecki, 2006).

Context Clues: The information that surrounds a new word, and is used to understand its meaning. There are four types of context clues: synonyms, antonyms, general context, and examples (Henry, 2008).

Elaboration Technique: There are a variety of strategies that can be mediated by the teacher to help students understand and remember new terms as well as the significance of important names, events, places, or processes. These tactics involve several elaboration techniques that appear to be particularly powerful facilitators of comprehension and memory of new terms. First, a teacher teaches new terms in context of meaningful subject-matter lessons, and facilitates student discussion that centers on use of the new term. At some point, students should use the new term themselves in a sentence within the context of discussing broader topics (Ellis, 2002; Padak, 2006). Second, the teacher facilitates paraphrasing of the new term's definitions so that students can identify the core idea associated with the overall meaning of the new term, as well as distinguish the new term's critical features. Third, the teacher makes background knowledge connections to the new term. Instructors thereby relate the new term to something with which the students are already familiar (Ellis; Padak). Fourth, the teacher

identifies examples/application as well as non-examples/non-applications related to the new term's meaning. Finally, the teacher creates multiple formats for which the students can elaborate on the meaning of the new terms (Ellis).

Morphology: The study of the structure of words and the elements- -or morphemes- -that contributes to meaning (Larsen & Nippold, 2007).

Morphological Analysis: The ability to use one's knowledge of root words and affixes to determine the meanings of unfamiliar, morphologically complex words (Larsen & Nippold, 2007).

Affixes: Derivational morphemes are prefixes and suffixes (affixes) that can be added to lexical morphemes (root words) to produce new words (Larsen & Nippold, 2007).

Root: The basic or main part of a word. Prefixes and suffixes are added to roots to make a new word (Henry, 2008).

Suffixes: A letter or group of letters with a specific meaning added to the end of a word or root to make a new word (Henry, 2008).

Prefixes: A letter or group of letters with a specific meaning added to the beginning of a word or root to make a new word (Henry, 2008).

Cognates: Words that are common in two languages (the vernacular of the student and the target language) – they represent a point of departure for developing knowledge about the morphology and semantics of words and their syntactic and discursive functions, as well as a practical command of reading vocabulary (Treville, 1996).

Reading Comprehension Test: An authentic assessment of literacy that tests a variety of skills including main idea, supporting details, vocabulary in context, relationships within sentences, relationships between sentences, patterns of organization, purpose and tone, fact and opinion, inference, and argument.

### *Delimitations*

The proposed study will explore vocabulary instruction by one instructor in five classrooms at a medium-sized community college in Southeastern Florida. This instructor was purposefully selected as she is the most senior tenured instructor teaching developmental reading students and she agreed to participate in the study. Only students who enroll in College Prep Reading II courses (REA0002) will be included, thereby, excluding all students enrolled in College Prep Reading I courses (REA0001).

As a result of the purposeful selection of the administration of the study, it is a sample of convenience. Students who enroll in REA0001 are purposefully excluded because they are at a lower academic level than students who enroll in REA0002 and, consequently, require more time to develop their vocabulary. Students who enroll in REA0002 are expected to successfully pass the class and matriculate into college-level courses. Students who are not required to take College Prep Reading are also excluded from the study.

A further delimitation is that the sample for inclusion in the study will self-select by enrolling in the participating instructor's classes. Another delimitation is the selection of the words to be used for the study. The vocabulary words to be used are at the secondary level and were extracted from chapters in the course's current vocabulary book. The words included were purposefully selected from chapters that are not taught during the course of the semester. Results of the students' performance on the vocabulary quizzes cannot be generalized to the students' performance on the State Exit Reading Comprehension Test.

A final delimitation is the time allotted for instruction of the words. Vocabulary instruction time has been set aside for four days, one day for each type of vocabulary

instruction. Each day a time period of 30 minutes is designated for vocabulary instruction on 10 words with an additional 10 minutes to complete the vocabulary quiz at the end of the class. More time cannot be allotted because of the need to cover other material in the course.

### *Limitations*

One limitation of the study is that a single researcher will analyze the data. The proposed study will address vocabulary instructional methods in one instructor's classes, thereby, providing no perspective on the efficacy of other vocabulary instruction not included in the study.

Another limitation of the study is the study will address the implementation of vocabulary instruction in REA0002 classes and therefore cannot be applied to students in a REA0001 class or students enrolled in any other course at this college or another college.

A third limitation depends on the instructor/participant implementing the vocabulary instruction within the guidelines provided; inconsistency or inaccuracy of implementation of the vocabulary instruction will reduce the ability to generalize the findings.

A final limitation of the study is the experiences and prior knowledge of each of the students in the study. Each student is unique and has had varying life experiences from which to connect to new schemata, thereby affecting the acquisition process for each student. Those students who are non-native English speakers may have more difficulty than those who are native English speakers, given their more limited exposure to hearing, speaking, and reading English. A final limitation will be the inclusion only of

students who are in attendance on the day of the vocabulary instruction, which is the same day the instructional vocabulary quiz is administered.

### *Organization of the Study*

Chapter 1 gives an overview of the study including the problem, purpose, significance, research questions, limitations and delimitations, and definition of terms. Chapter 2 references literature related to the study including the background of vocabulary instruction, adult learners, second language learners, and best practices as it relates to vocabulary instruction. Chapter 3 provides a review of the methodology of the study. Chapter 4 includes an analysis of the data. And, finally, chapter 5 presents the findings, conclusions and recommendations, and further application from the findings.

## Chapter II

### *Review of Related Literature*

The importance of vocabulary knowledge and its powerful impact on the reader's ability to comprehend text is emphasized in the research regarding literacy development. Based on the power of vocabulary exposure and knowledge to reading comprehension as well as success in college and society, this dissertation will focus on methods of vocabulary instruction and their effect on the achievement of students enrolled in a college developmental reading course.

The National Reading Panel (NRP) report, sponsored by NICHD (National Institute of Child Health and Human Development, 2000) stated, "While much is known about the importance of vocabulary to success in reading, there is little research on the best methods or combinations of methods of vocabulary instruction and the measurement of vocabulary growth and its relation to instruction methods" (p. 5). The comments of the NICHD are important to note as the number of students entering college unprepared to be successful in their college coursework is increasing providing further urgency for the need to identify what method(s) of vocabulary instruction may impact student success in coursework in college and as a citizen. A role of a college education is to prepare an individual for citizenship and a career in the work world. In order to successfully prepare students to function in society, it is necessary to determine how to improve their literacy skills, which includes identifying what vocabulary instructional method(s) may positively impact reading comprehension.

### *History of Vocabulary*

There is a rich body of contemporary research and scholarship dealing with vocabulary development, but, historically, vocabulary acquisition has been valued. Since an important part of scholarship is the renewal of learning and teaching, research related to literacy development should take into consideration the historical contributions of educational systems that have as their foundation the mastery of grammar, rhetoric, and logic. For research focused on identifying effective strategies to support student vocabulary development, there is a rich tradition in Western Civilization that provides a chronicling of the education system dating back to the early Middle Ages and the treatment of literacy, in which vocabulary competence was at the center of good teaching and student learning.

In looking to antiquity, one encounters various teaching methods and challenges to student learning associated with developing vocabulary. This is evident in the medieval and classical tradition known as Scholasticism (6<sup>th</sup> to the 15<sup>th</sup> Century) where the focus on syntax, word use, phrasing, and comprehension inform the proposed study. “Many of the Scholastic concepts and lines of thought have survived the Middle Ages, either in their original form or in an adulterated variant. A surprisingly large number of the international words used in everyday speech stem from the Middle Ages” (Piltz, 1978/1981, p. X). Scholasticism’s system of teaching its core disciplines of philosophy and theology centered on the mastery of grammar, rhetoric, and the use of logic. It was a system that relied on using language, and therefore vocabulary, to create understanding and attain knowledge. In this way, language or vocabulary became the tool with which one could ascertain the truth or identify the essence of a *thing*.



In Scholasticism, one would develop knowledge through philological (Greek-loving words or language) analysis. In this process, words were examined and explored to identify multiple meanings with the intention of students knowing the meaning of words and phrases. Vocabulary was a key for this educational process and the search for truth. Scholastics (teachers) used two methods to support learning, in which a strong vocabulary was instrumental to student learning. The first method was the *lectio* (Latin, picking out/reading) in which the teacher read from classic literature (i.e., Greek and Latin) to students and emphasized specific words or phrases and ideas to ensure an understanding of the text. According to Piltz (1978/1981), “Students were not allowed to make notes and what they had learned had to be recited from memory” (Piltz, p. 86). The second method was the *disputatio* (Latin, debate/discuss) which used debate to explore the essence of things or its truth. The item to be discussed was identified by the teacher or students; the teacher followed by referring to the authoritative sources to explain various points of view, and at times opposing points of view, with attention to words and phrases used to present each argument. Throughout the process, “Students were given the chance of marshalling all their perspicuity and dexterity with syllogisms. With the help of more finer distinctions, they had to show the number of different meanings contained in almost every expression” (Piltz, p. 148). Consequently, the larger the vocabulary base of the individual, the more successful one was with both the *lectio* and the *disputatio*.

The Scholastic education model would evolve during the Renaissance and the Enlightenment, but at the center of the new curriculum would remain the core curriculum referred to as the *trivium* (grammar, rhetoric, and logic). The trivium had its origins in the educational reforms of Charlemagne in the 9<sup>th</sup> Century and is known as the Carolingian educational program (Piltz, 1978/1981). “Charlemagne nursed a vision of re-establishing

the Roman Empire based on Christian principles” (Piltz, p. 12). The relationship of Church and State was to be like that of body and soul. Education was to be raised once more to its former status, relying on the Greek and Roman Literature. The people who were to implement this education system, according to Charlemagne, were the priests. This continuum stressing the development of a rich vocabulary and the ability to use words and phrases in an appropriate way to express oneself, orally and in writing, remains at the core of most educational strategies. During the turbulent 16<sup>th</sup> Century there were significant changes in education. Since education was still dominated by the clergy, it should not be surprising that one of the major reforms was led by the newly formed Catholic religious order referred to as the Society of Jesus, or Jesuits. During the 16<sup>th</sup> and 17<sup>th</sup> Century, it was the Jesuits who would develop a systematic guide for educating young men (educating women was not a focus during this time), known as the *Ratio Studiorum* (Latin, a plan of study).

The Ratio has evolved over time, but remains rooted in the Enlightenment with its emphasis on individual creativity and intellectual development in all fields, while maintaining a strong tie to Scholasticism and its focus on classical literature; the pursuit of virtue, specifically truth; and literacy. The Ratio would revolve around teaching Latin and Greek grammar, authors, and composition. Latin and Greek classics became the core for all teaching, whose ultimate purpose was to develop the mind and spirit. The educational strategies developed in the Ratio Studiorum complement many of the techniques used to teach vocabulary and develop literate students today. The Ratio provides a historical connection of 500 years that links current research in the area of vocabulary acquisition and teaching strategies to a system of education rooted in antiquity that is still honored and valued.

### *Rationale*

Studying the impact of vocabulary instruction was chosen for several reasons. First and foremost, the proposed study may have significant findings to contribute to the discipline of reading. As previously indicated by the NRP, there is little research on the best methods or combinations of methods to use in teaching vocabulary. While the proposed study has a small sample, if the study is replicated with other students and there are significant correlations, it would further suggest that identifying successful method(s) of instruction is a key to the achievement of students' vocabulary competence and reading comprehension in the classroom.

Second, as a developmental reading instructor at a community college for 4 years, the researcher has seen an increase in the number of students enrolling in developmental reading classes. In the fall of 2004 there were 609 students enrolled in one of two developmental reading classes at Indian River State College (IRSC). This past fall enrollments in these courses at IRSC reached 886 students. This increase of 45% is significant, confirming the need for more research on how vocabulary instructional methods affect student learning.

Finally, each semester, students indicate they do not recall vocabulary instruction being part of the literacy portfolio in their secondary school experience. Those that had vocabulary instruction often refer to having been required to learn definitions and write them out on a test or match them with a word list on a test. This type of instruction will not put the word in memory for easy recall. Furthermore, it may inhibit the ability to use the word in an appropriate context if the instruction was simply memorizing a definition. Ellis (2002) supports this belief:

Perhaps the least effective way to study vocabulary is the “look and remember” technique. Here, students typically stare at the term and definition, apparently trying to activate photographic memory they wish they had. Another common study technique is the “rote verbal rehearsal” - - saying the word over and over again, usually in the exact language and format from which the definition originally came. (¶ 2)

Hausfather (1996) suggested that the teacher must collaborate with students to negotiate meaning in ways students can make the knowledge and meaning their own. The dictation and parroting of what the teacher says or the defining of vocabulary should be replaced by collaboration between the teacher and the students so that students are *making meaning* and creating a file in their heads for later retrieval. This research will identify a method(s) of instruction to implement in community college developmental reading classrooms that will enable students to increase their vocabulary knowledge and reading comprehension. By implementing effective instructional strategies that result from this research, students’ success in reading will improve.

Furthermore, the information gained from this dissertation can be shared with teachers in the secondary and elementary schools where appropriate.

School programs have often dealt inadequately or incorrectly with contemporary knowledge, and have not reaped the benefits that might have come from a joining of the efforts of eminent scholars, wise and skillful teachers, and those trained in the fields related to teaching and learning. (Bruner, 1960, p. 3)

Studying the method of vocabulary instruction and advocating the incorporation of its results into professional development of full-time and adjunct reading instructors at IRSC may contribute to increased reading comprehension by a larger remedial student

body. In addition, results can be shared with faculty in other Florida institutions of higher education. Correlations established through this research may indicate that the method of instruction is successful with all students or certain groups of students. The ability to provide opportunities for other instructors to observe instruction or to engage in professional development opportunities related to the specific instructional methods and strategies proven effective through this research is a desired outcome. An example of how this research might impact instructional strategies is where the results are significant for specific groups of students. It may be appropriate to screen students and place them into classrooms using the specific method(s) of vocabulary instruction.

The ultimate goal of teaching is to prepare students for life. As Bruner (1960) stated, “One thing seems clear: If all students are helped to the full utilization of their intellectual powers, we will have a better chance at surviving as a democracy in an age of enormous technological and social complexity” (p. 10). While it is almost a half a century later, these same words can be lifted from one decade in the 20<sup>th</sup> Century and applied in the 21<sup>st</sup> Century. The information society and the implication of technology and a global economy only increase the importance of literacy development for all citizens. Educators must identify the instructional methods and strategies supporting literacy development that are best for preparing our students for education, work, and citizenship.

#### *Purpose of the Literature Review*

The purpose of this chapter is to identify studies linking vocabulary to reading comprehension in adults and to identify and review vocabulary instruction methods with native and non-native English speakers that may affect vocabulary competence and achievement on comprehension and vocabulary tests. Researchers have sought to identify effective methods for teaching new vocabulary that focus on the word-acquisition level.

Traditional independent word-learning strategies have consisted of dictionary usage and context clues. At best, definitional and contextual strategies should be combined, and explicit instruction (i.e., modeling, multiple practice opportunities, and guided practice) is recommended for teaching not only the use of these strategies but also the words deemed critically important to enhance that comprehension. Additionally, teacher-led instruction has been recommended for teaching concepts associated with content-area material (Bryant et al., 2003). Pressley and Woloshyn (1995) identified instruction in the conceptual understanding of word meanings, their semantic relationships to others concepts, and linkages to prior knowledge for teaching vocabulary at a deeper word processing level for text comprehension. Nagy (1988) contended that deep word-knowledge learning is accomplished by helping students link or integrate the meanings of new words to prior learning, providing multiple repetitions to aid students' retention of new meanings, and engaging students in meaningful ways that require applications of word meanings across situations.

Fluent reading and fast comprehension are important to successful progression in many areas of higher education and in many professions. To make sense of written text, it is necessary to compile a mental representation via a combination of word recognition and syntactic processes and to draw inferences from existing stored knowledge (Masterson & Hayes, 2004). Instructional techniques must focus on ways to enhance retention of new vocabulary at the word-meaning level and to transfer this knowledge so as to assist with the comprehension of text (Bryant et al., 2003) and in oral communication in and out of the classroom.

To study the effects of the methods of vocabulary instruction, the focus of the literature review will cover the following three areas: research on best teaching practices

related to vocabulary instruction, effective vocabulary instruction for students who speak English as a Second Language (ESL), and learning theory based on adult learners enrolled in courses at a post-secondary level.

*Best Teaching Practices in Regard to Vocabulary Instruction*

Vocabulary research began in the early 1900s by researchers like F. Davis and G. Whipple, but it has been erratic. Interest peaked in vocabulary research in the 1970s, but there has been a resurgence of interest since the No Child Left Behind legislation identified vocabulary instruction as one of the five required components of Reading First programs (U.S. Department of Education, 2003). After being charged with reviewing the research in reading instruction and identifying methods that consistently relate to reading success, the NRP confirmed vocabulary as one of the five central areas of reading instruction (NICHD, 2003).

The literature regarding reading comprehension traditionally emphasizes the importance of vocabulary knowledge and its powerful impact on the reader's ability to comprehend text (Anderson & Freebody, 1981; Blachowicz & Fisher, 2000; Bukowiecki, 2006; Daneman, 1991; Davis, 1968; Terman, 1916). In a recent report, Nichols and Rupley (2004) identified vocabulary as an integral component of teaching children how to read both narrative and expository text. This suggests that vocabulary instruction is a vital component of instruction in colleges or universities where students are being exposed to larger amounts of narrative and expository text as well as a variety of other texts that reflect more complexity, including both in form and content. While the skills that enable students to recognize words are of great importance in the early primary grades as students begin to read, after students have mastered these beginning steps, word meanings assume paramount importance (Richek, 2006). If word meaning is of

paramount importance, then it is critical to have a well-developed remedial reading class that focuses on vocabulary instruction for college students who demonstrate weaker reading skills.

Beginning in the late primary grades and continuing through adulthood, reading is a major source of vocabulary growth (Anderson, 1996). The greater the vocabulary base, the better and higher the reading comprehension, and the weaker the vocabulary base the poorer the reading comprehension. Scholasticism and the Ratio, both with an emphasis on classic literature, required a strong vocabulary in order to comprehend the material and participate in discussion with the ultimate goal the ability to communicate orally and in writing. As indicated by the National Institute of Child Health and Human Development (2003), dependence on a single vocabulary instruction method will not result in optimal learning. These findings suggest that there is no one best method for teaching vocabulary, but that a mix of vocabulary instruction leads to the most success.

Vocabulary can be broken down into four categories. Listening vocabulary is the vocabulary an individual hears and comprehends. Reading vocabulary is the vocabulary an individual is able to read and understand. Speaking vocabulary is the vocabulary an individual is able to use in communicating with others. Writing vocabulary is the vocabulary an individual uses when writing. It is a natural progression that individuals can recognize more words in listening and reading than they produce in their speaking and writing (Harp & Brewer, 2005). This suggests a classroom rich with meaningful readings and discussions is essential to build the confidence of students and their flexibility in transferring their vocabulary to speaking and writing.

Students learn words both indirectly and directly. Students learn words indirectly or incidentally through the experiences they have on a daily basis with oral and written



language. Students learn words directly when they are provided with specific word instruction and are taught specific word-learning strategies (NICHD, 2003). While there is no one best method to incorporate into vocabulary instruction, there are a variety of suggestions, some more effective at stimulating vocabulary growth and competence over a short duration.

*Indirect or Incidental Learning.*

The National Institute of Child Health and Human Development (2003) indicates the importance of vocabulary acquired through incidental learning. Students are exposed to new vocabulary incidentally in a variety of ways, such as through read-alouds in classrooms, through their own wide and varied independent reading, and through daily oral language with peers, parents, and teachers. Incidental exposure to vocabulary can include teachers use of academic and more rigorous vocabulary in their basic conversations with their students without directly teaching the vocabulary word. This repeated causal exposure will help build the vocabulary base of their students. In some cases, teachers may stop to explain the word or a student may ask the meaning of the word, but in most cases it is used in a context with clues that provide the student with the meaning of the new term. There is no denying a large percentage of vocabulary is gained incidentally over a lifetime. As cited in Tompkins (2003, p. 199), Delpit (1987) and Reyes (1991) “have argued. . .learning words implicitly through reading. . .experiences assumes that students have existing literacy and language proficiencies, and that the same sort of instruction works equally well for everyone.” Students enrolled in a developmental reading class, by the nature of their placement in a developmental reading class, do not have the literacy and language proficiency to effectively acquire vocabulary through incidental exposure. This can also be particularly problematic for non-native

English speakers. Nagy and Scott (2000) found that, “researchers concerned with second-language learning have argued that ‘natural’ vocabulary acquisition is simply not efficient enough to produce the desired rates of learning. Natural context is not an especially rich source of information about word meanings” (p. 588).

*Direct Instruction.*

“Students learn vocabulary directly when they are explicitly taught both individual words and word-learning strategies” (NICHD, 2003). Specific instruction includes teaching words before exposure to reading, learning words over an extended period of time, actively working with words, and multiple exposures to words in varying contexts (Blachowicz et al., 2006). Word learning strategies include learning how to use a dictionary along with other references aids in order to develop deep word meaning, learning how to use word parts and families to understand word meaning, and using context clues to determine word meaning (NICHD). In direct instruction, research indicates vocabulary instruction is most effective when the learners are provided with both the definition and contextual information (Blachowicz et al.; Bryant et al., 2003; Stahl, 1986, 1999; Stahl & Kapinus, 1991). These findings suggest that separately these instructional methods are not as effective. Other findings by Stahl (1999) suggest that effective vocabulary instruction also involves students actively engaged in discovering the meaning of the word and having multiple encounters with words, including engaging in discussions using the words.

Nagy, Herman, and Anderson (1985) state that “they cannot argue with the claim that for a given word the quickest way to impart thorough knowledge of its meanings is via direct instruction” (p. 236). The findings of their study suggest that for learning a small group of words at a given time, it is best to use direct vocabulary instruction.

The Ratio clearly identified the importance and value of teaching vocabulary in conjunction with text, which was done in the *prelections* (Latin, pre-reading). “No new author should be begun without a prolegomenon [preliminary discussion or remarks]. For it will serve to arouse attention, favorably dispose the boys toward the author and make for a fuller understanding of the work about to be read” (Farrell, 1938, p. 263). The prelection emphasizes the value in the pre-read discussion and picture walk (at the lower grades). Prelection of the Latin author emphasizes, “single word, particularly those of some difficulty should be noted and explained” (Farrell, p. 273). The Ratio also indicates that remarks regarding vocabulary be limited to what is adequate enough to explain their meaning. “At times, however, the teacher might extend his remarks on such a point in order to add a modicum of interest and erudition” (Farrell, p. 263).

Nichols and Rupley (2004) have stated that a key component of effective vocabulary instruction is thoughtful reflection about instructional design. It is important for teachers to remember when planning vocabulary instruction that (1) the selection of vocabulary words is strategic, (2) it is best taught in conjunction with text, and (3) limiting the number of new words is preferred. The Ratio suggests learning several new words each day and using the new words in conversation and writing (Farrell, 1938). The NICHD (2003) also indicates the importance of repetition, multiple exposures, and items that will likely appear in many contexts. This emphasis on repetition in teaching vocabulary dates back to the Scholastic period and is further developed and refined in the Ratio (16<sup>th</sup> and 17<sup>th</sup> Century). Both of these education systems emphasized repetition of lessons as significant in student learning, particularly in areas such as grammar. There were several aims of repetition, one of which required the individual to “repeat whatever comments he took down in his notebook from the teacher’s prelection—comments on

construction, shades of meaning, and similar matters. The latter, which he may read from his notebook, will show whether he has been diligent during the lesson, and whether he has understood the teacher's explanations" (Farrell, p. 173). Both form and content were equally important in the Ratio. It was not only content that was taught, e.g., learning vocabulary, but the patterns and teaching strategies that ensured consistency in student learning. Students could rely on learning and teaching that were supported by predictable and well-defined teaching strategies.

*Dictionary.*

Many teachers work from a predetermined list of words to be memorized for assessment purposes. The methodology used for learning these words is often a basic dictionary. While the use of dictionaries and thesauri is beneficial and serves a purpose, they are by no means to be used exclusively. Students need to be taught directly and explicitly how and when to use both the dictionary and the thesaurus. Isolated vocabulary lists that have no connection to content and texts being studied should not be employed (Bukowiecki, 2006). In the Ratio there is another example with the *copia verborum*, copying which did not use isolated word lists to teach students. The Ratio also suggested taking words from everyday language, so that the student could develop an understanding of the word and use it in conversation. Teachers of older students were to be well-advised of the list of known words and judiciously choose the words to teach. The system refined in the 17<sup>th</sup> Century also encouraged students to use new words in writing and oral conversations. A final phase of this methodology included teaching students how to create their own lists (Farrell, 1938). This methodology requires a lot of work on the part of the teacher, but, ultimately, there is a more well-rounded understanding of words and how to employ them in writing and everyday conversation.

Many students are unaware of how to use a dictionary and do not understand the polysemy (multiple definitions) of words. In studies completed by McKeown (1990), Miller and Gildea (1987), Nagy and Scott (2000), and Nist and Olejnik (1995), difficulties were identified that students have in attempting to deduce a standard dictionary entry to build their own knowledge. Often, students use the wrong definition to understand a word; in other cases they go by the rule that “one size fits all.” In this scenario, students believe the word can fit into any context to make sense. Dixon-Krauss (2001/2002) observed in her study that students could memorize their definitions for a test, but they were not successful in applying it to writing activities as demonstrated by rewriting definitions, using the word incorrectly, or employing the word in unnatural contexts. Miller and Gildea found that formal efforts to build vocabulary through dictionary definitions are not as effective as other strategies. They indicated that the use of the dictionary requires higher cognitive functioning; one must go away from the reading, remember the context of how the unknown word was used, and discover a familiar word that has an appropriate meaning as used in the text. They indicated that when students are asked to reproduce the word in a sentence, the word substitution may not fit in the context used. For example, a student stated that “John had stimulated the soup.” In reviewing the dictionary definition for *stimulated*, a given meaning was *stir up*.

The dictionary provides little opportunity for one to manipulate the meaning into existing schemata or negotiate the meaning of a word and the varying contexts in which it can be used. Too often, students are looking up words, writing down definitions, and going through the process of rote memorization to complete a matching test or an assessment that requires them to write out definitions. The problem with this strategy is that deep learning does not occur and as a result the new term is not incorporated into

one's own speaking and writing (Nagy & Scott, 2000; Stahl, 1999). Vocabulary learned in this format is not retained and not easily retrievable to apply to varying contexts when students simply know a definition but do not know how to use the word.

*Context Clues.*

Another component of direct explicit instruction is to explain how to use context clues to determine the meanings of unknown words. Francis, Simpson, and Stahl (2004) refer to this as a generative approach that emphasizes the importance of creating lifelong learners of words by teaching such techniques as context clues to unlock the meaning of words on an independent basis. Context clues can be provided in a variety of ways through synonyms, antonyms, general contexts, or examples. Context clues contained in the paragraphs surrounding the unfamiliar words can promote word learning (Sternberg, 1987). "Teaching students how to use context to determine a word's meaning should be an important component of a comprehensive vocabulary program" (Graves & Watts-Taffe, 2002, pp. 143-144). With the exception of general context clues that use common sense, the other clues may provide readers with punctuation marks or key words that indicate they will get a synonym, antonym, or example of the unknown term to help them unlock the meaning. One example is, "Please pick up the "refuse" or "garbage" in front of the house" or "She offered the man a modicum of gratitude for his hard work instead of the significant amount of gratitude he deserved."

While teaching context clues is beneficial, in some cases there are not enough clues provided to aid the reader in identifying the unknown word or, as Nagy and Stahl (2000) found, the use of context clues may be helpful only across multiple encounters with words. In a study by Wang (2006), students demonstrated a general weakness in word knowledge and an inability to make sense of the target words by means of

contextual clues. This could indicate that the text being read has too many challenging or unknown words or that an understanding of how to use context clues is unknown. If students are provided with “refuse” as a synonym for “debris,” neither word may be in their existing schemata, making it difficult if not impossible to unlock the meaning. The term “refuse” is also a homograph, which further confuses the meaning of the text. Context clues are not always sufficient and may require a fair degree of background knowledge before they can be effective learning tools (Sinatra & Dowd, 1991). Relying strictly on context clues to determine the meaning of unknown words can present major obstacles for second language learners who may not be able to connect with the text.

Another study that challenges the effectiveness of using context clues is the work of Francis and Simpson (2003). Their research found that many students struggle with determining the meaning of unknown vocabulary because of the amount of information contained in the text. Additionally, these students will skip key words they think that they know, but their word knowledge is superficial or at a rote level where the use of context clues are less effective.

#### *Word Parts.*

A powerful approach to direct explicit instruction is to teach students the strategy of using roots and affixes to determine the meaning of morphologically complex words. Teaching words parts is an extension of using context clues to unlock the meaning of unknown words. Beginning in the early elementary grades and continuing into the college years, teaching root words and affixes is a primary strategy that is used to increase one’s knowledge of difficult vocabulary (Larsen & Nippold, 2007).

A study by Anglin (1993) on vocabulary growth between first and fifth grade showed an increase of approximately 4,000 root words by students. At the same time, the

number of derived (prefixed or suffixed) words grew by about 14,000 words. An excellent example of how easy it is to get to the meaning of new or unknown words can be seen in the basic instruction of the prefix, “a,” meaning “not” in the word *atypical*. Experience demonstrates that virtually every student knows the meaning of *typical*, but not *atypical*. The focus on root words and affixes helps them to see how to unlock the meaning of new and unknown words in the future. According to White, Sowell, and Yanagihara (1989), there are 20 prefixes that account for 97% of prefixed words that appear in printed school English (p. 42). In Spanish, French, and English, the root, “. . .dur. . .” means “hard” or “lasting.” Including root word and strategy instruction can be extremely valuable to native speaking English students, as well as students who have a first language that is not English, but this methodology is built on Greek or Latin cognates. Many of the romance languages have the infrastructure of their language developed around Greek and Latin. Additionally, the English language shares many cognates with other languages where words have similar meanings, pronunciations, and spellings which can aid in determining the meaning of unknown words (Nagy & Scott, 2000). Unfortunately, those second language students who do not have a first language based on Greek or Latin, may not find as much success with this vocabulary instruction.

The use of cognates to develop literacy and specifically vocabulary is rooted in education strategies that reach back to the Middle Ages. For example, the methodology of the Ratio was a threefold process of stating an instruction or rule (e.g., Latin cognates and their impact on developing vocabulary), which the teacher explained or demonstrated with the cooperation of the class, and then applied in an exercise in a laboratory setting (Farrell, 1938). There was a supposition with the Ratio that wide reading alone would not lead to mastery of any language and that without the assistance of the teacher, the student



would adopt pernicious practices. The implication is that teaching reading and teaching vocabulary must expand beyond the power to read and understand the English language. The teaching of vocabulary then needs to be enlarged to emphasize expression, both written and spoken. For that reason the teaching of syntax, or how to understand and be able to use a word or phrase when writing or speaking, becomes significant. The Ratio suggests that “words should be taken individually for declension, conjugation, and parsing; and then the phrases also” (Farrell, p. 273). With the Ratio, the subject matter did not affect this process. It is important to note in teaching developmental reading students that there was a tradition of over 500 years in which the aim was to develop vocabulary skills and transfer them to education and life in general. This is the foundation important to communication, both orally and in writing, which is as critical today as it was in the 17<sup>th</sup> Century when the Jesuit aim was to produce Christian gentlemen able to solve problems and contribute to the development of the kingdom of God (Farrell).

The English, French, Spanish, and Italian languages share a considerable vocabulary, much of which has retained a resemblance. Calling attention to root words with prefixes and suffixes can be helpful in unlocking the meaning of novel words (Bukowiecki, 2006). Moreover, this common vocabulary continues to increase in size because new words that are created to designate new social concepts, technologies, and so forth, enter the lexicons of both languages in an identical, or almost identical, form (Treville, 1996). An understanding of how affixes work to build other vocabulary words will greatly expand a vocabulary base. For example, an explanation of the derivation of *atypical* is followed by a litany of other words and their understanding, such as *atheist*, *amoral*, and *apolitical*. By knowing the meaning of more affixes and a deeper understanding of how affixes work, students will be able to get at a larger percentage of

other unknown words in the English language. Students need to be cautioned that in some cases knowing a word part may not help them understand a word; however, they may have to rely more heavily on context clues, as in the case of “display.” In the sentence, “Please fix the dog food display at the end of aisle 6,” the word “display” does not mean “not play,” but instead means “a presentation.”

*Rich Contexts.*

Another component of direct instruction is that learning in rich contexts is valuable for vocabulary learning. Vocabulary words should be those that the learner will find useful in many contexts. Teachers reinforce the meaning of new vocabulary through discussions with students and in their instruction. This encourages the use of the new vocabulary in the students’ speaking and writing (Blachowicz et al., 2006). This means that learning a word for the purpose of a test and simply defining it is not effective. Equally ineffective is teaching words that are not common, or low frequency words that will not occur very often in speaking, listening, reading, or writing. The Ratio used a strategy called *copia verborum* (Latin, copying words) in which the words used for instruction were to be, “simple and preferably taken from everyday objects and speech, so that the pupils may soon learn to employ them in conversation” (Farrell, 1938, p. 276). This supports the importance of identifying key and relevant vocabulary for instruction in a lesson.

Based on research, Ellis (2002) reported that new terms must be defined using language and examples which are familiar to students; the more ideas from background knowledge with which the student can associate, the more likely the term will become a permanent part of memory. By providing a context in which the new term is used, a link is provided for students on which to build and to make links with existing schemata for

deep learning. In other words, the more that students have to connect with something, the easier it will be to relate to, understand, and retrieve for future use. New terms need to be discussed and explained in and out of different contexts, and students need multiple exposures with the new term to develop a deep and rich understanding. As with reading, vocabulary terms need to be discussed before, during, and after reading (Farrell, 1938). According to Nichols and Rupley (2004):

Knowing a word in the fullest sense goes beyond simply being able to define it or get some basic meaning for the word from context, instead it means being able to discuss, elaborate, and demonstrate the meaning of the word in multiple contexts in which the word occurs. (p. 57)

*Active Engagement and Elaboration.*

Another recommendation of the NICHD (2003) is that vocabulary learning is effective when it entails active engagement in learning tasks. Students learn vocabulary best when they are actively engaged and process deeply (Stahl & Fairbanks, 1986), allowing them to make connections between and among words and concepts-- and to become independent word learners (Blachowicz et al., 2006). Actively engaging students in the learning process through dialogue and activities that allow them to elaborate on their understanding of the word and connect with their prior knowledge will aid students in developing a deeper understanding of new terms and provide them with greater flexibility in transferring the new term to a different context.

Nagy (1988) asserts that deep word-knowledge learning is accomplished by helping students link or integrate meaning of new words to prior learning, providing multiple repetitions to aid their retention of new meanings, and engaging students in meaningful ways that require application of word meanings across situations. This

engaged process of teaching vocabulary has a rich tradition in Scholasticism. One of the best examples is the *disputatio*, the debate and discussion of key themes that rely on a well-developed vocabulary to demonstrate mastery of subject matter (Piltz, 1978/1981).

There are several elaboration techniques which actively engage students in the learning process and aid them in making personal connections with new terms. Ellis (2002) suggests teaching new terms in the context of meaningful subject-matter lessons and facilitating student discussion that centers on the use of the new term. Within the tradition of Scholasticism and the Ratio, the unifying subject matter was classic literature, which was translated from Latin and Greek to the vernacular. The vocabulary and phrasing was central to understanding the subject matter. While this process required extra time on the part of the teacher, its focus was and still is on enhancing vocabulary competence using meaningful content. In a study at the University of Michigan, students who were engaged in deeper levels of processing, such as elaboration and organization, were more likely to do better in terms of grades on assignments or exams, as well as overall course grades (Pintrich & Garcia, 1994). Ellis further suggests having students use the new terms in sentences in a more general topic discussion.

Elaborating in large group formats enables other students to make connections with new terms that they may not have been able to think of on their own and to build their own schemata to have a better and deeper understanding of the new term. According to Ellis (2002), an essential part of the elaboration process is having students explain the connection. It is important to allow for instruction time that provides students with the opportunity to share their experiences with a word as well as to explain why. A final part of Ellis' elaboration technique is providing students with an opportunity to share examples/applications and non-examples/non-applications with the new term. By

including this type of sharing, students are able to indicate their understanding by saying what fits as well as what does not fit with a word. This provides the instructor with an opportunity to see which students are and are not relating to the new term and possibly how they are confused. The teacher can now correct any confusion before the new term is improperly transferred to other contexts.

What has become clear from all of the research is that (1) there is not one best method to teach vocabulary; (2) that an eclectic collection of instructional techniques is best; and (3) that students bring a history and experience to learning with them that needs to be considered in developing strategies to teach vocabulary. The research developed for this study will attempt to discover if there is/are direct explicit instructional technique(s) that will work best with native English speaking students or non-native English speakers, and certain age groups of students enrolled in a developmental reading class in a community college.

#### *Vocabulary Instruction for Students Who Speak English as a Second Language*

The second area of focus for the literature review is students whose first language is not English. In many ways, students who are learning English as a second language (ESL) have similar learning needs as students who are at-risk or may even have a diagnosed learning disability. These students can often benefit from the same strategies and techniques for addressing literacy needs. As cited in Blachowicz et al. (2006), research has suggested that the principles of sound vocabulary apply to the word learning of second language learners. This implies that the effective instructional methods for non-native English speakers are also effective instructional methods for second language learners. Instructional methods such as incidental exposure, direct explicit instruction, multiple and various exposures to words in different contexts, active engagement by the

learner, and teaching roots, affixes, and cognates are beneficial instructional techniques for second language learners.

Second and foreign language learners enter classes with extremely diverse backgrounds and varying levels of ability in the English language. Because of these different experiences, students often have a different understanding of the same text (Weiner, 2002). This means that by using a common book for all students, different learning will take place within the context of the book and the course. Saragi, Nation, and Meister (1978) found that even with a common course book there is considerable variety in the nature (and size) of the vocabulary learned by different individuals, suggesting that with common coursework more than incidental exposure is needed for vocabulary competence and reading comprehension.

The amount of research carried out on natural second language (L2) vocabulary and on vocabulary learning strategies in various types of L2 classes lags behind the research on reading comprehension and assessment related to vocabulary (Lessard-Clouston, 1996). However, there are several instructional methods and strategies that have been identified that will enhance the learning for a large percentage of the ESL population. According to Graves (2006), students of all ages and non-native English speakers as well as native English speakers, need to engage frequently in authentic discussion; i.e., give-and-take conversations in which they are given the opportunity to thoughtfully discuss meaningful topics. This give-and-take has its roots in a much earlier tradition, Scholasticism and the debate or discussion (*disputatio*) of the significance of words, phrases, and ideas. Effective vocabulary instruction requires not only a repertoire of teaching activities and instructional strategies, but a teacher's ability to choose appropriately within this repertoire (Blachowicz et al., 2006). Without an appropriate and

effective vocabulary instruction plan, students are limited in their ability to apply meanings to words, and therefore, they cannot comprehend the text. The result is an even greater problem in regard to their overall success. As Wilkins (1972) stated, “While without grammar very little can be conveyed, without vocabulary nothing can be conveyed” (p. 111).

Many classroom teachers give little if any attention to vocabulary instruction, assuming that vocabulary will be acquired incidentally (Zimmerman, 1997). Ruddell and Shearer (2002) have discovered that this is further complicated for second language learners who have an even greater curve that will need to be closed. Assuming vocabulary can be acquired incidentally by second language learners is problematic. Struggling readers, including ESL students, not only lack strategies for constructing useful meanings for new terms, but also can lack interest in and motivation about unknown words encountered in or out of school. Zimmerman points out that native English speakers know more about English words and their varying meanings as well as context for their use, but those who start learning English after childhood will have much more to learn about the second language. While second language learners are not lower-level students, they are functioning on a lower learning curve than the average native speaking student and are in need of targeted vocabulary instruction to facilitate academic success.

Classrooms for ESL students seem to be monopolized by little or poor vocabulary instruction with minimal socializing and natural deep learning taking place. A popular method of instruction is providing students with a list of words, which they look up to define and write out, before receiving an assessment in which they regurgitate what they read in the dictionary. Definitions do not help language learners much, and yet the time

for natural contextual learning is demonstrably absent (Cobb, 1999). When students socialize and build from one another's ideas to develop an understanding of vocabulary in a natural context, they are building a deeper understanding of the new term as well as increasing their ability to transfer the new term into the target language. This would most certainly have been the case of students in the Ratio who needed to demonstrate proficiency in Latin and Greek through their translations and discussion of the classics. In a study replicated by Nesi and Meara (1994), findings with adult second language learners were consistent with an earlier study by Miller and Gildea (1987), in which young children learned more from wrestling with the meaning of a new term in text, particularly if the goal was to reproduce (transfer) the word into another context (Cobb).

Researchers have looked at vocabulary exercises and how they support vocabulary growth in ESL students beyond incidental reading exposure. A study by Wesche and Paribakht (2000) analyzed the reflections of ESL students while they were completing different vocabulary tasks from written text. The findings suggested that learning the meaning of a word is incremental and that one exposure is not sufficient to understand the different features of a word or the opportunity to practice the gained knowledge by using it. They observed that learners attempted to get the meaning of a word in one activity when they were not able to get in an earlier activity. Varied activities in their study provided the multiple exposures needed along with the opportunity to focus on different lexical features. The grouping of the two activities seemed to suggest a strengthening of word knowledge and elaboration with the words. Their findings also support the notion that the activities should become more complex to ensure the elaboration of lexical knowledge and the automatic retrieval of this knowledge. These activities further provide opportunities to correct misconceptions about words (Wesche &



Paribakht). Learning new words is an ongoing process that involves the need to elaborate on a word and the need to use it. There are relationships that are developed with related word forms as well as with other words containing the same features, thus creating lexical networks (Henriksen, 1999). These links facilitate vocabulary competence and reading comprehension.

The findings of Wesche and Paribakht (2000) further support other research that suggests incidental exposure through reading experiences alone is not sufficient to acquire knowledge of a word and that multiple exposures are needed to learn a word. A major concern when working with ESL students is the role of relevant content knowledge or schemata that individuals have about the subject matter that interferes with their acquisition of new lexical terms. With limited or no existing schemata to fit the new word, learners are unable to make sense or retrieve the word for later use (de Bot, Parkbakht, & Wesche, 1997). Additionally, unknown words are simply ignored or skipped by the reader (Fraser). While incidental exposure alone may have its downfalls, it can be beneficial to many learners. Research has indicated that when students understand how to take advantage of the incidental exposure, it is effective, suggesting that students with an understanding of how word families or derivations work, how to use affixes and roots, how to use context clues, and how to use the dictionary will benefit from incidental exposure (Fraser). These findings imply that explicit instructions in these areas are necessary in all classrooms to promote vocabulary competence and growth, not just in developmental reading classrooms or with ESL students.

Findings from a pilot study by Zimmerman (1997) encourage the use of a combination of moderate levels of self-selected reading accompanied by interactive vocabulary instruction for gains with second language learners' vocabulary knowledge.

In this study, the group with more exposure to the instructional words in a natural context in class activities performed better on post-test results. Interactive vocabulary lessons included multiple exposures, words used in meaningful contexts, varied and rich information about each word, links between the word and students' experiences and background, and active involvement by the students. The results of the study were confirmed by the students in a questionnaire in which students ranked items according to helpfulness in learning vocabulary. The student surveys indicated that participating in class discussion in which the new words were used proved to be most effective for learning vocabulary. Studying Greek and Latin roots and affixers and studying the dictionary were identified as being the least effective methods for learning vocabulary. The study was small and only one student was a native speaker of a Romance language, which may contribute to Greek and Latin instruction being the least effective method for learning vocabulary. This raises the question of whether support for teaching Greek and Latin root words and affixes is as effective with students who don't speak a Romance language as their first language.

An earlier study of ESL students by Sanaoui (1996), found that how students grouped themselves with either a structured or unstructured approach to learning contributed significantly to their lexical learning. Students who had a structured approach to vocabulary learning used systematic, organized methods for learning and reviewing their words and phrases; they were learning in this manner both inside and outside the classroom. Those who followed an unstructured approach did succeed in vocabulary acquisition. Lessard-Clouston (1996) suggested that consideration be given to the need to teach students how to be more structured in their approach in order to expand their vocabulary. He further suggests that teachers present students with many different

vocabulary learning strategies and encourage them to adopt and practice those that are most successful for them.

Another component of vocabulary instruction is the teaching of root words and affixes. Well over half of the English words—nearly 75% according to some estimates—are derived from Greek or Latin (Padak, 2006). Furthermore, Nagy and Anderson (1984) have approximated that about 60% of the new words confronted by students are able to be analyzed by parts to help determine their meaning. This suggests that the instruction of word parts may be even more important for students whose first language is not English, but whose native language is a Romance language and has a strong Greek and Latin foundation. Treville (1996) further found that in the past, teachers may not have always taken full advantage of their students' knowledge in their instruction and may have excluded instructional strategies focusing on root words, affixes, and cognates which may help students whose first language is a Romance language to transfer vocabulary meaning from the L1 to English. By focusing on word parts and how they function between the L1 and L2, students are able to better understand new terms as well as identify rules in their L1 and apply it to the English language. When words are encountered that follow the same rules or have similar cognates, ESL students will be able to more easily transfer the meaning of the word and possibly the part of speech. Vocabulary instruction, whether it is focused on narrative or information text, is most effective when it relates new words or derivations of words to students' existing vocabulary and background knowledge (Nichols & Rupley, 2004).

Treville (1996) further suggests that cognates, or words common to both languages, represent a point of departure for developing knowledge about the morphology and semantics of words and their syntactic and discursive functions, as well

as practical command of reading vocabulary. Without explicit guidance, it seems that learners do not necessarily recognize and take advantage of cognate relationships between the L1 and L2. To ignore this as an instructional component is alarming, considering how English vocabulary is growing. This increase in vocabulary has a common component:

New words added to the English language in this technological age, as well as words associated with scholarly, scientific, and technical advances, are more often of Greek or Latin origin. Consequently, as students progress through school, they encounter an increasing amount of words of classical origin. (Padak, 2006, p. 10)

The results of a study by Schmitt and Zimmerman (2002) discovered that there is not transferability or flexibility among word family members and that knowing one member of a word family does not necessarily indicate one knows all or most of the other forms of the word family. They found postsecondary students have less difficulty applying grammatical rules with inflections (i.e., a word family member being created by attaching suffixes –s, ed- ing, to verb) probably because many of these words follow regular rules. On the other hand, they found these students have greater difficulty with the formation of derivatives (i.e., when a word family member is created by adding suffixes to create a different word class). While there are regular patterns to follow, they are fewer and generally need to be memorized or monitored case by case. The relative lateness (or nonachievement) of L2 derivational acquisition fits with a psycholinguistic model posited by Jiang (2004), who suggested that the learning of syntactic and morphological specifications forms the last stage of L2 word learning and that many words fossilize before this stage. When the words fossilize, they are stuck or fixed in that form, creating difficulty in applying a rule to create the proper form of the word or extracting the correct

meaning. These findings advocate direct explicit instruction of suffixes with an emphasis on adjective and adverb word families, since they present the most difficulty.

Vocabulary knowledge is a critical factor in the school success of English-language learners (Nation, 2001). Dating back to the Middle Ages, a strong and proficient vocabulary was a defining factor in determining an individual's role in society. For those who had an expansive vocabulary and a skill with languages, power and position followed. The ability to use language based on a strong and sophisticated vocabulary continue to be a defining factor in achievement and upward mobility in society today. Too often the classroom instructions either lack vocabulary instruction for second language learners or the instruction relies heavily on those techniques that research has proven to be ineffective in developing vocabulary. Missing from much of the vocabulary instruction for ESL learners is the opportunity to be exposed to a word multiple times and in a variety of contexts. In an effort to get through as much as possible, teachers neglect research-based suggestions and engage in cursory discussions of words in limited context. Words that have not been put into use for awhile are often remembered only hazily (Richek, 2006). Retention is dependent on multiple exposure:

There is almost no learning from fewer than 5 encounters with a word, and the minimum number of repetitions for words to be learned in a reader should be somewhere around 10. Their study confirmed that repetition affects learning but the relationship is considerably complicated by other factors like the meaningfulness of the context, and similarity to words in the mother-tongue. (Saragi et al., 1978)

A word-rich environment supports general vocabulary development, but it also may provide a vehicle by which a student can build knowledge of a particular word

through repeated exposures and from multiple meaningful contexts (Blachowicz et al., 2006; Cobb, 1999). In a discussion with students at Sultan Qaboos University, Cobb ascertained that students, given the amount of reading they are likely to do in English, will not meet new words enough times for significant learning to take place.

Brown and Perry (1991) found when comparing three strategies for learning ESL vocabulary that the strongest effect was with the keyword-semantic method. This particular strategy produced significantly better results than just the keyword method and only slightly better results than the semantic method. These findings support the depths-of-processing theory by Craik and Lockhart (1972) and Craik and Tulving (1975), in which keywords were compared with semantic methods, which suggests that retention is based on the level at which a word is processed ranging from the sensory level to a deep semantic level. The ability to elaborate on the word at several levels creates a stronger link with the word. The strategies were successful with both upper-level and lower-level students, suggesting that it is a good instructional tool for teaching students how to learn words. Since the combination of the two methods was only slightly more effective than the semantic method, the semantic method alone may prove to be effective where activities focus on the semantic association between the new word and its definition. “Any procedure that causes the learner to act on the meaning of a new word by tying it into existing knowledge structures would fit into this category” (Brown & Perry, p. 658).

Lexical knowledge acquired from a definition tends to remain inert and untransferable to novel contexts unless it is for the sole purpose of confirming meaning (Cobb, 1999). While the use of the dictionary is helpful, it is not an efficient way to learn vocabulary, as much of what students look up and attempt to replicate is misused in communication. Protocols of students inferring meanings for new words revealed that

most of their inferences were erroneous, being typically based on word-internal information such as one English word sounding like another, or one in their native language (Cobb). Equally problematic is the encouragement to use context clues. With an already limited vocabulary, students will be unable to use context clues to help them or will misuse them. Students are exposed to words in different ways. Based on an interview with Sherrie Nist, a reading researcher at the University of Georgia, Stahl (2006) reported that it is not just a dictionary definition or context that occurs with the exposure.

When considering ESL student populations, two extraneous variables need to be considered that may have an effect on vocabulary competence. The first variable to consider is students' motivation. A strong motivation will lead to increased vocabulary development. Students who are motivated to learn will likely engage in a number of activities outside of the classroom to increase their vocabulary competence, such as watching TV, listening to the radio, reading magazines and books, and/or practicing their English skills through conversations with others or by writing. The second factor to consider in vocabulary competence is students language foundation in their native language. A stronger foundation will provide them with more opportunities to link with items in their existing schemata in their first language, hence facilitating the vocabulary competence in the second language. A weaker language foundation will provide the individual with fewer opportunities to connect to a word and transfer the use of the second language.

The ability to build from prior learning and experiences stems from Dewey's constructivist theory. This theory suggests that knowledge encoded from data by learners themselves will be more flexible, transferable, and useful than knowledge encoded for them by experts and transmitted to them by an instructor or other delivery agent (Cobb,

1999). This suggests that time needs to be set aside with rich discussions for deep vocabulary learning by ESL student populations for them to be academically successful.

For ESL learners to gain English proficiency and be successful academically, they need a strong vocabulary component in their coursework. A major component for the success of ESL students is based on the social constructivist theory. This theory emphasizes the importance of including an opportunity for ESL students to socialize with their teacher and peers to construct meaning. In a social constructivist model, students learn new words, not by hearing them explained with other new words, but rather from ongoing and extended interactions with the words, their peers, and their teacher within the context of life and classroom experience (Ruddell & Shearer, 2002). The opportunity to make links and scaffold from what is known in their native language is crucial to their success in the second language. This approach operates from Vygotsky's Zone of Proximal Development (ZPD), which focuses on instruction being just beyond an independent level and that which a student can accomplish with the help of another. The goal is to build at this level so that tomorrow the student can accomplish, or, in this case, use the vocabulary independently and transfer and apply it to multiple contexts.

A powerful vocabulary program is vital for developmental reading courses in providing at-risk and ESL students with the skills necessary to be academically successful. Unless second language classroom instruction operates with a much more comprehensive conceptualization of lexical competence, it is not likely to help learners acquire the kind of vocabulary knowledge they need to function adequately in the target language (Sanaoui, 1996). The results from inadequate lexical learning suggest that retention rates will be poor; students may fail or may need to repeat courses, or risk being dropped from college rolls.



### *Learning Theory for Adults Enrolled in Courses at a Post-Secondary Level*

The final area of focus in this study is how adults learn. With the passing of NCLB Act, there was an obvious realization that there are increasing amounts of illiteracy in society as well as an increasing number of individuals entering college not prepared to take college level courses. As more high school students enter college ill-prepared to tackle the level of literacy asked of them, more colleges and universities are offering remedial or developmental reading and writing classes (Weiner, 2002). The main goal of any academic assistance program is for students to modify and apply the strategies and processes it teaches to their own academic tasks (Francis et al., 2004). It would seem that most remedial programs would be filled with research-based instructional strategies and most instructors would assume that their students are using them in their classes. Yet, research suggests that students do not automatically or immediately transfer strategies in a flexible manner (Boylan, 2002). All of these factors have led to an increased attention on adult literacy (comprehension and vocabulary), a subject neglected for some time.

It is suggested by Braze, Tabor, Shankweiler, and Mencl (2007) that the primary focus of reading difficulty seems to be different for older students and adults. For adult learners, it is thought that the demands of text reading more often reflect challenging content and vocabulary, which is associated with spoken language abilities. In college or university classes, much of what students are exposed to is an increasing amount of challenging academic language. Many students are not prepared to enroll in basic college level courses and are required to enroll in remedial programs. The goal of remedial programs in college is to eliminate deficiencies that diminish students' potential to succeed in college (Cox, Freisner, & Khayum, 2003). To do that, instructors need to

place an emphasis on expressive language activities in their classes. Expressive language used in a class, prior to being required to produce it in reading and writing, develops more familiarity with the vocabulary and lessens anxieties that students may have with reading or writing. Catching up is the first hurdle that underprepared readers face. The second is keeping up (Cox et al.). Once students are caught up, they will gain confidence in their abilities in the remedial class and beyond and need to focus on keeping up.

The spoken language abilities identified by Gough and Tunmer (1986) in their simple view of reading (SVR), separates the variables pertaining to reading into two groups. The first consists of the skills related to printed word recognition; the second group includes factors that reading shares with spoken language, like vocabulary, syntax, semantics, and pragmatics. These two abilities affect a student's ability to read and comprehend. In light of the extensive amount of reading that is required in college, it is vital to have a program in place that builds adults' vocabulary skills to help them be successful in their coursework and in life.

When working with adult learners in college, several factors come into play. The first is their motivation and the second is their interest. Unfortunately, in a developmental reading class, there are many disgruntled students who are not happy that they are required to take a remedial class because credits are not used toward graduation. This reality impacts the attitudes of the students, their interest in the class, and their motivation to do well. Many students are content in just doing the minimum and focusing on the *real* course work. There are ways to capitalize on the learning and life experiences of these adult students to enhance motivation of those enrolled in remedial or developmental courses. One important strategy is to include numerous reinforcement opportunities if vocabulary competence is to occur (Dixon-Krauss, 2001/2002).

Beginning in the early elementary grades and continuing into the college years, morphological analysis is a primary strategy used to increase one's knowledge of difficult vocabulary (Larsen & Nipold, 2007). Morphological analysis is the ability to use knowledge of root words and affixes to determine the meanings of unfamiliar, morphologically complex words. Since morphological analysis is a powerful tool required to be able to read into adulthood, teaching root words and affixes is an important part of a college developmental reading class with specific applications to adult learners. Educators working with adolescents as well as adults who come from homes where Greek and Latin derived words are not commonly spoken must take into account the vocabulary development needs of these students (Hennings, 2000). When working with adolescent vocabulary, Hennings offers specific suggestions that draw on Greek and Latin derived words that promote strategies that can be used with adult learners:

- 1) Highlight Greek and Latin roots, or bases, as they are crossed in curriculum. Draw attention to interrelationships between words and post lists of these words. For example, the Latin word *malus* means "bad." Words that are built from this are words such as malice, malignant, and malfunction.
- 2) List and post words with a common base all in upper case letters to help students see connections between words like DURable and enDURE.
- 3) Use content area studies as a context for introducing and reviewing meanings of prefixes, and include meanings of prefixes on word towers like immigrant and emigrant.
- 4) Draw attention to the lengthy list of prefixes that carry a negative meaning like *a-*, *dis-*, and *un-*.

- 5) Point out words that indicate how “great” or how many words like the Latin word *magna* means “great” and the numerical association with parts like *bi-*, *uni-*, and *cent-*.
- 6) Focus on the relationships among clusters of words formed from the same base, but that have different suffixes that impact their part of speech or tense in a sentence.
- 7) Identify high frequency suffix endings in the content area and help students make associations with these words.

In a study of lexical learning and reading in L2 at the beginner level, Treville (1996) suggests following up written tests with a detailed analysis of certain lexical elements similar to Hennings’ (2000) findings. Treville further emphasizes the importance of elaborating meaning and constantly linking to the learner’s previous knowledge, which is in line with Ellis’ (2002) elaboration techniques. Given that adult students have as an asset their experiences and prior knowledge, this emphasis on lexical learning should be exploited and utilized. Findings from Treville’s study suggest that cognates contributed to the lexical learning of the experimental sample studied. These findings may support the development of another remedial class specifically for adult learners and beginning second language learners that would focus on vocabulary development specific to root words and affixes.

A study on adult foreign language learners by Sanaoui (1996), determined that instruction occurred in planned activities but that much vocabulary teaching was incidental. These findings suggest that adult developmental reading classes need to include a lot of literature-rich discussion that exposes students to a variety of new terms incidentally. Incidental instruction is not direct instruction. It simply exposes students to a

number of words casually from which students may develop meaning in a variety of ways. Sanaoui's instructions included three processes in which students were exposed to incidental vocabulary:

- 1) Teachers filled gaps in students' lexical knowledge by supplying lexical information according to the learners' immediate needs,
- 2) They corrected lexical errors in the students' language production, and
- 3) They verified routinely the students' knowledge or understanding of lexical information encountered while lessons proceeded. (p. 186)

There is a lot of information about the learning process of primary and middle school learners. Much of this research can also be applied to adult learners. Reading to children was initially a bedtime activity, then it was brought into the classroom in the primary grades, and now it is encouraged in middle schools. Reading to students can also be beneficial to adults. Many students in developmental reading classes have poor reading vocabularies. They also lack modeling that would support the development of a reading vocabulary. When these students are read to, it provides them with the opportunity to hear words enunciated properly and within the context of a reading that may enhance their vocabulary skills. This type of modeling with adult learners also needs to be exploited. Simply teaching students words is not enough to stimulate vocabulary growth. Rather, instructors must be cognizant of principles important to vocabulary instruction, modeling being an example, and make sure they are incorporated into their plans and units (Francis et al., 2004).

### *Conclusion*

This review of the literature indicates the pressing need for more research on the effects of vocabulary instruction related to the achievements of adult and ESL student

populations enrolled in developmental reading classes in higher education. While there is some research about vocabulary instruction and how it informs achievement, it is minimal. There is also minimal research on vocabulary assessments that measure growth. A great deal of the research that has been completed deals with vocabulary methodology and its relation to reading comprehension at lower grade levels.

The findings in the three areas of this literature review have several common threads. The studies indicate that a robust vocabulary program should incorporate a mix of instruction, including direct explicit instruction with graphic organizers, a focus on root words and affixes with context clues (drawing in particular on the Latin and Greek origins of vocabulary in the English language), dictionary definitions, and opportunities for rich meaningful conversation among students and teachers. In addition, exposure to words in a variety of texts and multiple exposures to new terms should be included in the program.

The methods used in the majority of the studies were quantitative with a small percentage of mixed studies and an even smaller percentage of qualitative studies. The methods used in many of the studies relied on the Nelson Denny Comprehensive reading test for both reading comprehension and vocabulary assessment. There were other instruments designed to test students as well as the use of interviews, observations, and journal writing.

An assessment tool to measure growth and retention is lacking. An instrument was piloted with a sample prior to use with the study sample. The instrumentation designed highlighted words from *Active Vocabulary: General and Academic Vocabulary*, 3<sup>rd</sup> edition by Amy Olsen and published by Pearson Longman. An instrument that measured vocabulary competence and growth was developed. The instrument was piloted

with a sample and calculated for validity prior to its use with the study sample. The objectives for this study were to determine which method(s) of vocabulary instruction had the biggest impact on students' competence and vocabulary growth in adult developmental reading classes.

## Chapter III

This chapter will describe the research methods for this study. The chapter includes the following sections: research study questions and design, demographics of the participants, sampling method, procedures, instrumentation, and statistical techniques used to analyze the data.

### *Research Study Questions and Design*

The proposed study will investigate the following questions:

- 1) What is the relative effectiveness of four types of vocabulary instruction (i.e., context clues, definition, elaboration technique, and word parts and word families) related to student performance immediately after treatment?
  - 1a) To what degree is the effect of type of instruction (i.e., context clues, definition, elaboration technique, and word parts and word families) on vocabulary quizzes moderated by age?
  - 1b) To what degree is the effect of type of instruction (i.e., context clues, definition, elaboration technique, and word parts and word families) on vocabulary quizzes moderated by native language?
- 2) What is the relative effectiveness of four types of vocabulary instruction (i.e., context clues, definition, elaboration technique, and word parts and word families) related to gains among the types of instruction from pretest to vocabulary quizzes after treatment?
- 3) What is the relative effectiveness of vocabulary instruction related to gain from pretest to immediate post-test and pretest to delayed post-test?



3a) To what degree is gain from pretest to immediate post-test and pretest to delayed post-test moderated by age?

3b) To what degree is gain from pretest to immediate post-test and pretest to delayed post-test moderated by native language?

In order to answer the research questions, a quantitative study was used. The first stage of the study used a 40 word vocabulary pretest (Appendix A) to identify baseline levels for participants. In the next stage of the study, four vocabulary instructions were used to teach 40 words. The 40 words were grouped by 10 for each of the four types of vocabulary instruction. After the vocabulary instruction was administered, an instructional vocabulary quiz on the 10 words was administered. In the third stage of the study, the pretest was re-administered as a post-test to measure growth and retention. The following sections will address the specific procedures for each of the four research questions:

1. Does vocabulary instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) in a community college developmental reading course affect vocabulary competence on vocabulary quizzes?

At the start of the semester, students took a pretest with 40 cloze-type statements on 40 words prior to instruction. The 40-word vocabulary pretest was designed by Amy Olsen and published in *Active Vocabulary: General and Academic Vocabulary*, 3<sup>rd</sup> edition by Pearson Longman. The pretest required the participants to select from one of four words for completion. The readability levels of the words in the book were found to be at the 9<sup>th</sup> and 10<sup>th</sup> grade level. The book has a mix of both general and academic vocabulary. The general vocabulary words were selected from popular magazines, such as Newsweek, as well as from SAT and GRE word lists. For the academic vocabulary,

the author culled words from textbooks in the field of introductory reading as well as lists such as the Academic Word List in selecting words; most of the words will be new to most students, but some words will be easier to help with student self-esteem (A. Olsen, personal communication, October 12, 2008).

The Academic Word List was designed by Averil Coxhead at the University of Wellington in New Zealand. The list includes 570 word families in order of their frequency within the English language. The words on the lists are used in a variety of contexts and assist in the comprehension of texts and vocabulary discussion in post-secondary academic settings. The list is intended to help teachers to prepare students for post-secondary study or for students working independently to learn the words most needed to study at the post-secondary level. The words are broken down into sublists with each sublist containing 60 families. It was designed to go from a sublist of the most to the least frequently occurring word families (Academic Word List, Coxhead, 2000).

After the pre-test, the 40 words were split into four groups of 10 words and were taught using four types of vocabulary instruction (i.e., context clues, definition, elaboration, and word parts/word families). The participating instructor used scripted instructions provided by the researcher for the 40 vocabulary words. The scripts for context clues and elaboration also included the use of a passage designed by the same author. Each passage introduced the 10 new words in context. To determine a readability level of the passages, a Simple Measure of Gobbledygook (SMOG) was used that calculated the readability levels from 10.59 to 12.72. SMOG was developed by G. Harry McLaughlin, a former reading researcher, and is designed to approximate the years of education needed to comprehend a piece of writing. The author has granted permission to

use the passages as well as the quizzes for research purposes (A. Olsen, personal communication, November 2, 2008).

Each of the four types of vocabulary instruction for learning unknown words was rotated for each of the 10 words with the five classes. Each class learned the same 10 words at the same exact time and with the same type of vocabulary instruction. The instruction used for each set of 10 words with the five different classes as shown in Table 1. The list of words was randomly assigned to a method of instruction. Each student in the five classes received the four types of vocabulary instruction for all 40 words.

Table 1

*Vocabulary Instruction Schedule*

	Class 1	Class 2	Class 3	Class 4	Class 5
Chapter 10 Words: nurture, facilitate, adhere, surpass, impose, impede, innate, advocates, susceptible, potential	Word Parts/Word Families	Word Parts/Word Families	Word Parts/Word Families	Word Parts/Word Families	Word Parts/Word Families
Chapter 12 Words: defraud, spam, credibility, circumspection, decipher, phishing, validity, ordeal, adage, lax	Definition	Definition	Definition	Definition	Definition
Chapter 16 Words: Renaissance, endowed, humanism, foresight, fertile, cupola, façade, intermittent, adorned, frescoes	Context Clues	Context Clues	Context Clues	Context Clues	Context Clues
Chapter 18 Words: asset, entrepreneur, jovial, liability, modify, niche, proliferate, prominent, propensity, venture	Elaboration Technique	Elaboration Technique	Elaboration Technique	Elaboration Technique	Elaboration Technique

For the first method of instruction, the instructor taught the new vocabulary using word parts/word families (see Appendix B for the script and list of words). “Most students understand the importance of context—they know that words have meaning in relation to other words in a sentence. But not so many understand that words also derive meaning from their component parts” (Dale, O’Rourke, & Bamman, 1971, p. 92). In this method the instructor introduced the students to the words and the students used morphemic analysis to identify familiar or easily analyzable parts (Alvermann et al., 2007).

For the purpose of this study, the teacher first provided the students with a list of the 10 words and then directed the student to use morphemic analysis to identify any free morphemes (words that can stand alone) and provide the meaning. Next, students looked for familiar or easily identified word parts that indicated a specific meaning. Once the students exhausted the possibilities for specific meaning in a word, the teacher gave the students a word parts/word families handout (Appendix C) to assist them in determining meanings of words that they were not able to identify earlier. The handout was broken down into three parts: word parts, meanings, and word derivations. The word derivatives provided a list of words using the same base, root, prefix, or suffix, which affords students with an opportunity to transfer meaning to an unknown word to identify its meaning. Dale et al. (1971) believe word parts should be taught from the known and applied to the unknown. This method allowed students to make their own generalizations about words based on their inferences. Students worked together as a class to determine and write down the meaning of the new words. Once students agreed on a meaning, students worked collaboratively in small groups to learn the meaning(s) and ways to use

the word in different contexts. At the end of class, the teacher administered the instructional vocabulary quiz (Appendix D).

The second method of instruction for this study is the traditional dictionary method (see Appendix E for the script and list of words). This method involved looking up a word in a dictionary and memorizing a definition for a test (Francis et al., 2004; Nichols & Rupley, 2004). In this study, students were provided with a list of words required to be known. They worked in small groups to look up the words and write down the definition(s). This is similar to how Bukowiecki (2006) referred to the traditional approach; however, the exception is that Bukowiecki's method required the new words be used in a sentence. This study did not require students to use the new words in sentences. Once students agreed on the meaning of all 10 words, they worked collaboratively in small groups memorizing meaning(s) and discussing ways to use it in different contexts. At the end of class, the teacher administered the instructional vocabulary quiz (Appendix F).

The third method of instruction is based on the use of context clues (see Appendix G for the script and list of words). Dale et al., (1971) identify this as the reader determining the meaning of an unfamiliar word by how it was used in context and without looking it up in a dictionary. Dale et al. provide a variety of context clues to determine the meanings of unknown words, but for the purpose of this study the instructor focused on the following aspects: synonyms, antonyms, general context, and examples. The instructor presented the students with a passage (see Appendix H for the passage, Appendix I for the SMOG readability level, and Appendix J for the quiz) titled *Renaissance Periods* introducing 10 new words. The teacher read the passage to the students and asked the students to use one of the four aforementioned context clues to

determine the meaning of the word. The students wrote down all 10 words and their meaning as used in the passage. Once students agreed on the meaning of all 10 words, they worked collaboratively in small groups discussing the meaning(s) and ways to use the word in different contexts. At the end of class, the teacher administered the instructional vocabulary quiz.

The final method of instruction was the elaboration technique (see Appendix K for the script and list of words) in which students were provided opportunities to elaborate on new terms (Ellis, 2002). Ellis provides several elaboration techniques, but for the focus of this study only two of his methods were used. Key to the first part of this approach was the presentation of new terms in meaningful subject-matter contexts during which the teacher facilitated a discussion of the new word. This part of the instruction also encouraged students to use the word in their own sentence. The instructor introduced 10 new words using a passage titled *Business* (see Appendix L for the passage, Appendix M for the SMOG readability level, and Appendix N for the quiz). The teacher read the passage to the students and engaged them in a discussion about the new words. Ellis further suggests that a second component include the connection of the new term to background knowledge or something with which students are already familiar. Similarly, Nagy (1988) refers to this as deep word-knowledge. The instructor encouraged students to make connections from the new word to familiar situations or prior knowledge they have that can be linked to the new word. Helping students to make links with their existing schemata or to integrate meaning or new words to prior learning provided repeated exposures to the words. This aided students' retention of new meanings and engaged students in meaningful discussions that required applying the word in a variety of contexts. Active engagement with vocabulary and deep processing is the best way to

learn vocabulary (Stahl & Fairbanks, 1986). Once students agreed on the meaning of all 10 words, they worked collaboratively in small groups discussing the meaning(s) and ways to use the word in different contexts. At the end of class, the teacher administered the instructional vocabulary quiz.

Often, classroom instruction involves teaching and testing words in isolated units, which contrasts perspective to a Vygotskian social constructivist approach that emphasizes the importance of linking what is learned to prior knowledge (Nagy & Scott, 2000) and the socialization with more capable peers or adults to learn words in the Zone of Proximal Development (ZPD). There are several key elements to the methods selected for vocabulary instruction in this study that are based on a social constructivist approach.

The ability to think critically and discuss vocabulary words is instrumental to a theoretical framework in which students are to construct or reconstruct the meaning of a word into already existing schemata. The opportunity to work as a class or in small groups provides further support to the foundation of this study, in that the social interaction will help students construct meaning into their existing schemata. Invaluable in this process is the discussion of words heard by all classmates. Many shy and beginner level students lack confidence in their ability to construct meaning of new words. The open discussion format allows them to take in and construct meaning internally with the support of their peers. While these students may not share on a whole group level, when they break into small groups there may be less anxiety and more willingness to share what they have internalized to construct their own meaning.

A Vygotskian perspective of social constructivism emphasizes learners creating meaning through the interactions they have with the text and others. The presentation of the words in meaningful texts is supportive of his learning. The engagement of

discussions around the use of the words in meaningful contexts such as the passages provided facilitates word acquisition. The interactive discussions about the words enhance the learning of all students. Furthermore, the words in the instruction are applied to specific academic settings but can also be applied to a range of other disciplines.

The multiple opportunities provided with the four methods of vocabulary instruction in which learners were able to socialize with more capable others to construct their own meaning is in alignment with a social constructivist learning theory that suggests knowledge formed by the learners themselves will be more flexible, transferable, and useful than knowledge drilled into them by experts or instructors. This suggests that there will be deeper word level knowledge and that the new words will have a greater chance of being retained.

Upon completion of vocabulary instruction for the 10 words, the instructor administered an instructional vocabulary quiz designed to measure word acquisition. These quizzes were designed by the same author. The format of the quiz mimics the pre-test with 40 cloze-type statements, only it has 10 cloze-type statements. Students selected from one of four choices to complete the statement. There were four different quizzes used with all five classes.

The readability tests encountered require a minimum of 100 words in a passage to identify readability levels. This suggests that it is difficult to identify the exact readability level of an individual word. Generally speaking, it is believed that multi-syllabic and longer words are considered to be more challenging or unfamiliar vs. single syllable and short words. Fry (1977) assumes that on average the longer a word, the more difficult or unfamiliar it is likely to be to the reader. The Fry readability chart also suggests a readability test consider the number of syllables in a word. The Fry readability graph is



used at various grade levels from K-12 to college. When the 40 words are analyzed in their group of 10 words, each group has 7-10 words with two to four syllables. The average length of the word is between 7.4 to 8.1 characters with six to nine words having somewhere between 5 to 9 characters. Fry (1989) acknowledges limitations of formulas, but that on average, sentence and word length are valid indicators. See Appendix O for a list of the 40 words.

The validity of the word selection was tested in a pilot study. Each set of 10 words was tested in a cloze-statement activity. Boote (2006) suggests in examining the validity of good words to teach, that words known by 40%-80% of the population are words worth teaching. She indicates that words known by less than 40% of the population are not worth teaching nor are the words known by over 80% of the population, suggesting, possibly, that those under 40% may be too difficult and not within an instructional range and that those over 80% are already known or are within grasp that the student will acquire independently. This presents one perspective on how to identify words worth teaching, but it is a contrast to the theoretical framework that supports this study. This study is based on a Vygotskian social constructivist approach which theorizes that learning is based on social interaction between peers and teachers that allow the individual to construct meaning around or within existing schemata which allows for acquisition and growth. The ZPD suggests that what is unknown may be within grasp if it is instructed by a more capable peer or other. Those words that are known by less than 40% of the population may be within the ZPD of the individual and therefore worth teaching, but caution should be used in assuming all students will acquire the words as some students do not have the existing schemata to build around the word.

For the purpose of this study, the words selected were considered to be viable words worth teaching. The words were selected from the Academic Word List, popular magazines, and textbooks from the field of introductory reading. The Academic Word List is a reliable source which identifies words and word derivatives and their frequency within the English language.

1a. To what degree is the effect of type of instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) on vocabulary quizzes moderated by age?

1b. To what degree is the effect of type of instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) on vocabulary quizzes moderated by native language?

Research question 1 and the two sub-questions used data from the 4 instructional vocabulary quizzes formatted as cloze-type statements and administered during the semester. To determine to what degree the effect of type of instruction on the targeted vocabulary quizzes is moderated by age or native language, an ANOVA was used to determine statistical significance.

2. Does vocabulary instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) in a community college developmental reading course affect gain among the types of instruction from pretest to vocabulary quizzes after each treatment or type of instruction?

Prior to instruction on the 40 words, a pre-test was administered to identify a baseline of known vocabulary words. The pretest was used and separated by the four groups of 10 words taught by treatment. The data from the pretest was used along with the data from the 4 instructional vocabulary quizzes formatted as cloze-type statements

and administered on the day of treatment. To determine gain among the types of instruction on the targeted vocabulary quizzes, a paired dependent t-test was used to determine statistical significance.

3. Does vocabulary instruction in a community college developmental reading course affect gain from pretest to immediate post-test and pretest to delayed post-test for each instructional method?

Prior to instruction on the 40 words, a pretest was administered to identify a baseline of known vocabulary words. Each day after the instructional treatment a vocabulary quiz was administered. The four vocabulary quizzes were aggregated for a total of 40 words to create an immediate post-test score. At the end of the semester, a delayed post-test was administered that was identical to the pretest. The immediate post-test and the delayed post-test were used to identify gains from pretest to immediate post-test and pretest to delayed post-test. To determine gain from pretest to immediate post-test and pretest to delayed post-test, a paired dependent t-test was used to determine statistical significance.

3a. Is gain from pretest to immediate post-test and pretest to delayed post-test moderated by age?

3b. Is gain from pretest to immediate post-test and pretest to delayed post-test moderated native language?

The sub-questions also used data from the 40 question pretest, the aggregated scores of the vocabulary quizzes for an immediate post-test with 40 questions and the delayed post-test on 40 cloze-type statements administered during the semester. A t-test was used to determine to what degree the gain pretest to immediate post-test and pretest to delayed post-test was moderated by age or native language.

### *Sample*

Indian River State College (IRSC) was the location for this study. IRSC is located in Southeastern Florida and has five campuses covering four counties. Students attending IRSC come mainly from the surrounding four counties (Indian River, St. Lucie, Martin, and Okeechobee), as well as throughout the state of Florida and the United States. For the purpose of this study, the two campuses located in Saint Lucie County served as the primary location for administering tests and collecting data.

Indian River State College has three full-time Developmental Reading faculty, including the researcher, and approximately 10 adjunct reading instructors. For the purpose of this study, one instructor delivered the instruction and instruments to measure effectiveness of vocabulary instruction on vocabulary performance. The instructor identified for participation in the study is a full-time faculty member (Assistant Professor) who agreed to participate in the study. The study did not include adjunct faculty members because there was no control of variability with an adjunct population who may not follow the guidelines for the study and who would have also needed additional preparation. Furthermore, there were not a minimum of five classes, as suggested by Charles and Mertler (2002) for studies involving entire classrooms that were taught by one adjunct instructor. The other full-time faculty member was not included for health-related reasons. The proposed study focused on students enrolled in College Prep Reading II (REA0002), and the identified instructor was the only instructor who taught, exclusively, the second level of the course. Only one instructor was used, eliminating multiple variables with different instructors that could affect student results. Charles and Mertler suggest for research involving entire classrooms a minimum of five classrooms, per different research treatment is acceptable.

During the 2007-2008 school year, IRSC served approximately 18,765 students. Three ethnic groups account for over 90% of the student population at the college. Overall, 13,251 (70.62%) of the students are white, 2,684 (14.30%) are black, and 2,048 (10.91%) are Hispanic. See Table 2 and 3 for a more detailed listing of demographic data.

Table 2

*Indian River State College Demographic Data Fall 2007-2008*

Course	Enrolled	Male	Female	> 25 yrs	<= 25 yrs	ESL	Not ESL
REA0002	689	283 (41.07%)	405 (58.78%)	124 (18%)	565 (82%)	38 (5.52%)	651 (94.48%)

Table 3

*Indian River State College Demographic Data Spring 2007-2008*

Course	Enrolled	Male	Female	> 25 yrs	<= 25 yrs	ESL	Not ESL
REA0002	422	166 (39.34%)	256 (60.66%)	86 (20.38%)	336 (79.62%)	31 (7.35%)	391 (92.65%)

The sample was taken from REA0002 classes at the Main Campus located in Fort Pierce and the Saint Lucie West Campus located in Port St. Lucie, both of which are located in St. Lucie County. The sample consisted of students who independently enrolled in REA0002. Since the sample is based on enrollment in the participating instructor's course, the researcher intentionally selected students who enrolled in REA0002 at either the Main Campus or Saint Lucie West Campus. Campuses used for the study are located in the same county to avoid greater variability in the sample with campuses located in different counties.

The researcher intentionally selected students enrolled in REA0002 for two reasons. First, students enrolled at this level are expected to be able to successfully take and pass a state exit exam. (Students who are enrolled in REA0001 have no such requirement.) Secondly, students' academic abilities in the two different courses are at different levels, based on either their College Placement Test (CPT) score or having successfully completed REA0001. Students who test directly into REA0002 scored a 58-82 on the CPT test. Students who are in REA0002 but took REA0001 must have successfully passed REA0001 with an overall grade of 70% or higher and are expected to have a similar academic range to students who scored a 58-82 on their CPT test. Following this process provided for consistent measures across the five classes in the study.

The research questions identified students' competence and retention of vocabulary words based on vocabulary instruction during the course of a semester. Students who enroll in REA0002 are at a higher academic level than those in REA0001 as evidenced in their ability to score at a higher level on the CPT test or their ability to successfully pass REA0001. With a higher academic ability, the researcher also assumed that it would be easier for the students in REA0002 to acquire and retain more words than those in REA0001. In an effort to eliminate variables, it was necessary to remain with students in REA0002 where the largest percentages of students are enrolled. Students enrolled in REA0001 are excluded from the study given that there were not enough students at IRSC in need of this level of developmental reading to make a cohort, nor were there five classes offered and taught by one instructor.

Students enrolled in REA0002 must pass this course in order to successfully matriculate into college credit level courses. Without successfully completing REA0002,

there are limited credit courses in which students can enroll. Successful completion of this course is required in order to demonstrate one's ability to complete the rigorous academic work required in college credit courses.

The material covered in the course addressed the following reading skills: main idea, supporting details, inferences, patterns of organization, fact/opinion, bias, argument, purpose and tone, and vocabulary in context. During the semester, the instructor discussed the different skill areas and provided the students with strategies that assisted them in identifying the skill as well as in answering questions related to the skill. The syllabus, including the schedule for vocabulary instruction, is in Appendix P, pp. 132-134.

To summarize, one instructor was identified that administered the four types of vocabulary instruction to five classes. There were approximately 20-30 students in each class for a total of 100-150 participants. Students who enrolled in this instructor's class signed a consent form to participate and were a sample of convenience since all other classes were excluded. In order to qualify as the instructor, the instructor signed the consent form and agreed to implement the four types of vocabulary instruction in her classrooms. Vocabulary instruction was randomly assigned to each of the five classes with students in each of the classes receiving all four treatments.

### *Instrumentation*

The study used four instructional vocabulary quizzes as the dependent variable and the type of vocabulary instruction administered as the independent variable. A vocabulary quiz with 40 cloze-type statements on 40 words was used as a pretest and post-test as well as four instructional vocabulary quizzes each with 10 cloze-type statements on 10 words. The four instructional vocabulary quizzes were used

independently and aggregated for an immediate post-test score. The pretest and post-test and the instructional vocabulary quizzes each followed an identical format that included sentences that used each of the words in context. A blank was provided where the word belonged and participants selected from one of four words for completion.

*Vocabulary Quizzes.*

The pre- and post-test as well as the instructional vocabulary quizzes to be used were designed by Amy Olsen and published in *Active Vocabulary: General and Academic Vocabulary*, 3<sup>rd</sup> edition by Pearson Longman. The chapters used were chapters 10, 12, 16, and 18. Each chapter has two sets of traditional vocabulary quizzes that follow a cloze-statement format. One of the quizzes from each chapter was used for the pretest and post-test and the other quiz was used as the instructional vocabulary quiz immediately after instruction. All of the quizzes included cloze-type statements on all of the words and required the participants to select from one of four words for completion. The pretest and post-test mimic the individual quizzes; however, the pretest and post-test included 40 cloze-type statements and the individual quizzes contain 10 cloze-type statements each. Permission to use the quizzes for research purposes has been requested and granted by the author (A. Olsen, personal communication, November 2, 2008).

A pilot study was conducted on the words to ensure that a larger percentage of each group of 10 words is not known by the student population prior to their use in the proposed study. This ensured an equal degree of difficulty of the four groups of ten words. Additionally, a pilot of the instructor scripts for the types of vocabulary instruction was completed to ensure their viability with community college developmental reading students. The pilot was conducted with a random group of



students who had similar characteristics and were enrolled in REA0002 in the Fall of 2008.

### *Procedures*

An application for Florida Atlantic University (FAU) Institutional Review Board (IRB) approval was submitted after formal acceptance of the proposal for the study. At the same time the application for IRB was submitted to FAU it was also submitted to Indian River State College (IRSC). The protocol was approved first by IRSC and then by FAU on March 5, 2009. A formal written consent form to complete this study was submitted and returned from each of the students enrolled in the course and from the instructor engaged in the study. Instructor and student consent forms are in Appendix Q and Appendix R. After receiving formal consent from each student and the instructor, the teacher began instruction of the four vocabulary strategies. The participating teacher was instructed to teach all other curriculum as previously done and to incorporate 30 minutes for the four types of vocabulary instruction at the beginning of four classes followed by four traditional vocabulary quizzes that contain 10 cloze-type statements at the end of each class session. The instructor followed a script for the instruction on the four types of vocabulary instruction.

### *Conclusion*

The study utilized quantitative data drawn from a pretest and post-test vocabulary test as well as four individual vocabulary quizzes. A set of sub-questions of the study identified if performance was moderated by age or native language and if gains were moderated by age or language. The data indicated methods of instruction that were more effective and that instruction affected gains.

## Chapter IV

The purpose of this study was to analyze the impact of types of instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) on student performance and to analyze the impact of instruction on gains from pretest to immediate post-test and from pretest to delayed post-test. The dependent variables were the pretest, the vocabulary score after treatment, the immediate post-test, and the delayed post-test. The independent variables were type of vocabulary instruction, age and language.

### *Research Questions*

- 1) Does vocabulary instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) in a community college developmental reading course affect vocabulary competence on vocabulary quizzes after treatment?
  - a) To what degree is the effect of type of instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) on vocabulary quizzes moderated by age?
  - b) To what degree is the effect of type of instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) on vocabulary quizzes moderated by native language?
- 2) Does vocabulary instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) in a community college developmental reading course

- affect gain among the types of instruction from pretest to vocabulary quizzes after each treatment or type of instruction?
- 3) Does vocabulary instruction in a community college developmental reading course affect gain from pretest to immediate post-test and pretest to delayed post-test for each instructional method?
    - a) Is gain from pretest to immediate post-test and pretest to delayed post-test moderated by age?
    - b) Is gain from pretest to immediate post-test and pretest to delayed post-test moderated native language?

The data were obtained from students enrolled in five classes of College Prep Reading II courses (REA0002) that were taught by the same instructor at Indian River State College. The instructor had a total of 105 students enrolled in five classes and 73 respondents consented to participate in the study; thus, it was a voluntary response sample. A pretest was administered to all participants, followed by four treatments and quizzes to all participants over four days, and then a delayed post-test concluded the study. During the study the number of subjects whose data were included changed. The largest difference occurred when the treatment of context clues and elaboration were administered. These two treatments were administered at times during the semester when it is not uncommon for student attendance to decrease. The treatment of context clues was administered immediately after spring break and elaboration treatment was administered the week prior to final exams.

#### *Sample Data*

Seventy-three participants completed the pretest. The pretest demographics at the start of the study revealed the following information: 82% were under the age of 25 and

73% spoke English as their first language, while 27% indicated another language was their first language, including one response of American Sign Language. Forty-five students properly completed the post-test, yielding a 62% response rate of the sample for pretest and post-test data (Table 4).

Table 4

*Sample Response Rates*

Sample Group	Pretest N	Posttest N	Response Rate
Under 25 Years of Age	60	39	65%
25 Years of Age or Older	13	6	46%
Total	73	45	62%
English First Language Spoken	53	31	58%
Other First Language Spoken	20	14	70%
Total	73	45	62%

*Research Hypotheses*

For the purpose of this study, the following hypotheses were tested:

Hypothesis 1: There was no significant difference in students' vocabulary competence on vocabulary quizzes using different types of instructional method (i.e., context clues, definition, elaboration technique, or word parts and word families).

Hypothesis 1a: The difference in vocabulary competence among the four instructional methods (i.e., context clues, definition, elaboration technique, or word parts and word families) was not significantly moderated by age.

Hypothesis 1b: The difference in vocabulary competence among the four instructional methods (i.e., context clues, definition, elaboration technique, or word parts and word families) was not significantly moderated by language.

Hypothesis 2: There was no significant difference in vocabulary gain among the types of vocabulary instruction (i.e., context clues, definition, elaboration technique, or word parts and word families).

Hypothesis 3: There was no significant difference in vocabulary gain from pretest to immediate post-test and pretest to delayed post-test for each instructional method (i.e., context clues, definition, elaboration technique, or word parts and word families).

Hypothesis 3a: The difference in vocabulary gain from pretest to immediate post-test and pretest to delayed post-test was not significantly moderated by age.

Hypothesis 3b: The difference in vocabulary gain from pretest to immediate post-test and pretest to delayed post-test was not significantly moderated by native language.

#### *Hypotheses and Results*

For all statistical analyses in this study, .05 was used as the alpha level at which findings were considered to be significant. Several statistical tests were employed to address the different research questions. The data were analyzed using the Statistical Package for the Social Sciences (SPSS 16) software package to identify statistically significant relationships on targeted vocabulary quizzes and between vocabulary pretest and posttest within the groups who received the four types of vocabulary instruction.

#### Hypothesis 1

There was no statistically significant difference in students' vocabulary performance on vocabulary quizzes using different types of instructional method (i.e.,

context clues, definition, elaboration technique, or word parts and word families). The null hypothesis was rejected.

To address the first hypothesis, “Does the type of vocabulary instruction (i.e., context clues, definition, elaboration technique, or word parts and word families) in a community college developmental reading course affect students’ vocabulary competence based on vocabulary quizzes?,” an analysis of variance (ANOVA) was conducted on the vocabulary quizzes after treatment to identify if statistically significant differences existed among the four vocabulary instructional methods. The dependent variable was the vocabulary quiz score received after treatment, and the independent variable was constituted by the four methods of vocabulary instruction. As Mauchly’s Test of Sphericity was not significant,  $\chi^2(5) = 3.22$ ,  $p = .67$ , one might assume sphericity; therefore, the assumption of the univariate test may be assumed to be met. Results from the univariate analysis of variance led to the rejection of the null hypothesis of equivalent performance under the four instructional methods,  $F(3, 126) = 5.84$ ,  $p < .05$ . Definition instruction was most effective in terms of mean improvement (71.163) compared to word parts (64.651), elaboration (56.047), and context clues (55.349) means. There is a small effect size (Partial Eta Squared = .329), and large power of .956.

#### Hypothesis 1a

The difference in vocabulary competence among the four instructional methods (i.e., context clues, definition, elaboration technique, or word parts and word families) was not significantly moderated by age. The null hypothesis failed to be rejected.

To address the first sub-hypothesis, a repeated measure ANOVA was conducted to determine if the null hypothesis of equivalent performance under the four instructional methods was moderated by age. The dependent variable was the mean vocabulary score

after treatment and the independent variable was age. As Mauchly's Test of Sphericity was not significant,  $\chi^2(5) = 3.18$ ,  $p = .67$ , one might assume sphericity; therefore, the assumption of the univariate test may be assumed to be met. Results from the univariate analysis of variance failed to reject the null hypothesis that age does not moderate vocabulary competence under the four instructional methods,  $F(3, 123) = .912$ ,  $p > .05$ . The results were parallel across the four treatments for the dichotomous age groups and indicated that age did not moderate the profile.

#### Hypothesis 1b

The difference in vocabulary competence among the four instructional methods (i.e., context clues, definition, elaboration technique, or word parts and word families) was not significantly moderated by language. The null hypothesis was rejected.

To address the second sub-hypothesis, a repeated measure ANOVA was conducted to determine if the null hypothesis of equivalent performance under the four instructional methods was moderated by language. The dependent variable was the mean vocabulary score after treatment and the independent variable was language. As Mauchly's Test of Sphericity was not significant,  $\chi^2(5) = 2.79$ ,  $p = .73$ , one might assume sphericity; therefore, the assumption of the univariate test may be assumed to be met. Results from the univariate analysis of variance rejected the null hypothesis that language did not moderate vocabulary competence under the four instructional methods,  $F(3, 123) = 3.61$ ,  $p < .05$ . Language did moderate the profile. Native English speakers' vocabulary competence was significantly better in all groups, but not with context clues. Native English speakers had higher means in word parts (67.3333), definition (79.0000), and elaboration (60.0000) compared to non-native English speaker means in word parts (58.4615), definition (53.0769) and elaboration (46.9231), but in context clues, non-

native English speaker had a higher mean (58.4615) than native English speakers (54.0000). There was a small effect size (Partial Eta Squared = .081), and large power of .783. The results were not parallel across the four treatments for the dichotomous language groups and indicated that language moderated the profile.

#### Hypothesis 2

There was no statistically significant difference in vocabulary gain among the types of vocabulary instruction (i.e., context clues, definition, elaboration technique, or word parts and word families). The null hypothesis was rejected for word part instruction, but failed to be rejected for context clues, definition, and elaboration.

For the second hypothesis, a paired dependent t-test was used to identify statistically significant gains among the methods of vocabulary instruction from pretest separated by method of instruction prior to treatment to each method of instruction after treatment. The dependent variables were the pretest and vocabulary quizzes after treatment and the independent variable was type of vocabulary instruction. The pretest was separated into four groups of ten by method of instruction and paired with the correlated vocabulary quiz after treatment. A matrix showing the pairing of pretest to immediate post-test appears in Table 5.



Table 5

*Matrix of Pretest to Immediate Post-test*

Paired Dependent t-test	
Pretest Breakdown and Pretest	Targeted Quizzes and Posttest
Pretest 10 questions Word Parts only	Targeted Vocabulary Quiz Word Parts – 10 questions
Pretest 10 questions Definitions only	Targeted Vocabulary Quiz Definitions – 10 questions
Pretest 10 questions Context Clues only	Targeted Vocabulary Quiz Context Clues – 10 questions
Pretest 10 questions Elaboration only	Targeted Vocabulary Quiz Elaboration – 10 questions

The results for each of the paired dependent t-tests are provided in Table 6.

Table 6

*Paired Dependent t-test between the Pretest and Immediate Post-test*

Source	Pretest Mean	SD	After Treatment Mean	SD	t	df	p
Word Parts	54.7692	19.13012	64.0000	22.34670	3.060	64	.003
Definition	65.4688	24.55507	71.0938	26.07177	1.648	63	.104
Context Clues	51.9643	21.86069	54.8214	20.88854	.782	55	.438
Elaboration	57.9661	23.02769	57.6271	25.41646	.103	58	.919

For the t-tests between the pretest and immediate post-test, the only effect that was significant was that for word part instruction; thus, the null hypothesis of equivalent performance for word parts was rejected. Word parts had an increment of 9.23; therefore, students made gains in an increment of 9%. The other three individual treatments produced no significant increments; therefore, the null hypothesis of equivalent performance for definition, context clues, and elaboration failed to be rejected.

### Hypothesis 3

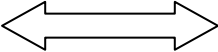
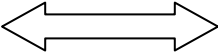
There was no statistically significant difference in vocabulary gain from pretest to immediate post-test and pretest to delayed post-test. The null hypothesis was rejected for pretest to immediate post-test and pretest to delayed post-test.

For the third hypothesis, a paired dependent t-test was used to identify statistically significant differences between vocabulary pretest total and delayed post-test and pretest total and aggregated vocabulary quizzes after treatment. The dependent variables were the pretest total, the immediate post-test, and delayed post-test, and the independent variable was the type of vocabulary instruction. The pretest total was paired with the aggregate of the vocabulary quizzes after treatment for an immediate post-test score and with the delayed post-test scores. A matrix showing the paired t-test appears in Table 7.

Table 7

*Matrix of Pretest to Immediate Post-test and Pretest to Delayed Post-test*

---

	Paired Dependent t-test	
Pretest		Delayed Post-test and Immediate Post-test
40 Question Pretest		40 Question Delayed Post-test Quiz (40 Questions)
40 Question Pretest		40 Question Immediate Post-test Aggregate Quizzes (40 questions)

The results for each of the paired dependent t-tests are provided in Table 8.

Table 8

*Paired Dependent t-test*

Source	Pretest		After Treatment Aggregate		t	df	p
	Total Mean	SD	Mean	SD			
Pretest/ Aggregate	55.7209	18.14010	62.000	16.23928	2.333	42	.024

Source	Pretest		Delayed Posttest		t	df	p
	Total Mean	SD	Mean	SD			
Pretest/ Posttest	57.0682	18.93980	48.6818	21.88211	3.261	43	.002

For the t-test comparing pretest to immediate post-test, there was significance; therefore, the null hypothesis stating that mean pretest and mean immediate post-test were equivalent can be rejected. The results indicated there was a significant increase in test scores after the administration of the four types of instruction providing evidence and value to the four types of instruction.

For the final t-test comparing the pretest total and the delayed posttest, there was a significant difference; therefore, the null hypothesis stating that the mean pretest and delayed post-test scores were equivalent can be rejected. These results indicated the difference was a decrease in test scores when there was a delayed time period after the administration of the four types of instruction. From these results, there was a decrement in mean scores, which may be because the delayed post-test was administered on the last day classes were held prior to final exams. Additionally, as the data collected were from another instructor's class, the decrement may be due to the fact that the students received no compensation such as extra credit or grades for their work and therefore were not vested in the outcome of the study.

### Hypothesis 3a

The difference in vocabulary gain from pretest to immediate post-test and pretest to delayed post-test was moderated by age. The null hypothesis that age did not moderate pretest to immediate post-test and pretest to delayed post-test was rejected. The difference from pretest to immediate post-test and from pretest to delayed post-test was not the same for different ages. Further tests of equivalency were completed to explain the moderation that was found to be significant.

The results for each of the dependent t-tests are provided in Table 9.

Table 9

*Dependent t-test for Cumulative Scores by Age*

Source	Pretest Mean	SD	Delayed Posttest Mean	SD	t	df	p
Pre/Post Under 25	55.8158	18.44474	46.1842	20.34945	3.779	37	.001
Pre/Post 25 or older	65.0000	21.90890	64.5000	26.56878	.050	5	.962

Source	Pretest Mean	SD	After Treatment Aggregate Mean	SD	t	df	p
Pretest/Aggregate Under 25	54.1892	18.04753	60.8108	15.03300	-2.204	36	.034
Pretest/Aggregate 25 or older	65.1667	17.16294	69.3333	22.65097	-.714	5	.507

The t-test comparing effects by age from pretest to delayed post-test rejected the null hypothesis for students under 25 as the test of the difference yielded,  $t(37) = 3.779$ ,  $p < .05$ . The results indicated a significant decrease of 9.6 for students less than 25 years of age from the pretest to the delayed post-test. The pretest standard deviation was used to calculate a medium effect size of .5.

The t-test comparing effects by age from pretest to delayed post-test failed to reject the null hypothesis for students 25 years of age or older as the test of the difference yielded  $t(5) = 0.50, p > .05$ . The results indicated no significant change for students 25 years of age or older from the pretest to the delayed post-test. The pretest standard deviation was used to calculate a very small effect size of .02. There were a very small number of students who fell into this age group and as such the results need to be interpreted with caution.

The t-tests comparing effects by age from pretest to immediate post-test rejected the null hypothesis for students under 25 as the test of the difference yielded,  $t(36) = -2.204, p < .05$ . The results indicated there was a significant gain of 6.6 for students less than 25 years of age from the pretest to the aggregated score of the immediate post-test. The pretest standard deviation was used to calculate a small effect size of .4.

The t-tests comparing effects by age from pretest to immediate post-test failed to reject the null hypothesis for students 25 years or older as the test of the difference yielded,  $t(5) = -.714, p > .05$ . The results indicated there was no significant gain for students who were 25 years or older from the pretest to the aggregated score of the immediate post-test. The pretest standard deviation was used to calculate a small effect size of .2. There were a very small number of students who fell into this age group and as such the results need to be interpreted with caution.

#### Hypothesis 3b

The difference in vocabulary gain from pretest to immediate post-test and pretest to delayed post-test was moderated by language. The null hypothesis that language did not moderate from pretest to delayed post-test and pretest to immediate post-test was

rejected. The difference from pretest to delayed post-test and from pretest to immediate post-test was not the same for different languages. Further tests of equivalency were completed to explain the moderation that was found to be significant.

The results for each of the dependent t-tests are provided in Table 10.

Table 10

*Dependent t-test for Cumulative Scores by Language*

Source	Pretest Mean	SD	Delayed Posttest Mean	SD	t	df	p
Pre/Post English	64.0333	14.32982	51.8333	22.63212	3.948	29	.000
Pre/Post Other	42.1429	19.40601	41.9286	19.21323	.054	13	.958

Source	Pretest Mean	SD	After Treatment Aggregate Mean	SD	t	df	p
Pretest/Aggregate English	62.7667	12.57991	65.2667	16.44412	-.985	29	.333
Pretest/Aggregate Other	39.4615	18.94120	54.4615	13.46363	-2.408	12	.033

The t-tests comparing effects by language from pretest to delayed post-test rejected the null hypothesis for native English speakers as the test of the difference yielded,  $t(29) = 3.948$ ,  $p < .05$ . The results indicated a significant decrease of 12.2 for native English speakers from pretest to delayed post-test. The pretest standard deviation was used to calculate a large effect size of .9.

The t-tests comparing effects by language from total pretest to delayed post-test failed to reject the null hypothesis for non-native English speakers as the test of the difference yielded,  $t(13) = .054$ ,  $p > .05$ . The results indicated no significant change for students who spoke a language other than English as their first language when the time period after treatment was delayed for administering the delayed post-test. The pretest

standard deviation was used to calculate a very small effect size of .01. There were a very small number of students who fell into the group of non-native English speakers and as such the results need to be interpreted with caution.

The t-tests comparing effects by language from pretest to immediate post-test failed to reject the null hypothesis for native English speakers as the test of the differences yielded,  $t(29) = -.985$ ,  $p > .05$ . The results indicated there was no significant gain for native English speakers from the pretest to the aggregate score of the immediate post-test. The pretest standard deviation was used to calculate a small effect size of .2.

The t-tests comparing effects by language from pretest to immediate post-test rejected the null hypothesis for non-native English speakers as the test of the difference yielded,  $t(12) = -2.408$ ,  $p < .05$ . The results indicated there was a significant gain of 15 for non-native English speakers from the pretest to the aggregate score of the immediate post-test. The pretest standard deviation was used to calculate a large effect size of .8. There were a very small number of students who fell into the group of non-native English speakers and as such the results need to be interpreted with caution.

### *Chapter Summary*

There were a total of seventy-three participants who consented to participate in the study. The number of participants whose data was used for each research question varied from forty-three to sixty-five participants. The demographics revealed: 86 % ( $n = 38$ ) were under the age of 25 and 14 % ( $n = 6$ ) were 25 years of age or older; and 68 % ( $n = 30$ ) spoke English as their first language and 32 % ( $n = 14$ ) spoke English as a second language.

Using an analysis of variance (ANOVA) and paired dependent t-tests, three main hypotheses and four sub-hypothesis were tested. The results rejected the first hypothesis.

Univariate ANOVA tests indicated significant differences among the types of vocabulary instruction. The first sub-hypothesis to this question failed to be rejected, indicating that vocabulary competence was not moderated by age. The second sub-hypothesis to this question was rejected, indicating that vocabulary competence was moderated by language.

The second hypothesis was rejected for word parts and word families, but failed to be rejected for context clues, definition, and elaboration technique, indicating there was a difference in vocabulary competence on the vocabulary quizzes among instruction.

The third hypothesis was rejected. The first sub-hypothesis to this question was rejected regarding gains being moderated by age from pretest to delayed post-test and pretest to immediate post-test. The second sub-hypothesis to this question was rejected regarding gains being moderated by language from pretest to delayed post-test and pretest to immediate post-test.



## Chapter V

A well-developed vocabulary base and the ability to understand how to use vocabulary is essential to compete for jobs and function effectively as a citizen. It is with an understanding of the findings presented in Chapter 4 on vocabulary competence that we now focus on discussion and recommendations that inform research in the field of reading and /or appropriate vocabulary instructional methods. This study analyzed the effects of four instructional modes for developing vocabulary – word parts, definition, context clues, and elaboration – and two non- instructional variables – age and native language (English or other) – on vocabulary competence after receiving treatment on immediate post-tests and on a delayed post-test with students enrolled in a developmental reading course at Indian River State College, a community college. In order to increase vocabulary competence, vocabulary instructional methods employed must be evaluated and the most successful methods identified and implemented. In identifying best teaching practices, vocabulary instruction should be continuously reevaluated based on current research to identify what is or is not successful in achieving learning outcomes necessary for student success.

Data from this study support the position of the National Institute of Child Health and Human Development (2000) that dependence on a single vocabulary instructional method did not result in optimal learning.

## *Discussion*

Hypothesis 1: There is no significant difference in students' vocabulary competence on immediate post-test and type of instructional method.

The type of instruction was a factor in mean vocabulary competence. There were a total of 43 students who were present for all treatments and the corresponding immediate post-test. The results suggested that instruction on learning definitions of words was most effective in terms of mean score (71.163) compared to word parts (64.651), elaboration (56.047), and context clues (55.349) means. According to McKeown (1993) evidence suggests that current dictionary definitions are not effective even in initiating the process of understanding word meaning, at least for younger learners. In contrast, the findings in this study indicated that for older students, vocabulary competence was more effective when definition instruction was used. A larger percentage of students were more successful (had a higher mean score) after the treatment for definition instruction than any other type of instruction. Nagy and Scott (2000) indicated a chief strength of definitions is that they provide explicit information about word meanings that is normally only implicit in context; therefore, if a student is to learn a word, giving the specific meaning of a word may provide the best chance for competence. It is possible that older students may have a better understanding of how explicit definitions work and how to manipulate the meaning into other contexts.

While there are several possible explanations as to why certain instructional methods may not have been as effective, the findings of this study support dictionary definition for vocabulary competence as the strongest of the four instructions to use with older students in a developmental reading course. Instruction through definitions is one of the most commonly used methods of instruction in the United States. Perhaps, this

method of instruction is so common and habitual that it is a familiar method of instruction and one where students have the greatest opportunity for vocabulary competence based on their conditioning. It is also plausible that definition instruction was the best method of instruction under the conditions in this study. McKeown (1993) indicates that for younger students definitions are not effective in initiating meaning, but the reverse is the case with the older students (post-secondary) in this study. Braze et al. (2007) indicated for older students the content and vocabulary is more challenging, which may explain why explicit definitions about a word's meaning provided the most effective method for vocabulary competence. College students are exposed to increasingly difficult reading material and content and the best method for getting at the unknown may be definition instruction.

Elaboration technique and context clues both had means lower than definition instruction and word parts. Miller and Gildea (1987) indicate that context clues are effective, but not efficient. Some contexts are uninformative, others misleading. If the word in question expresses an unfamiliar concept, a single context use of a word or a phrase will seldom support more than one hypothesis about the word's meaning. Braze et al. (2007) indicate that for the older reader, the text is more often reflective of challenging content and vocabulary, which may account for why older students did not perform as well after instruction in context clues. The complexity of word meaning along with the word being embedded in form and content that is unfamiliar can be challenging for many students.

Ellis (2002) indicates that elaboration instruction requires a significant amount of class time. However, the research design in this study provided elaboration instruction in the same amount of time (20-30 minutes) as the other three methods. With the

elaboration technique, students learn new words facilitated by class discussion along with the application of the new word in a more general context. The instruction also requires that the students become actively involved in the learning process by connecting their background knowledge to the new term and explaining the connection. Students should be provided with a variety of situations to elaborate on the word and demonstrate both their connection to the word and their understanding of the word.

There would appear to be an advantage to using more structured collaborative learning groups when using the elaboration technique. The most obvious would be the rich and varied experiences with vocabulary that groups of students can share in stimulating learning activity that involves collaborative learning. The elaboration technique is very similar to Stahl's (1986) idea of "deep" processing, or what he refers to as the process of making more connections between the new term and known information. This "deep" learning process on the student's part requires well-developed critical thinking skills. It is possible that many developmental students may not have acquired the higher level thinking skills (such as connecting, classifying, formulating, integrating, and explaining) needed to effectively use the elaboration technique without significant modeling and guided practice.

Perhaps, in the collaborative groups with this study, student input may not have been sufficient or correct. If the students' input of the new vocabulary was incorrectly filed into their existing schemata, they will not know to correct their mistakes if they are unaware that they incorrectly filed it. It is also possible that students received no correction with errors within their collaborative groups, nor is it known how the error correction was offered. The script indicated students were to work collaboratively in their groups, but they were unsupervised, which may have been a limitation of the study.

Instruction should have included modeling feedback in a friendly and helpful way and supervised collaborative groups in which students received feedback and learned to self-correct. The long-term goal of vocabulary instruction is for students to become autonomous learners. To assist students in noticing their errors, instruction should include teacher facilitated peer-dialogues. These groups give learners an opportunity to talk about what they do to make sense of new vocabulary whether they are working collaboratively or independently. Error correction should be natural, occur in context and not in isolation. Additionally, the groups provide the opportunity to provide correct feedback in a friendly, helpful manner, draw attention to the strategy being used, and give students the opportunity to practice applying the strategies.

Another possible explanation as to why students did not perform as well with the elaboration technique may be a result of insufficient modeling and guided practice for “deep” processing. The modeling and guided practice should include self-talk or internal-talk by the teacher on how to internalize and manipulate the new word into exiting schemata. Many individuals self-talk naturally while they are processing vocabulary, but it is possible developmental students have not developed a form of self-talk or internal-talk. “Deep” processing also requires time for reflection, and it is possible that sufficient time was not provided for “deep” processing to occur in this study.

Motivation may also be a limiting factor with the elaboration technique, since as with contextual clues, it has a complexity that might result in students opting for the more explicit definition instruction, which uses lower level thinking skills such as applying, associating, paraphrasing, and restating. It is also possible that a lack of motivation can be attributed to insufficient modeling and guided practice. Without the appropriate modeling and guided practice students may not be motivated to use a technique that they

are not fully cognizant of how it works, especially for students who are non-native English speakers. The non-native English speaking students have an additional hurdle in which they need to be certain the new word they are learning can be input and can connect to existing schemata in their native language.

While four methods of instruction were provided and vocabulary competence was measured on these methods, collaborative groups were not monitored, and there was no assessment of instructional strategies used, error correction provided, and frequency of error correction provided by students. Awareness of the strategies and under what circumstances each should be used needs to be taught and measured in order to completely assess vocabulary competence. A note-taker or simple checklist of strategies used, error correction, and frequency of feedback can provide the researcher with insightful information as to what strategies are being used and how error correction is occurring. Furthermore, the instructor can compile errors and error correction and monitor the frequency. The compiled data can be used as needed to guide periodic reviews and re-teaching as needed whole group, small group, or one on one.

In a post-treatment discussion with the instructor who administered the treatment, she shared her insight on the story used for context clues to aid with the acquisition of the new vocabulary. It was her opinion that the story provided weak and at times misleading clues in an effort to aid the reader in learning the new word. She further suggested that several of the other groups of words had stories that accompanied them that provided better context clues to unlock the meaning of the unknown words, but these words were introduced with a different method of instruction so it is unknown if they would have been more effective. The instructor recommended that in a future study, a different set of words and story be used. In introducing words with context clues, it is important to use

content that is relevant and meaningful to learners and that would capitalize on their prior knowledge. While it may not be possible to use content that is relative and meaningful to all students, it is important to try to use content that is meaningful to a larger percentage of the group. It is also essential to offer repeated readings of the content with an opportunity to focus on the newly learned word(s) and opportunities to practice using it in speaking, listening, reading, and writing.

It is important to note that students will need to be prepared to read and use weak or insufficient clues to unlock the meaning of new words in a variety of texts. This study suggests the need to allow more instructional time to support contextual clues and to identify stories with well-developed clues so that students can develop a repertoire of different strategies to unlock the meaning of words in the different contexts in which the words are encountered.

Prior to taking the immediate post-test, each session ended with small group collaboration with peers in which they discussed the meaning of each of the ten words. The collaboration process is supported by the constructivist theoretical framework in which learners are actively engaged and construct their own meaning. If meaning is constructed independently, it is assumed to be more easily transferred and used later in other situations than through dictation or instructor mandates. While each instruction was followed up with a small group format in which students could construct their own meaning around a word, the most effective format was the combination of definition instruction with the collaboration opportunity. The collaboration process with peers is a key component to Vygotsky's Zone of Proximal Development (ZPD). The collaboration and discussion with peers is also supported by Communicative Language Teaching

(CLT) which allows the students the opportunity to communicate orally their understanding of new words.

Hypothesis 1a: The difference in vocabulary competence among the four instructional methods was not significantly moderated by age.

Students' age did not affect vocabulary competence, regardless of the instructional method used. The results across the four instructional methods yielded parallel results when age was considered. The findings are consistent with the earlier findings and age grouping did not change their performance. However, caution should be used in the interpretation of these findings. While there was a moderate sample of 37 students who fell into the under 25 age group, there were only 6 students who were in the 25 and older group.

Hypothesis 1b: The difference in vocabulary competence among the four instructional methods was not significantly moderated by language.

Students' native language did affect vocabulary competence. Vocabulary competence under the various instructional methods yielded different results according to native language. The findings indicate that when a students' language was considered, the pattern was significantly different in regard to the student's vocabulary competence across all instructional methods. Native English speakers scored significantly better in word parts (67.3333), definition (79.0000), and elaboration (60.0000) compared to the means of non-native English speaker in word parts (58.4615), definition (53.0769) and elaboration (46.9231). However, in context clues, non-native English speakers had a higher mean (58.4615) than native English speakers (54.0000). Results were not parallel across the four treatments for the two language groups.



Vocabulary instruction was in English and students self-identified themselves into one of two groups. One group self-identified as native English speakers and the other group self-identified as non-native English speakers. In the case of context clue instruction, there was a reversed interaction which caused the change. Surprisingly, context clue instruction, which requires the use of the surroundings of the unknown words to determine meaning, yielded better overall mean scores for non-native English speaking students than for native English speaking students. These findings may be somewhat surprising since there is an earlier indication in the study that context clues can be quite challenging, providing little to no clues to the unknown word or clues that are misleading; however, it is possible that non-native English speakers rely heavily on the use of context clues to determine the meaning of unknown words in the target language. While insufficient clues may be provided, it is possible that non-native English speakers are more effective at using this strategy since much of what they learn depends on the context of how it is used.

These findings might merit, in future studies of vocabulary competence, a closer look at the “conditioning” bilingual students have experienced in detecting and uncovering the meaning of words as part of second language acquisition, which native English speakers have not developed, disregard, or possibly have no need to develop. Native English speakers may have a greater propensity for skimming and scanning text to determine the meaning of unknown vocabulary, which non-native students may not have developed since these students may need to rely more heavily on the entire context. While there was a moderate sample of 30 students who fell into the native English speaking group, there were only 13 students who self-identified as non-native English

speakers, and caution should be used based on the sample size in interpreting these findings and the generalizability to the population.

Hypothesis 2: There was no significant difference in gains among the methods of vocabulary instruction.

Type of vocabulary instruction was a factor in vocabulary gain from the pretest to the immediate post-test. There were significant differences for word parts, but not for the other three individual treatments. After word parts treatment, students made gains in an increment of 9%, which correlated to approximately a one-word gain from pretest to immediate post-test. When gains are needed immediately, the findings suggest that for older students, word part instruction provides the most significant chance for gains. According to Blachowicz et al. (2006), characteristics of good vocabulary instruction emphasize teaching generative elements of words and word-learning strategies in ways that give students the ability to learn new words independently. Knowledge of prefixes, suffixes, and roots can be extremely helpful in unlocking the meaning of unknown words, especially for an older student who may be better able to understand how knowledge of one word can transfer to another similar word, like “vision” to “envision.” Furthermore, it is necessary to take advantage of cognates that are shared between English and the non-native English speakers’ language. It is possible that older students (post-secondary) and non-native English speakers may be better able to understand how word parts and word families work and apply this knowledge to unknown words.

The findings suggest that for the other three treatments – definition, context clues, and elaboration – there is no significant advantage of using one instructional method over another in short-term gains. As indicated by Blachowicz et al. (2006), effective vocabulary instruction requires a repertoire of teaching activities and instructional

strategies, coupled with the teacher's ability to choose appropriately within this repertoire.

The findings of this study indicated that for short-term gains the most effective instructional method to use was word parts. This finding may be even more relevant if the student population is comprised of non-native English speakers whose first language is based on Latin and/or Greek and those in the health-related fields who can be assumed to have more knowledge as it relates to word parts and word families. In the group of students who self-identified as non-native English speakers, there were only 4 students whose first language did not have a strong foundation based on Latin or Greek.

It is possible that some strategies are useful in certain circumstances and not others. The findings of this study are related to the conditions of this study and how vocabulary competence was measured. This study implemented four vocabulary instructional modes followed by a single assessment. The multiple choice assessment required the student to select from 1 of 4 words to complete a blank in a sentence. The single format assessment of vocabulary competence was a limitation of the study.

Other possible assessments may have indicated greater vocabulary competence with one of the other four instructional methods based on the conditions in this study. An additional assessment, which provided the student with the word and required the student to identify his/her word knowledge on a continuum from not knowing the word to knowing it and being able to use it in a sentence, may have yielded different results as to which instructional method was most effective. Had both forms of an assessment been used, it would have provided greater strength to the findings in this study. Had an assessment been used examining vocabulary competence in oral communication, it is

possible that elaboration and/or context clues would have yielded more effective results than definition or word part instruction.

Another factor that may have affected students' vocabulary competence may be related to the input from the instructor as well as the students' collaborative group members. The instructor followed a script which limited her feedback to the students. In following the script, it is unknown if what was provided by the instructor as input was sufficient or if the input provided by classmates in whole group discussion was sufficient. With all students, but in particular non-native English speakers, students need to be certain the input is correctly filed with existing data in their head. In order to internalize a new word, the student needs to have the existing schemata or prior knowledge to connect to the new word. It is therefore crucial to teach other essential words that students need to know prior to attempting to input something that they cannot connect to their existing schemata. Basic vocabulary that may be known to native English speakers may not be known to non-native English speakers and may interfere with their success to comprehend. Multiple exposures and opportunities to practice and apply the new vocabulary in other situations is valuable for internalization of new vocabulary for all learners. The end goal for students is being able to independently and appropriately use the new vocabulary in all communication.

There was no assessment or group discussion which indicated if students were able to input the new word into existing schemata correctly. Likewise, the quality and frequency of error correction was not monitored. It can be assumed that in the whole group discussion that if something was incorrect the instructor provided feedback, but the level or frequency of the feedback is unknown. Providing feedback once may not have been sufficient enough to correct input. Additionally, the collaborative groups were not

monitored nor was there a self-checking tool that identified error correction, if it was incorrect, and the frequency of the error correction.

In a post-treatment discussion with the instructor who administered the treatment, she commented on her observation of the mastery of word parts with students who were non-native English speakers, and more importantly those who had a medical background or were in a health service-related field. Research has indicated that students who share a native language with a foundation in Latin and/or Greek are able to transfer their native skills to the English language, thereby aiding them in their vocabulary acquisition. Many of the students in this study who self-identified English as their second language spoke a native language that was based on Latin and/or Greek. Romance languages, such as French and Spanish, share this foundation with the English language hence, facilitating the learning process. Likewise, those students who were in a health service-related field are assumed to have been exposed to medical language, much of which is based on Latin or Greek. Both the non-native English speakers, especially those whose first language is a Romance language, and students with a background in medical terminology appeared to facilitate vocabulary competence according to the instructor administering the treatment. Hypothesis 3: There is no significant difference in vocabulary gain pretest to immediate post-test and pre test to delayed post-test for each instructional method.

Vocabulary instruction was a factor in vocabulary gain from pretest to the immediate post-test after treatment. There were statistically significant differences after treatment on the immediate post-test with an increase in mean scores. It can be assumed that immediately after treatment is when the most effective results will be observed. Immediately after treatment, ideas and concepts are fresh in the student's mind; it is during a delay or removal from treatment that people forget or possibly get confused

about how to complete a task. It is possible that the ideas and concepts which were fresh in the mind of students explained the gain.

On the other hand, after instruction, vocabulary competence had a decrement of 8.4% from the pretest to the delayed post-test. The loss of close to one whole word from pretest to the delayed post-test may be explained by several factors. As indicated earlier, during a delay or removal from treatment, it is possible to forget the process used to learn new vocabulary.

It is possible that the decrement may be explained by several factors outside the treatment. First, the delayed treatment was administered on the second to last or last day of each class prior to final exams. Secondly, the scores of 10 students were eliminated from the study because they were not properly completed. It is possible many students were focusing on a final exam and simply wanted to end their last class. As a result, they may not have put forth their best effort on the delayed post-test. Lastly, students may not have been intrinsically motivated to do well in a study for which they received no grade or extra credit.

Hypothesis 3a: The difference in vocabulary gain pretest to immediate post-test and pretest to delayed post-test was moderated by age.

The null hypothesis of effects by age from pretest to immediate post-test was rejected for those under the age of 25 but failed to be rejected for students 25 years or older. When immediate post-tests were administered, students who were under 25 had an increment of 5.6%, which was close to a half-word gain. The immediate post-test was administered on the day of treatment when retention of concepts can be assumed to be at their peak, which may account for the increment. As previously indicated, immediate

post-tests administered after treatment generally show the most effective results as opposed to delayed post-tests.

In contrast, there was no significant difference in gains from pretest to immediate post-test for those students who were 25 years of age or older. While it is not always the case, age does suggest a maturity and possibly an ability and motivation to retain learning, which may suggest that for older students their age did not affect their vocabulary competence in the immediate post-test. These results suggest that older students' vocabulary competence remains at a fairly consistent level. The fact that age did not affect gains for the 25 years or older group needs to be interpreted with caution, as there were only 5 students who fell into this group.

The null hypothesis of effects by age from pretest to delayed post-test was rejected for those under the age of 25 but failed to be rejected for students 25 years or older. During the delayed time period, students who were under 25 had a mean decrement of 9.6% which was close to a loss of an entire word. The time period in which the delayed post-test was administered may have played a role in the decrement. Administering the delayed post-test the last week of class was probably not the most opportune time to administer it.

The effects for those under 25 may also be explained by the maturity level of the students, but an even more likely explanation was the lack of reinforcement of the words from treatment to the time the delayed test was administered. If after the direct instruction treatment the words were not reinforced by the teacher and recycled by the students, it would make it difficult to recall and reuse at a later point in time. It is also possible that these were not words that were being recycled outside the classroom by the students in their other classrooms or their personal life. The script that was followed did not instruct

the students to attempt to recycle the words in future classes or outside of the classroom. The fact that the script did not encourage recycling of vocabulary was a limitation that may explain the decrement. The reinforcement of the vocabulary in the classroom and recycling of it out of the classroom can be compared to many other things that with practice become innate and natural, like riding a bike. On the other hand, without practice, it is difficult for something to become habitual and internalized in one's life. Younger college students could be less motivated, especially when they are not receiving any type of extra credit and the outcome of the delayed post-test did not affect their course grade.

In contrast, effects by age from pretest to delayed post-test failed to be rejected for those students 25 years or older. Age, in the case of the older students, can suggest a maturity and possibly an organization level that explains why their gains were not moderated by the delay in the post-test. Adult students can be assumed to be more intrinsically motivated about their education by factors, including paying their own tuition and seeing success in their education as an economic necessity that affects them and their family. Older students having more "life experiences" may have made a conscious effort to practice their new vocabulary outside of the classroom therefore making it part of their life. The words may have been reinforced sufficiently to maintain scores, but not enough to make gains or have a decrement since they were attempting to make it part of their life. The failure to reject the effect of gains from pretest to delayed post-test for those 25 years or older needs to be interpreted with caution, as there were only 5 students who fell into this group.

Hypothesis 3b: The difference in vocabulary gain pretest to immediate post-test and pretest to delayed post-test was moderated by language.



The gain pretest to immediate post-test was moderated by language. Further tests of equivalency explained the moderation that was found to be significant. There was no significant difference for native English speakers from pretest to immediate post-test. It is quite possible that for native English speakers, vocabulary gain is not affected significantly from their pretest to immediate post-test because they already have the depth of knowledge about a word regardless of instruction. Familiarity with vocabulary reinforced by instruction is perceived to be sufficient to make no significant difference in gains.

In contrast, there was a significant difference from pretest to immediate post-test for non-native English speakers. Non-native English speakers may have benefited more from the treatments and the immediate post-test as they had an increment of 15%. Second language learners appeared to have benefited greatly from the four instructional treatments, as reflected in the gains made. Perhaps non-native English speakers who are attempting to learn a new language rely and focus heavily on the instruction as their aid to unlock the meaning of new vocabulary.

The overall findings suggest that from pretest to immediate post-test native English speakers are not significantly affected by one of the four vocabulary instructional methods used. There is neither a gain nor a decrement for this population. However, for non-native English speakers the use of a combination of instructional methods supported a significant gain. The fact that non-native English speakers' gains were affected from pretest to immediate post-test needs to be interpreted with caution, as there were only 12 students who fell into this group.

The tests comparing effects from pretest to delayed post-test rejected the null hypothesis for native English speakers, but failed to be rejected for non-native English

speakers. During the delayed time period, students whose first language was English had a mean decrement of 12.2%, which was a loss of an entire word. Again, the time period in which the delayed post-test was administered may explain the decrement. In contrast, language did not moderate the gains from pretest to delayed post-test for non-native English speakers. Earlier data indicated these students benefited greatly from instruction with their immediate post-test gains. During the delayed time period, it's possible the non-native English speakers may have attempted to practice and recycle their newly learned vocabulary a sufficient amount so that there was neither a decrement nor a gain. Caution needs to be used in interpreting the data for non-native English speakers, as there were only 13 students who fell into this group.

### *Recommendations*

#### *Practice in K-12 through Community College.*

While this study included a small sample, the findings may have suggestions for vocabulary instructional methods used in K-12 and in community college. Definition instruction where students use a dictionary to look up words, write down the definition, memorize it for a future test, and have collaborative discussion with peers was the most effective instructional method used based on this study. However, researchers such as Bukoweicki (2006) indicate that the use of the dictionary is not the only way to explicitly understand word meaning. It could be that definitions have become habitual or the vocabulary instructional method of choice, thus possibly facilitating acquisition with this method of instruction. In contrast, it is possible that under the conditions in this study this method of instruction was most effective for post-secondary students enrolled in a developmental reading course. This study raises questions about where other methods of vocabulary instruction might be appropriate, and under what different conditions.

The success of non-native English speakers using word parts and word family instruction suggests that instructors should incorporate this instructional method into their repertoire of teaching strategies as well as other instructional strategies. These students made significant gains immediately after treatment and specifically with word parts. Knowledge of prefixes, suffixes, and roots can be extremely helpful in one's native language, but it may be of significant value for non-native English speaker whose first language shares not only cognates with the English language but also its use of word parts.

Those students who self-identified as non-native English speakers spoke mainly Spanish and French. English shares many prefixes with both of these languages, like *dur-* meaning hard or lasting. In Spanish, *duro-* means hard, and in French *dur-* means hard. While *dur-* provides one example, there are many other shared prefixes with these two languages, suggesting the benefits of incorporating word part and word family instruction. Word parts instruction should include the 20 most commonly used prefixes that are used in approximately 3,000 words, according to White, Sowell, and Yanagihara (1989). Nagy and Anderson (1984) estimated that around 60% of the new words encountered by students are able to be broken down into parts that aid in determining the meaning of the word. It is possible that older students (post-secondary) may be better able to understand how word parts and word families work and apply this knowledge to unknown words.

#### *Implications for Practice.*

Instruction for long-term gain needs to understand and identify how learners process and understand new words. A focus group or checklist identifying strategies being used to learn new vocabulary is a vital part of vocabulary development for the

instructor and the student. A need to focus on how learning is taking place is as important as what is being learned. What strategies are being used for non-native English speakers' success is important to identify, considering the increasing number of non-native English speaking students entering school. The development of learning strategies requires time, guided instruction, and ample opportunity to practice the new strategy in a variety of contexts. The checklist can provide additional information related to the need to review and re-teach strategies.

*Study Design Improvement.*

This study was completed with the assistance of another full-time faculty member who administered the treatment and tests to the subjects following a script and without the presence of the lead investigator. The investigator met with the faculty member at regular intervals before, during, and after the data collection to monitor the study and insure that the teaching strategies conformed to the study design. These meetings enabled the investigator to benefit from the observations and experiences of this senior faculty member. The investigator is confident that the teacher followed the study design and did a quality job implementing all of the teaching strategies.

A larger sample would provide more reliable interpretations about specific populations inside the community college environment. The questions regarding moderation in particular had a very small sample and caution should be used in interpreting the findings.

The study was completed over approximately a 6 week period. Extending the study over the course of 10 to 12 weeks may be beneficial, especially in looking at delayed post-test gains.

A script that provided more explicit instructions related to instructor input and error correction feedback was essential in assessing vocabulary competence. The script needed to provide instructions encouraging students to recycle and reuse the words outside of class for long-term retention. Furthermore, the collaborative groups needed to be monitored by the instructor and collaborative group members. The instructor could have been monitored collaborative groups by rotating among the groups and listening to discussions or by following up with a focus group discussion. The group members could have used a checklist that identified student knowledge of words, what feedback was provided, the frequency of the feedback, and if input or feedback were correct. Without this component it is unknown if students had the appropriate input or if attempts at error correction were made.

A single assessment tool was used to determine vocabulary competence. The idea behind teaching vocabulary is not to simply perform well on a single multiple choice assessment, but to understand and apply the new vocabulary beyond the test in written and oral communication and in reading. Additional assessment tools under varying conditions would allow triangulation of the data and would provide greater strength to the study.

Instead of teaching 10 words at a time, it may be more beneficial to teach 5 words at a time and administer twice as many quizzes. Other research has suggested the value of teaching only a small number of words at a time to insure retention. It is possible that 10 words were too much to teach in one class over a 20 – 30 minute time period, especially for the elaboration technique.

There were several flaws in the actual format and administration of the tests. The pretest and delayed post-test were 4 pages and copied back-to-back. There were 10 post-

tests which could not be used because the students failed to complete the last page of the test. Additionally, the delayed post-test was administered in each of the five classes on the second last or last day of the semester prior to final exams. The students were not receiving any grade, extra credit, or incentives to complete the delayed post-test and as a result may not have been intrinsically motivated to perform well on the delayed post test. If the delayed post-test was given a couple of weeks prior to the end of the semester, it is possible the findings may have been different.

Another design flaw may have been the administration of the third and fourth treatment. The third treatment (context clues) was administered immediately after spring break. Generally speaking, attendance was low and students may not have been academically ready for a treatment and immediate post-test. While research has suggested it is difficult to learn the meaning of unknown words through context clues, the findings may have been different had the treatment been administered at another time. The final treatment (elaboration) was administered the last week of the semester prior to final exams. The timing of the treatment and immediate post-tests and delayed post-tests may have affected the results of the study. Again, this is a time period when attendance and motivation were low. It can be assumed that the main goal at this point in the semester for many students was to simply pass the class or a final exam.

#### *Future Studies Needed.*

With an at-risk population whose vocabulary development and reading comprehension can impede or facilitate their growth both professionally and personally, future studies may include or incorporate the following suggestions:

- 1) Conduct a pretest designed in a clozed format that could identify a group of at least 40 unknown words. In an effort to triangulate the certainty of all 40

words being unknown, a separate test should be administered to identify the knowledge base of each word. Students should be asked to identify along a continuum their knowledge of the word. The continuum range (adapted from Zimmerman, 2002) would go from “I do not know this word” to “I have heard it, but don’t know what it means,” to “I have heard it and understand it, but do not know how to use it,” to “I know this word and can use it in a sentence.” A format using 40 unknown words with all subjects provides the best indicator of what vocabulary instruction method is the most effective and what provides the best opportunity for gains after treatment immediately and delayed.

- 2) Most words for instruction are teacher generated or from a defined curriculum. It may be beneficial to have students identify words of interest for learning. If a list of unknown words can be identified, it would be beneficial to have students identify a small group of words on the list for learning.
- 3) Any introduction to the vocabulary should be in the context of meaningful curriculum. It also should consider the combination of definitions with guided collaboration among students, and consider the age and native language of its students. While it is virtually impossible in a developmental reading class to have only students interested in the medical field or business, it is vital to incorporate the words in the context of material that is meaningful to the student population or relevant to their career pathways.
- 4) A student inventory on the method of vocabulary instruction where the student felt he or she performed best should be cross checked with where students actually performed best.

- 5) A larger sample in general is needed to provide greater strength to the study. In addition, a separate study looking at the most effective vocabulary instruction for non-native English speakers is warranted. A study of this kind would better identify the most effective means to teach non native speaking students and rule out ineffective instructional methods.
- 6) An assessment or implementation of focus groups specifically looking at context clues and the identification of what tools native English speakers are using versus non-native English speakers. Under which circumstances are students skimming and scanning text for meaning as opposed to using context clues effectively? Non-native English speakers were more effective at using the context clues; their ability to use them more effectively needs further investigation.
- 7) This study had a very small sample of older students and as such the findings should be interpreted cautiously. A future study should include a larger sample of older students and investigate differences between younger and older students under the same conditions.
- 8) A qualitative study may consider examining the impact of recycling and reusing the new vocabulary in other classrooms and outside of the classroom along with how it is being used.

The data from this study related to vocabulary competence and language and the gains made using four different vocabulary instructional methods was one of the more interesting findings. Although the sample was small, the moderation experienced from pretest to delayed post-test with native English speakers compared to the gains made pretest to immediate post-test by non-native English speakers provided a contrast that



merits further study. Given the critical challenges associated with reading development in both K-12 public education and community colleges with non-native English speakers, additional research should be directed at this population. Based on this study, the following areas should be considered when assessing vocabulary instructional methods and their impact on vocabulary competence:

- 1) Are there conditions about learning a second language and specifically vocabulary competence that motivate non-native English speakers?
- 2) Is there an unconscious or conscious awareness that vocabulary gains for second language learners are difficult to achieve and therefore must be retained and internalized as part of the language acquisition process?
- 3) Are there skill sets or mental capacities that are developed by bilingual students that condition or predispose the learners to certain vocabulary instructional methods? Future studies should consider investigating if there are preferred strategies used by non-native English speakers and when these strategies are being used. A checklist of strategies being used for both native and non-native English speakers will assist instructors in determining which instructional method is the most effective. If there is a preference for one method of instruction it merits further investigation.
- 4) Non-native English speakers were more effective at using context clues and word parts. Further investigation needs to identify how they are using context clues and word parts and under what conditions.
- 5) Identify if non-native English speakers have an advantage in acquiring vocabulary and retaining the vocabulary.

Overall, definition instruction was most effective instructional method in mean improvement for all students. It benefits from being the vocabulary instructional method of choice for many faculty. This study raises the question of whether this familiarity with definition instruction for both faculty and students is a factor in its success. Does that success and repetition come at the expense of other methods of vocabulary instruction? Future studies in the area of vocabulary competence might want to look more closely at a combination of vocabulary instructional strategies, particularly that coupling definition instruction with collaborative discussion with post-secondary developmental reading students. But future studies may need to look more closely at how vocabulary competence is measured with the four instructional methods.

### *Conclusions*

Given the fact that research has linked vocabulary development and acquisition to reading comprehension, it is important to continue to reevaluate what is and is not effective for vocabulary instruction. Community colleges are seeing a spike in enrollments and this enrollment growth is likely to continue for the foreseeable future. As part of this growth, community colleges are attracting more second language students. Additionally, the community colleges reflect a larger percentage of older students than the traditional four-year colleges and universities. The increased population of older students in community colleges may be due to the economy, or it may be due to the emphasis on education tied to workforce development and the lower tuition rates charged by the community colleges. Regardless of the causes for this increase in student enrollment in community colleges, it is necessary that faculty in community colleges be actively involved in research centered on teaching strategies and models for improving student learning in community college developmental reading courses. This research is an

effort to contribute in a small way to that process and to raise issues that will attract others to pursue studies that contribute to the literature and development of a body of knowledge directed at improving vocabulary competence.

## Appendix A

### Pre/Post Vocabulary Test

**Source:** Olsen, A. (2007). *Instructor's Manual and Test Bank to accompany Active Vocabulary: General and Academic Words, Third Edition*. United States: Pearson Longman.

Pick the vocabulary word that best completes the sentence. Use each word once.

- \_\_\_ 1. I have been so \_\_\_\_\_ to illnesses this year that I am going to check with my doctor and see if something is wrong with my body.  
a. surpass      b. innate      c. susceptible      d. potential
- \_\_\_ 2. I have also been stressed at work, so that may have \_\_\_\_\_ my getting completely better.  
a. adhered      b. advocated      c. imposed      d. impeded
- \_\_\_ 3. The doctor told me that taking a week off from work would \_\_\_\_\_ my getting better.  
a. impede      b. facilitate      c. adhere      d. advocate
- \_\_\_ 4. It was hard for me at first to \_\_\_\_\_ to the doctor's schedule of rest and moderate exercise, but I managed to follow her plan, and I felt better at the end of the week.  
a. adhere      b. nurture      c. impose      d. impede
- \_\_\_ 5. Laurene thought her garden had the \_\_\_\_\_ to win first prize in the neighborhood contest.  
a. innate      b. adhere      c. potential      d. susceptible
- \_\_\_ 6. She had \_\_\_\_\_ gardening skills. Ever since she was a child, she could make things grow.  
a. innate      b. imposed      c. susceptible      d. potential
- \_\_\_ 7. The contest \_\_\_\_\_ rules on the types of flowers that could be grown.  
a. adhered      b. imposed      c. facilitated      d. nurtured
- \_\_\_ 8. Laurene spent a lot of time \_\_\_\_\_ her flowers, and they were gorgeous. She won first prize.  
a. impeding      b. advocating      c. facilitating      d. nurturing
- \_\_\_ 9. My mother \_\_\_\_\_ herself with her latest birthday cake: a volcano that spewed ice cream.  
a. advocated      b. nurtured      c. impeded      d. surpassed
- \_\_\_ 10. Most health experts \_\_\_\_\_ exercising at least three times a week.  
a. adhere      b. advocate      c. impede      d. facilitate

Appendix A (continued)

- \_\_\_ 11. I was too \_\_\_\_\_ with my studying, so I wasn't prepared for the first exam.  
a. credibility    b. ordeal    c. lax    d. decipher
- \_\_\_ 12. The jeweler's \_\_\_\_\_ was in danger when he said the necklace was made of diamonds and it turned out to be made of glass.  
a. ordeal    b. credibility    c. adage    d. circumspection
- \_\_\_ 13. I sent my friend a postcard, but he couldn't \_\_\_\_\_ my cramped writing.  
a. decipher    b. defraud    c. spam    d. lax
- \_\_\_ 14. It was with \_\_\_\_\_ that I set out to discover who had broken my living room window. I carefully asked the neighbors what they had been doing last night.  
a. credibility    b. phishing    c. validity    d. circumspection
- \_\_\_ 15. The \_\_\_\_\_, "Look before you leap," is one I need to remember; I am always jumping into a project before I know enough about it.  
a. credibility    b. adage    c. ordeal    d. circumspection
- \_\_\_ 16. The man at the shop tried to \_\_\_\_\_ me. He said the vase had been made by a local artist, but I turned it over to look at the bottom and saw a "Made in China" sticker.  
a. defraud    b. decipher    c. lax    d. spam
- \_\_\_ 17. Writing this term paper has turned out to be a(n) \_\_\_\_\_. I faced one problem after another—from lost books in the library to a computer crash.  
a. adage    b. ordeal    c. phishing    d. validity
- \_\_\_ 18. I have been getting less \_\_\_\_\_ in my inbox since I accept e-mail only from people on my safe list.  
a. validity    b. circumspection    c. spam    d. adages
- \_\_\_ 19. The \_\_\_\_\_ of the contract was called into question when it was discovered that Mrs. Archer's signature had been forged by her eldest son.  
a. ordeal    b. adage    c. circumspection    d. validity
- \_\_\_ 20. I think someone is \_\_\_\_\_ for my personal information. When I went to a site that looked like my bank, I was asked to give my social security number.  
a. spam    b. validity    c. phishing    d. deciphering

Appendix A (*continued*)

- \_\_\_ 21. The weather forecaster predicted \_\_\_\_\_ showers, so I took my umbrella in order to be prepared.  
a. fertile            b. Renaissance            c. intermittent            d. façade
- \_\_\_ 22. I had the \_\_\_\_\_ to pack a lunch for the conference because I thought the nearby restaurants might be closed on a Monday.  
a. cupola            b. humanism            c. fresco            d. foresight
- \_\_\_ 23. The lion statues made the \_\_\_\_\_ of the building look stately.  
a. façade            b. Renaissance            c. fresco            d. humanism
- \_\_\_ 24. The \_\_\_\_\_ was a time of great achievements in the arts.  
a. humanism            b. Renaissance            c. cupola            d. foresight
- \_\_\_ 25. The article proved to be a(n) \_\_\_\_\_ source of ideas for topics for future essays.  
a. fresco            b. fertile            c. intermittent            d. endowed
- \_\_\_ 26. The \_\_\_\_\_ on the church walls still looked surprisingly fresh even though they were painted over five hundred years ago.  
a. façades            b. frescos            c. cupolas            d. adorns
- \_\_\_ 27. I could see the \_\_\_\_\_ on the state capitol when I was six blocks away.  
a. foresight            b. fresco            c. humanism            d. cupola
- \_\_\_ 28. Alicia is \_\_\_\_\_ with many talents from acting to writing.  
a. endowed            b. adorned            c. fertile            d. intermittent
- \_\_\_ 29. The classroom was \_\_\_\_\_ with the children's artwork.  
a. endowed            b. adorned            c. fertile            d. intermittent
- \_\_\_ 30. The rise of \_\_\_\_\_ led to changes in art and architecture during the Renaissance.  
a. humanism            b. foresight            c. cupola            d. fresco

Appendix A (continued)

- \_\_\_ 31. My problems always seem to \_\_\_\_\_ at the end of the semester because I'm under a lot of stress.  
a. asset            b. modify            c. venture            d. proliferate
- \_\_\_ 32. After much searching, Rosemary found her \_\_\_\_\_ in the company. She is perfect for the accounting department.  
a. asset            b. niche            c. liability            d. propensity
- \_\_\_ 33. My grandfather had to \_\_\_\_\_ his eating habits after he had a heart attack.  
a. modify            b. venture            c. proliferate            d. entrepreneur
- \_\_\_ 34. I have a(n) \_\_\_\_\_ to date tall women, but I'm not sure why I have such a preference.  
a. venture            b. liability            c. proliferate            d. propensity
- \_\_\_ 35. Joseph's latest business \_\_\_\_\_ combines travel and sports. He is enthusiastic about both areas, so it might work out quite well for him.  
a. jovial            b. venture            c. asset            d. entrepreneur
- \_\_\_ 36. Even though I displayed the photograph in a(n) \_\_\_\_\_ place, no one at the party commented on it. I was surprised because I thought it was one of my best shots.  
a. prominent            b. jovial            c. modified            d. proliferate
- \_\_\_ 37. Isaac is a \_\_\_\_\_ man; he loves to tell jokes and he enjoys a good laugh.  
a. proliferate            b. jovial            c. prominent            d. entrepreneur
- \_\_\_ 38. I borrowed money from a friend, and now the loan has become a(n) \_\_\_\_\_ in that relationship. I need to show Edith that I am a responsible person by paying her back right away.  
a. asset            b. niche            c. liability            d. entrepreneur
- \_\_\_ 39. One of the \_\_\_\_\_ of living in a big city is having several activities to choose from, such as museums, concerts, and sporting events.  
a. liabilities            b. niches            c. assets            d. ventures
- \_\_\_ 40. My friend said I would make a good \_\_\_\_\_ because I am friendly, I like to work hard, and I have innovative ideas, so I decided to start my own company.  
a. propensity            b. venture            c. liability            d. entrepreneur

Please check only one box for each question.

1. Today: \_\_\_\_\_ I am under 25 years old.            \_\_\_\_\_ I am 25 years old or more.
2. The first language I spoke was \_\_\_\_\_ English  
\_\_\_\_\_ Other – List the other language \_\_\_\_\_

## Appendix B

### Roots and Affixes (prefixes and suffixes) Script

**From:** Alvermann, D. E., Phelps, S. F., & Ridgeway, V. G. (2007). *Content area reading and literacy*. Boston, MA: Pearson Education.

**From:** Dale, E., O'Rourke, J. & Bamman, H. A. (1971). *Techniques of teaching vocabulary*. Palo Alto, California: Filed Educational Publications, Incorporated.

**From:** Henry, D. J. (2008). *The effective reader* (2nd ed.). New York: Pearson Education, Inc.

1. Instructor will provide the students with a list of the 10 new words to the students.

Adhere	Facilitate	Impose	Nurture	Surpass
Advocate	Impede	Innate	Potential	Susceptible

2. The students will be directed to use morphemic analysis to identify any free morphemes (words that can stand alone) and provide the meaning. The students will then write the meanings next to the word.
3. Instructor will define and explain the meaning of roots, suffixes, and prefixes and explain how knowing the meanings of the different word parts for new or unknown words can help a reader understand the word.
  - a. Root – the base part of a word that can have a prefix, suffix or both attached to it giving the word a new meaning.
  - b. Prefix – a letter or group of letters with a specific meaning that are added to the beginning of a word giving the word a new meaning.
  - c. Suffix – a letter or group of letter with a specific meaning that are added to the end of a word giving the word a new meaning.
4. The instructor will then direct students to look for familiar or easily identified word parts that indicate a specific meaning and write the meaning next to the word.
5. Once the students have exhausted the possibilities for specific meaning in a word, the teacher will give the students a word parts/word family's handout (Appendix C) to assist them in determining meanings of words that they were not able to identify earlier.
6. Students will work together as a class using the handout to determine and write down the meaning of the new words.
7. Once students have agreed on the meaning of all 10 words, students will work collaboratively in small groups learning the meaning(s) and ways to use the word in different contexts.
8. At the end of class, the teacher will administer the instructional vocabulary quiz (Appendix D).



## Appendix C

### Word Parts Handout

<b>Prefixes, Suffixes, Roots</b>	<b>Meaning</b>	<b>Example</b>
a, ac, ad, af, ag, al, an, ap, as, at	to, toward, near, in addition to , by	adaptor, adjoin, adjunct, adjust, aside, allocate, affix, attend,
-ate	Noun: state, office, function	candidate, delegate, electorate
-ate	Verb: cause to be	amputate, calculate, graduate, rehabilitate, stipulate
-ate	Adjective: kind of state	commensurate, inviolate, subordinate
fac, fact, fec, fect, fect, fic, fas, fea	do, make	difficult, facilitator, fashion, feasible, infection, manufacture
her, here, hes	to stick	adhesive, cohesive, hesitate
-ial	Adjective: quality, relation	categorical, territorial
in, im, il, ir	not	illiterate, immobile, imposition, irresponsible, intractable
in, im, (il)	in, into, on, near, toward	immigrant, import, incision, invasion
nasc, nat, gnat, nai	to be born	naïve, native, natural, pregnant, renaissance
ped, pod	foot	centipede, pedestrian, podium, tripod
pot	power	omnipotent, potent
sur	over, above, beyond, additional	surcharge, surmount, surplus, surprise
sub, suc, suf, sup, sur, sus	under, below, from, secretly, instead of	submerge, success, suffice, supportive, surname, surrender, suspect, suspend
tain, ten, tent, tin	hold, keep, have	content, continue, retain, tenacity
-ure	Noun: act, condition, process, function	exposure, measure, pleasure
voc, voke	call	evoke, provoke, revoke, vocal, vocation

## Appendix D

### Word Parts Instructional Quiz

**Source:** Olsen, A. (2007). *Instructor's Manual and Test Bank to accompany Active Vocabulary: General and Academic Words, Third Edition*. United States: Pearson Longman.

Chapter 11 – Use each word once and choose the word that best completes the sentence.

- \_\_\_ 1. To \_\_\_\_\_ a child's love of reading it helps to start early in life.  
a. impede      b. facilitate      c. adhere      d. advocate
- \_\_\_ 2. Every child has the \_\_\_\_\_ to be a good reader.  
a. innate      b. adhere      c. potential      d. susceptible
- \_\_\_ 3. Parents shouldn't \_\_\_\_\_ a child's interest in reading by forcing certain books on the child.  
a. innate      b. impede      c. susceptible      d. potential
- \_\_\_ 4. Parents can \_\_\_\_\_ the process of finding good books by taking their children to the library weekly and letting them choose from a variety of books.  
a. adhere      b. nurture      c. impose      d. impede
- \_\_\_ 5. A child's interest in reading may even \_\_\_\_\_ a parent's expectations if the child finds books that really capture his or her interest.  
a. surpass      b. innate      c. susceptible      d. potential
- \_\_\_ 6. Most experts \_\_\_\_\_ finding a form of exercise that your child likes to do.  
a. adhere      b. advocate      c. impede      d. facilitate
- \_\_\_ 7. Parents shouldn't \_\_\_\_\_ the sport they love on their children.  
a. adhere      b. nurture      c. impose      d. impede
- \_\_\_ 8. Some children are \_\_\_\_\_ athletes, while others take time to develop their skills.  
a. innate      b. adhere      c. potential      d. susceptible
- \_\_\_ 9. Children can be \_\_\_\_\_ to injuries, so the proper equipment should be worn at all times.  
a. imposed      b. surpass      c. susceptible      d. potential
- \_\_\_ 10. If parents \_\_\_\_\_ to a few sensible rules, they can have kids who will love to exercise throughout life.  
a. innate      b. impose      c. adhere      d. advocate

## Appendix E

### Definition Script

**From:** Francis, M. A., Simpson, M. L., & Stahl, N. A. (2004). Reading and learning strategies: recommendation for the 21<sup>st</sup> century. *Journal of Developmental Education*, 28(2), 2-4, 6, 8, 10-12, 14-15, 32. Retrieved February 24, 2008, from Education Full Text database.

**From:** Nichols, W. D., & Rupley, W. H. (2004). Matching instructional design with vocabulary instruction. *Reading Horizon*, 45(1), 55-71. Retrieved March 2, 2007, from Education Full Text database.

1. Instructor will provide the students with a list of the 10 new words to the students.

Adage	Credibility	Defraud	Ordeal	Spam
Circumspection	Decipher	Lax	Phishing	Validity

2. The instructor will tell students break into groups of 2-3, with one member of the group having a dictionary and to look up and write down the definition(s) of their 10 words.
3. Once students have identified the meaning of all 10 words, they will remain in their groups and memorize the meaning(s) of the words.
4. At the end of class, the teacher will administer the instructional vocabulary quiz (Appendix F).

## Appendix F

### Definition Instructional Quiz

**Source:** Olsen, A. (2007). *Instructor's Manual and Test Bank to accompany Active Vocabulary: General and Academic Words, Third Edition*. United States: Pearson Longman.

Chapter 13 – Use each word once and choose the word that best completes the sentence.

- \_\_\_ 1. Shopping with my sister is such a(n) \_\_\_\_\_. She can never make up her mind, so we often have to go back to the same store several times.  
a. credibility                      b. ordeal                      c. lax                      d. decipher
- \_\_\_ 2. My friend's favorite \_\_\_\_\_ is "We'll cross that bridge when we come to it." I, on the other hand, am always thinking about the consequences before they happen, and she tells me that I worry too much.  
a. adage                      b. ordeal                      c. phishing                      d. validity
- \_\_\_ 3. My friend was \_\_\_\_\_ about installing security on his computer, and he got a virus on it.  
a. defraud                      b. decipher                      c. lax                      d. spam
- \_\_\_ 4. I doubt the \_\_\_\_\_ of most statements Sam makes; I have checked several of his claims and found them to be untrue.  
a. spam                      b. validity                      c. phishing                      d. deciphering
- \_\_\_ 5. It was a shock when Pat was caught trying to \_\_\_\_\_ a customer. He was considered one of the most honest store owners in our community.  
a. decipher                      b. defraud                      c. spam                      d. lax
- \_\_\_ 6. Tammy's \_\_\_\_\_ disappeared when it was disclosed that she had been selling phony baseball cards.  
a. credibility                      b. adage                      c. ordeal                      d. circumspection
- \_\_\_ 7. I couldn't \_\_\_\_\_ my teacher's comments, so I went to her office to ask what she had written. She appreciated my effort to understand her writing.  
a. defraud                      b. decipher                      c. lax                      d. spam
- \_\_\_ 8. I won't buy anything from a company that thinks it is all right to \_\_\_\_\_ people. I don't consider that to be an acceptable use of e-mail.  
a. validity                      b. circumspection                      c. spam                      d. adages
- \_\_\_ 9. I should have used more \_\_\_\_\_ to find out who had used my stapler and tape. Some people became angry when I asked about their using them.  
a. credibility                      b. adage                      c. ordeal                      d. circumspection
- \_\_\_ 10. I got an e-mail today that appeared to be from my credit-card company, but when I went to the site, I suspected someone was \_\_\_\_\_ because I was asked for several pieces of personal information.  
a. credibility                      b. phishing                      c. validity                      d. circumspection

## Appendix G

### Context Clues Script

**From:** Dale, E., O'Rourke, J. & Bamman, H. A. (1971). *Techniques of teaching vocabulary*. Palo Alto, California: Filed Educational Publications, Incorporated.

**From:** Henry, D. J. (2008). *The effective reader* (2nd ed.). New York: Pearson Education, Inc.

1. Instructor will define context clues as the clues around the new or unknown word that help a reader understand the word without looking it up in the dictionary.
2. Teacher will discuss the meaning of the following 4 context clues:
  - a. Synonym – words that have similar meanings to the new or unknown word. Signals that you are being provided with a synonym are punctuation marks like parenthesis', commas, or dashes or the words “or,” “that is,” or “that are.”
  - b. Antonym – words that have opposite meanings to the new or unknown word. Signals that you are being provided with an antonym are punctuation marks like parenthesis, commas, or dashes or contrasting words like “but,” “yet,” “however,” “instead,” or “on the other hand.”
  - c. General Context – is the use of logic, rational thinking, or plain old common sense. There are no clue words or punctuation marks that you are getting a general context clue; instead you must read around the word to get help. This may require one to reread, read to the end of a sentence, read a few sentences, or read the entire paragraph.
  - d. Example – the author provides the reader with an example of the unknown word to identify the meaning of the word. Signals that you are being provided with an example are punctuation marks colons or dashes or the words “for example,” “such as,” or “for instance.”
3. Instructor will present the students will a list of the 10 words along with a passage (Appendix H) containing the 10 new words.

Adorn	Endowed	Fertile	Frescoes	Intermittent
Cupola	Façade	Fore sight	Humanism	Renaissance

4. The teacher will read the passage titled *Art History: Florence Beckons* to the students (see Appendix H).
5. After the script has been read, the instructor will work with the entire class and ask them to use one of the four aforementioned context clues to determine the meaning of each of the 10 words as used in the passage.
6. The teacher will call on a student to identify the meaning of a word. The student will identify the context clue used. Once the class has agreed on the meaning of each word, they will write down the meaning(s) on their papers.
7. Once students have agreed on the meaning of all 10 words, they will work collaboratively in small groups discussing the meaning(s) and ways to use the word in different contexts.
8. At the end of class, the teacher will administer the instructional vocabulary quiz (Appendix J).

## Appendix H

### Passage – Art History: Florence Beckons

**Source:** Olsen, A. (2007). *Active Vocabulary: General and Academic Words, Third Edition*. United States: Pearson Longman.

GUIDE: Welcome to day four of our art history tour of Italy. I hope you are all refreshed after our arrival last night from Rome. It is said that Florence is the birthplace of the **Renaissance**. The city is a living museum **endowed** with numerous examples of the rebirth of art and architecture. Renaissance style is based on two elements: a renewed interest in the classical artistic forms of the ancient Greeks and Romans and an interest in **humanism**, the importance of the individual. This morning we are going to visit the world-famous Duomo, the cathedral with the octagonal dome that has become the recognizable symbol of Florence and, really, of all the region of Tuscany. As we walk through Florence, consider how lucky we are that so many people had the **foresight** to maintain and care for the buildings and artwork we will be seeing. Later in the day we will visit the Palazzo Vecchio and the Uffizi Gallery.

Ladies and gentlemen, here is the Duomo, which is also called *Santa Maria del Fiore* (St. Mary of the Flower). It is the result of the **fertile** imaginations of artists and architects from the thirteenth to the nineteenth centuries. The original design for the cathedral was created by Arnulfo di Cambio at the end of the thirteenth century and completed in the fourteenth century. The interior of the Duomo includes not only the dominant gothic style of pre-Renaissance times, but classical elements as well. The **cupola** was the product of the brilliant Renaissance architect Filippo Brunelleschi in the fifteenth century. The dome has been an inspiration for the Capitol in Washington, D.C., and St. Paul's Cathedral in London. Finally, the **façade** that you see before you was completed in 1875. Not only did the cathedral go through **intermittent** structural changes during this long period, but it was also **adorned** inside and out with paintings and sculptures. Of particular beauty are the **frescoes** painted directly on the interior walls of the cathedral. Please follow me inside.

## Appendix I

### Readability Analysis of Art History: Florence Beckons

Powered by SMOG Calculator - A Words Count Service

Detailed SMOG Analysis    Friday, November 07, 2008 7:35:24 PM					
SMOG Grade	<b>Chapter 16 – Art History: Florence Beckons</b>				
12.72	Words:	Numbers(off):	Total Tokens:	Syllables:	Sentences:
	340	0	<b>340</b>	<b>554</b>	<b>20</b>

#### Basic Data

Sentences	20
Total Words	340
Letters	1614
Digits	0
Characters	1996
Lines	1

#### Derived Data

Words/Sentence	17.0
Syllables/Word	1.63
Syllables/Sentence	27.7
Letters/Syllable	2.91
Letters/Word	4.75
Letters/Sentence	80.7

#### SMOG Grade

0 - 6  
7  
8  
9  
10  
11  
12  
13 - 15  
16  
17 - 18  
19+

#### Educational Level

low-literate  
junior high school  
junior high school  
some high school  
some high school  
some high school  
high school graduate  
some college  
university degree  
post-graduate studies  
post-graduate degree

#### Example

Soap Opera Weekly  
True Confessions  
Ladies Home Journal  
Reader's Digest  
Newsweek  
Sports Illustrated  
Time Magazine  
New York Times  
Atlantic Monthly  
Harvard Business Review  
IRS Code

#### SMOG Calculator - by Words Count

Adapted from SMOG by [G. Harry McLaughlin](#) (1969), SMOG grading: A new readability formula. [Journal of Reading](#), 12 (8) 639-646.

This gives the SMOG Grade, which is the reading grade that a person must have reached if he or she is to understand fully the text assessed.

[Terms of Service](#)

## Appendix J

### Context Clues Instructional Quiz

**Source:** Olsen, A. (2007). *Instructor's Manual and Test Bank to accompany Active Vocabulary: General and Academic Words, Third Edition*. United States: Pearson Longman.

Chapter 16 – Use each word once and choose the word that best completes the sentence.

- \_\_\_ 1. Posters of famous tennis players \_\_\_\_\_ the boy's room.  
a. endowed      b. adorned      c. fertile      d. intermittent
- \_\_\_ 2. The land proved to be \_\_\_\_\_. Corn and potatoes were a few of the crops that grew abundantly.  
a. fertile      b. Renaissance      c. intermittent      d. façade
- \_\_\_ 3. A renewed interest in learning and \_\_\_\_\_ are two qualities of the Renaissance.  
a. façade      b. Renaissance      c. fresco      d. humanism
- \_\_\_ 4. The \_\_\_\_\_ was badly damaged when a bomb hit the church.  
a. foresight      b. fresco      c. humanism      d. cupola
- \_\_\_ 5. We were so excited when the Youtsey Foundation said it was going to \_\_\_\_\_ the museum with a million dollars.  
a. fresco      b. fertile      c. intermittent      d. endow
- \_\_\_ 6. When the hotel owners said they were going to paint their \_\_\_\_\_ bright orange to attract attention, several people in the community were upset.  
a. humanism      b. foresight      c. cupola      d. fresco
- \_\_\_ 7. Andrew displayed a calm \_\_\_\_\_ when his girlfriend said she wanted to break up, but inside he was furious.  
a. fertile      b. Renaissance      c. intermittent      d. façade
- \_\_\_ 8. If we have the \_\_\_\_\_ to protect nature, future generations will be able to enjoy the beauties of the oceans, forests, and deserts.  
a. humanism      b. Renaissance      c. cupola      d. foresight
- \_\_\_ 9. The \_\_\_\_\_ announcements at the airport made it hard to concentrate on my book.  
a. endowed      b. adorned      c. fertile      d. intermittent
- \_\_\_ 10. Rome has several reminders of the great achievements of the \_\_\_\_\_.  
a. façade      b. Renaissance      c. fresco      d. humanism



## Appendix K

### Elaboration Technique Script

**Source:** Ellis, E. S. (2002). The clarifying routine: Elaborating vocabulary instruction. *LD ONLine*. Retrieved February 5, 2007, from <http://www.ldonline.org/articles/5759>

1. Instructor will explain the elaboration technique posits that new terms must be defined using language and examples which are already familiar to students, and that the more ideas from background knowledge with which the student can associate the new term, the more likely it will become well ‘networked’ and permanent part of memory (Ellis, 2002).
2. The instructor will present the students with a passage titled *Business* (Appendix L) to the students which contains the 10 new words.

Asset	Jovial	Modify	Proliferate	Propensity
Entrepreneur	Liability	Niche	Prominent	Venture

3. The instructor will read the passage with the 10 new words to the students.
4. The teacher will identify each word and
  - a. Facilitate student discussion that centers on use of the new term,
  - b. Encourage students to use the new term in a sentence within the context of discussing broader topics, and
  - c. Help students make background knowledge connections to the new term. The teacher will ask students to relate the term to something in which the students are already familiar, or have prior knowledge, and ask them to share it. They can identify how the term is related to previous subject-matter they have learned, they can identify something from their personal life experiences the term reminds them of, or they can say how the term relates to understanding or solving some form of real-life problem. An essential part of this elaboration process is having the students explain the connection. This is similar to what Nagy (1988) refers to as deep word-knowledge.
5. Once students have agreed and written down the meaning of all 10 words, they will work collaboratively in small groups discussing the meaning(s) and ways to use the word in different contexts.
6. At the end of class, the teacher will administer the instructional vocabulary quiz (Appendix N).

## Appendix L

### Passage – Business

**Source:** Olsen, A. (2007). *Active Vocabulary: General and Academic Words, Third Edition*. United States: Pearson Longman.

#### Succeeding in Business

Do you have what it takes to be an **entrepreneur**? Do you have an idea for a product people must have? Do you have a skill you have wanted to turn into a business? Starting your own business **venture** can be hard work, but also extremely rewarding. The business Department is starting a series of classes on how to run a successful business. Whatever you specialize in doing-baking, writing, working with computers-can now make you money. Those that are brave enough to face the problems of running a business will also find the rewards of being one's own boss.

The following are some of the most **prominent** traits found amongst entrepreneurs. Do you have a **propensity** for any of these important traits?

*Passion.* A major **asset** to starting your won business is being excited about your product or service. If you don't love it, how do you expect other people to? You need to be willing to proclaim your resume service the best there is, your jewelry creations the most beautiful. Or you dog training skills the greatest.

*Determination.* The biggest **liability** to a business owner can have is a lack of drive. You have to find the way to succeed when things aren't going your way. On the first day Debbie Fields opened her cookie store noon had come in by noon. She didn't give up! She put a batch of her cookies on a tray and walked outside to distribute them to people walking by. People love them and followed her back to the store. From there the Mrs. Fields cookie empire grew.

*Flexibility.* When running a business, you will need to **modify** your plans as everything will not always go your way. Even finding your **niche** is a business calls for flexible thinking. Teed Hastings was upset when he returned his videos to a store and was told he owed \$40 in late fees. Angry about the fees, Hastings decided there should be a better system. The idea for Netflix was born. Hastings found a special place in the crowded world of video rentals because he saw a need that others were not meeting. Hastings used his degree in computer science to create a system that allows people to rent

*Humor.* If you are a **jovial** person you can cope with the stress of running a business. If you always get angry or upset, your problems are only going to **proliferate**. If you can keep your sense of humor, your problems will not grow to unmanageable proportions. You will be working with people who are your employees or clients, and they will want to deal with a friendly and cheerful person.

If these traits fit you, sign up for the courses in the Succeeding in Business program. Among other skills, learn important business terminology, how to create a marketing plan, and ways to deal with legal issues.

Call (326) 555-3579 today to get a catalogue of the course offerings.

## Appendix M

### Readability Analysis of Business

Powered by SMOG Calculator - A Words Count Service

**Detailed SMOG Analysis Monday, January 12, 2009 5:55:03 PM**

SMOG Grade	<b>Business</b>					
<b>10.59</b>	Words: 502	Polysyllable Words: 73	Numbers(off): 0	Total Tokens: <b>502</b>	Syllables: <b>783</b>	Sentences: <b>38</b>

#### Basic Data

Sentences	38
Total Words	502
Polysyllable Words	73
Letters	2214
Digits	0
Characters	2795
Lines	1

#### Derived Data

Words/Sentence	13.21
Syllables/Word	1.56
Syllables/Sentence	20.61
Letters/Syllable	2.83
Letters/Word	4.41
Letters/Sentence	58.26

#### SMOG Grade

0 - 6
7
8
9
10
11
12
13 - 15
16
17 - 18
19+

#### Educational Level

low-literate
junior high school
junior high school
some high school
some high school
some high school
high school graduate
some college
university degree
post-graduate studies
post-graduate degree

#### Example

Soap Opera Weekly
True Confessions
Ladies Home Journal
Reader's Digest
Newsweek
Sports Illustrated
Time Magazine
New York Times
Atlantic Monthly
Harvard Business Review
IRS Code

#### SMOG Calculator - by Words Count

Adapted from SMOG by [G. Harry McLaughlin](#) (1969), SMOG grading: A new readability formula. [Journal of Reading, 12](#) (8) 639-646.

This gives the SMOG Grade, which is the reading grade that a person must have reached if he or she is to understand fully the text assessed.

[Terms of Service](#)

## Appendix N

### Elaboration Instructional Quiz

**Source:** Olsen, A. (2007). *Instructor's Manual and Test Bank to accompany Active Vocabulary: General and Academic Words, Third Edition*. United States: Pearson Longman.

Chapter 18 – Use each word once and choose the word that best completes the sentence.

- \_\_\_ 1. The \_\_\_\_\_ gave a fascinating talk on the rewards and the problems of starting one's own business.  
a. modify      b. venture      c. proliferate      d. entrepreneur
- \_\_\_ 2. My sense of humor is often the \_\_\_\_\_ that gets me through a busy day at work.  
a. asset      b. niche      c. liability      d. propensity
- \_\_\_ 3. Jed has become a \_\_\_\_\_ to the project; he keeps making inappropriate comments that insult our clients.  
a. asset      b. venture      c. liability      d. entrepreneur
- \_\_\_ 4. The figurine will be perfect in the \_\_\_\_\_ underneath the stairs.  
a. modify      b. niche      c. liability      d. entrepreneur
- \_\_\_ 5. Lily's \_\_\_\_\_ for chocolate had serious consequences: the dentist found three cavities during Lily's last visit.  
a. venture      b. liability      c. proliferate      d. propensity
- \_\_\_ 6. I enjoyed the \_\_\_\_\_ atmosphere at the campout. It was a pleasurable way to spend a weekend.  
a. proliferate      b. jovial      c. prominent      d. entrepreneur
- \_\_\_ 7. The junk in the attic continues to \_\_\_\_\_ though no one claims to put anything up there.  
a. asset      b. modify      c. venture      d. proliferate
- \_\_\_ 8. I will \_\_\_\_\_ a guess as to why Lee is late, but I can't be certain of the reason.  
a. modify      b. venture      c. proliferate      d. niche
- \_\_\_ 9. Jessica was a \_\_\_\_\_ citizen. She had donated a large sum toward building the new library, and she was on the board of several community organizations.  
a. asset      b. jovial      c. prominent      d. entrepreneur
- \_\_\_ 10. We had to \_\_\_\_\_ our route after the storm washed out the bridge.  
a. modify      b. venture      c. proliferate      d. entrepreneur

## Appendix O

### Word List

**From** Olson, A. (2007). *Instructor's Manual and Test Bank to accompany Active Vocabulary: General and Academic Words, Third Edition*. United States: Pearson Longman.

<b>Chapter 11</b>	<b>Chapter 13</b>	<b>Chapter 16</b>	<b>Chapter 18</b>
Adhere	Adage	Adorn	Asset
Advocate	Circumspection	Cupola	Entrepreneur
Facilitate	Credibility	Endowed	Jovial
Impede	Decipher	Façade	Liability
Impose	Defraud	Fertile	Modify
Innate	Lax	Fore sight	Niche
Nurture	Ordeal	Frescoes	Proliferate
Potential	Phishing	Humanism	Prominent
Surpass	Spam	Intermittent	Propensity
Susceptible	Validity	Renaissance	Venture

## Appendix P

### Syllabus

#### **SYLLABUS (MW Class) / REA 0002 / Spring 2009 College Prep Reading II / No College Credit / Class # \_\_\_\_\_**

##### **COURSE DESCRIPTION**

This course is designed to increase a student's reading and vocabulary skills based on a CPT score range of 58-82 or successful completion of REA 0001. Skill improvement will employ diagnostic, prescriptive, individualized and group instruction. Information on some reading study skills and test-taking skills will be provided. At the beginning of the course, a state reading test will be given to diagnose reading skill strengths/weaknesses and to serve as a beginning guide for state required lab work. At the end of the course, students must pass a required state exit exam and also must have achieved at least a grade of C on the other course requirements.

##### **TEXTBOOKS AND REQUIRED MATERIALS**

1. The Effective Reader (Second Edition) by D.J. Henry
2. Active Vocabulary: General and Academic Words, Vol II with free Study Wizard CD-ROM by Amy E. Olsen.
3. Thinking Through the Test: Reading and Writing (free textbook) and MyReadingLab Access Card (free internet program)
4. Scantron Forms (Blue Tabs for reading tests and Green for vocabulary tests), a Notebook or Pocket Folder, #2 lead pencils, highlighters, and index cards.

##### **ATTENDANCE (mandatory) / HOMEWORK / TESTING POLICIES**

1. Students may have 2 absences from day classes or 1 absence from night classes without penalty. These absences may be used for IRSC activities and for **any other** personal reasons. Beyond these allowed absences, students are permitted to make up two excessive day absences or one excessive night absence. Roll will be taken at the start of class. Three tardies equal 1 absence. Leaving class more than 10 minutes early will count as an absence without instructor approval. **Excessive absences will lower a student's grade and 8 absences may result in a grade of "F."** To make up excessive absences, request a make-up form from your instructor and complete by the due date on the form.
2. Students are responsible for completing all assignments when due. If an absence is known in advance, arrange to finish and check assignments with the instructor before the missed class.
3. There will be **No make ups for missed reading tests or quizzes**; however, taking reading tests early can be arranged, **but you MUST give the instructor sufficient time to set up the test in the Assessment Center.** Any missed vocabulary tests will be made up during the final exam.

## Appendix P (continued)

### **COURSE GRADING POLICY**

Students **must pass the Final Exam** with a grade of A, B, or C **AND an overall class grade of C** or better **to be eligible** for course grades of A, B, or C. Final Exam failure requires students to repeat the course.

### **STUDENT LEARNING OUTCOMES**

To successfully complete this course, a student will be able to perform the following actions at a 70% pass rate in expository paragraphs and passages written at a 12<sup>th</sup> grade equivalency:

1. Locate or infer the main idea
2. Determine the meanings of words through vocabulary context clues
3. Find specific details
4. Make or conclude appropriate inferences based on information given
5. Differentiate an author's tone and purpose based upon author word choice
6. Recognize relationships and organizational patterns of ideas within sentences, between sentences in single paragraphs, and entire passages
7. Identify statements of opinion or statements of fact by author word choice or objective means of evidence
8. Spot author bias from word choice or one-sided viewpoints
9. Trace the validity of arguments with relevant and adequate statements of support

**STATEMENT ON CHEATING AND PLAGIARISM: Cheating or Plagiarism will not be tolerated in this course. If I am convinced that you have cheated on individual assignments, tests or used someone else's work as your own, I will automatically give you a "0" for that single work. If a second offense occurs, you will receive a failing grade for the entire course.**

### **CLASSROOM BEHAVIOR (Responsible adults wanted.)**

As in the work world, college is a time and place for **responsible** behavior. For us to have a learning environment that will benefit most students, you should observe the behaviors listed below.

1. Be on time. If you need to leave for any reason during class, please pack your belongings and take them with you. **This class will count as an absence. (Bathroom/water trips and sharpening pencils must be completed before class starts.)**
2. Bring necessary materials to every class. Reading textbooks and handouts may be used on reading tests, except for the diagnostic test and final exam.
3. Have homework completed **before** class begins. **(I reserve the right to mark you absent for incomplete homework.) Yes, I will check homework!**
4. Turn **OFF** beepers during class time. If it goes off in class, you apparently have an emergency. Please pack your things and leave. Cell phones may remain on silent or vibrate for the sole purpose of the reverse 911 system. Texting or use of your phone for other purposes will also require you to pack your things and leave. **Departure for either of these reasons will count as an absence. If you have EXTENUATING circumstances you MUST inform me PRIOR to the start of class.**

**ACADEMIC SUPPORT CENTER (ASC)** – offers free and unlimited tutoring in the following subject areas: Math, English, Reading, Science and Writing/Term Papers. Computers are also available for student usage. ASCs are located on all IRSC campuses.

Appendix P (continued)

**ASC HOURS**

Main Campus (L 3 <sup>rd</sup> floor):	462-7625	8:00 a.m. – 9:00 p.m. (Mon – Thurs) 8:00 a.m. – 5:00 p.m. (Friday) 1:00 a.m. – 5:00 p.m. (Sunday)
Chastain (B112):	419-5615	8:00 a.m. – 9:00 p.m. (Mon – Thurs) 8:00 a.m. – 3:00 p.m. (Friday)
Mueller (A114):	226-2508	8:00 a.m. – 9:00 p.m. (Mon – Thurs) 8:00 a.m. – 3:00 p.m. (Fri & Sat)
Okeechobee (130):	824-6000	8:00 a.m. – 8:30 p.m. (Mon – Thurs) 8:00 a.m. – 4:00 p.m. (Friday)
St. Lucie West (J212):	336-6215	8:00 a.m. – 9:00 p.m. (Mon – Thurs) 8:00 a.m. – 3:00 p.m. (Friday)

**Assessment Center Locations, Phone Numbers and Times**

Campus Location	Phone Numbers	Times
Main Campus W109	(772)462-7585	Monday – Thursday 8:00 am – 8:30 pm
Chastain/Room A104A	(772)419-5607	
Mueller/Schumann (D-146)	(772)226-2527	
SLW/Room J212	(772)336-6215	Friday 8:00 am – 2:30 pm
Dixon Hendry/Room 130	(863)824-6010	

**STUDENTS WITH DISABILITIES** In compliance with The Americans with Disabilities Act, students requiring special accommodation(s) due to a disability must register with Educational Services Division / Student Disability Services Office in order to receive eligible services. These offices are located in W-143 on the Main Campus or you may call Rhoda Brant at (772) 462-7782 or Terry Valencia at (772) 462-7808. Students with documented disabilities may also be eligible for additional academic services through Student Support Services (SSS) located in J-101 on the Main Campus.

**ASSESSMENT OF DIAGNOSTIC TEST READING SKILLS**

SKILL	TOTAL MISSED	STUDY SUGGESTIONS from <u>Effective Reader and Thinking Through the Test</u>
<b>Argument (3)</b>		Text Chap. 12 & 13; TTTT pp.136-144
<b>Bias (1)</b>		Text chap. 9, 10, 12, & 13; TTTT pp. 98-105
<b>Details (4)</b>		Text Chap. 4; TTTT pp. 35-41
<b>Fact &amp; Opinion (2)</b>		Text Chap. 9; TTTT pp. 117-122
<b>Inferences (3)</b>		Text Chap. 11; TTTT pp. 121-136
<b>Main Ideas (4)</b>		Text Chap. 3 & 8; TTTT pp. 27-35
<b>Organization Patterns (2)</b>		Text Chap. 6 & 7; TTTT pp. 54-69
<b>Purpose (4)</b>		Text Chap. 10; TTTT pp. 42-52
<b>Relationships (6)</b>		Text Chap. 6 & 7; TTTT pp. 69-78
<b>Tone (4)</b>		Text Chap. 10; TTTT pp. 106-116
<b>Vocabulary in Context (3)</b>		Text Chap. 2; TTTT pp. 89-98



Appendix P (continued)

**COURSE GRADING SYSTEM**

<u>Scale</u>	<u>Grade Based On</u>
A = 90% - 100%	60% = <b>three</b> highest reading tests
B = 80% - 89%	10% = <b>final exam</b>
C = 70% - 79%	<b>(MUST PASS &amp; no aids allowed)</b>
D = 69% - 60%	10% = average of 4 highest vocabulary tests
F = 59% or below	20% = lab work or other assignments as _____ designated by the instructor
	100% final course grade may

**SPECIAL NOTE**

**PLEASE** discuss **Before** retaking the CPT with your instructor. A passing score does **NOT** provide an automatic withdrawal or a passing grade from your REA course and affect financial aid or a scholarship.

**Grade of "W":** It's the student's responsibility to withdraw from class on or before the semester's published withdrawal deadline. If a student stops attending and does not withdraw from class, he/she will receive an "F." Before a student withdraws from class, he/she must meet with the instructor and, if applicable, a financial aid advisor.

**Reminder: Reading tests taken with insufficient lab credits will NOT count and CANNOT be made up.**

**Determine Your Reading Course Grade Throughout the Semester**

Rdg Quiz Points: \_\_\_\_\_  
(Add all points above and divide by the number of questions your instructor asked for one more test score below.)

Rdg Tests: \_\_\_\_\_ Add top 3 scores = \_\_\_\_\_ X 2 = \_\_\_\_\_  
of 600 reading pts

Voc Tests: \_\_\_\_\_ Add top 4 scores. Divide by 4 = \_\_\_\_\_  
of 100 vocabulary pts

Labwork Credits: \_\_\_\_\_ = Grade \_\_\_\_\_ (See page 2 of Lab Packet for credits grade) X 2 = \_\_\_\_\_  
of 200 lab work pts

Add all points (pts) above = \_\_\_\_\_ CURRENT POINTS before Exam  
UNTIL EXAM, divide line above (CURRENT POINTS) by 9 = \_\_\_\_\_ Current Grade before Exam  
AFTER FINAL EXAM, add exam grade to above CURRENT POINTS line = \_\_\_\_\_ Final Points  
after Exam

Divide Final Points above by 10 = \_\_\_\_\_ Final Grade before Attendance Points

Attendance Points: \_\_\_\_\_ = \_\_\_\_\_ Final Grade after Attendance Points

- Perfect Attendance, add 3 points
- 1 day absence or 1/2 night absence, add 2 points
- 2 day absences or 1 night absence, add 1 point
- Each day excessive absence, subtract 3 points
- Each night excessive absence, subtract 6 points

Check your grade under the COURSE GRADING SYSTEM above for your \_\_\_\_\_ Final Course Letter Grade

Appendix P (continued)

**Spring 2009 / REA 0002 / MW Day Class**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Jan 4 <b>This Week:</b> Course Materials Diagnostic Test	Jan 5	Jan 6	Jan 7 <b>Classes Begin Diagnostic Test (Rdg Test #1)</b>	Jan 8	Jan 9	Jan 10
Jan 11 <b>This Week:</b> Syllabus & Lab work Quizzes / Computer Lab work Orientation/ Context Clue Samples	Jan 12 <b>Drop/Add ends</b>	Jan 13	Jan 14	Jan 15	Jan 16 <b>Deadline: Last day to complete Diagnostic Test in W109 Assessment Center</b>	Jan 17
Jan 18 <b>This Week:</b> Rdg Ch: 2 & 3 Tone Words 1-10 Student Contract	Jan 19 <b>MLK Holiday No Classes</b>	Jan 20	Jan 21	Jan 22	Jan 23 <b>Deadline: Sign Student Contract (see Syl, p. 4)</b>	Jan 24
Jan 25 <b>This Week:</b> Rdg Ch: 4 & 11 Tone Words 11-20 1 <sup>st</sup> Lab work Deadline	Jan 26	Jan 27	Jan 28	Jan 29	Jan 30 <b>15 Lab Credits due for future reading tests to count as a grade</b>	Jan 31
Feb 1 <b>This Week:</b> Rdg Ch: 6 Rdg Test 2	Feb 2	Feb 3	Feb 4 <b>Rdg Test #2 (group test)</b>	Feb 5	Feb 6	Feb 7
Feb 8 <b>This Week:</b> Rdg Ch: 6 & 7 Tone Words 21-30 Voc Ch: 8	Feb 9	Feb 10	Feb 11	Feb 12	Feb 13 <b>Professional Enhancement Day No Classes</b>	Feb 14
Feb 15 <b>This Week:</b> Rdg Ch: 7 Voc Test	Feb 16	Feb 17	Feb 18 <b>Voc Test #1</b>	Feb 19	Feb 20	Feb 21
Feb 22 <b>This Week:</b> Tone Words 31-40 Voc Ch: 1 Rdg Test	Feb 23	Feb 24	Feb 25 <b>Rdg Test #3</b>	Feb 26	Feb 27	Feb 28
Mar 1 <b>This Week:</b> Rdg Ch: 9 Voc Ch: 3 & 4	Mar 2	Mar 3	Mar 4	Mar 5	Mar 6	Mar 7

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Mar 8 <b>This Week: Rdg Ch: 10 Rdg Test Voc Test</b>	Mar 9	Mar 10	Mar 11 <b>Rdg Test #4 Voc Test #2</b>	Mar 12	Mar 13 <b>Deadline:</b> If working towards an "A" lab grade, 30+ labs due today. You also <b>MUST</b> have met the Jan 30 <sup>th</sup> deadline.	Mar 14
Mar 15 <b>This Week: Tone Words 41-50 Voc Ch: 5, 6, &amp; 7</b>	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21
Mar 22 <b>This Week: Rdg Ch: 12 Rdg Test Voc Test</b>	Mar 23 <b>Last day to withdraw</b>	Mar 24	Mar 25 <b>Rdg Test #5 Voc Test #3</b>	Mar 26	Mar 27	Mar 28
Mar 29 <b>This Week: Tone Words 51-60 Voc Ch: 10, 11 &amp; 12</b>	Mar 30	Mar 31	Apr 1	Apr 2	Apr 3	Apr 4
Apr 5 <b>This Week:</b>	Apr 6	Apr 7	Apr 8	Apr 9	Apr 10	Apr 11
<b>SPRING BREAK / NO CLASSES</b>						
Apr 12 <b>This Week: Rdg Ch: 8</b>	Apr 13	Apr 14	Apr 15 <b>Rdg Test #6 Voc Test #4</b>	Apr 16	Apr 17	Apr 18
Apr 19 <b>This Week:</b> Optional Rdg Test available in Assessment Center from Apr 20-23  Student Evaluations <b>Begin Exam Review</b>	Apr 20 <b>Deadline:</b> If working towards an "A" lab grade, 45+ labs due today. You <b>MUST</b> have met <b>BOTH</b> of the Jan 30 <sup>th</sup> and Mar 13 <sup>th</sup> deadlines.	Apr 21	Apr 22	Apr 23	Apr 24 <b>Deadline:</b> <b>Excessive Absences due by 1:00 pm Instructor's Office</b>	Apr 25
Apr 26 <b>This Week: Exams Begin</b>	Apr 27	Apr 28 <b>Final Exams Begin</b>	Apr 29 <b>Final Exams</b>	Apr 30 <b>Final Exams</b>	May 1 <b>Final Exams</b>	May 2
May 3 <b>This Week: Exams End Grades Due</b>	May 4 <b>Final Exams Grades due by 8 pm</b>	May 5 <b>Grades available on-line</b>	May 6 <b>Summer I Classes Begin</b>	May 7	May 8 Graduation	May 9

## Appendix Q

### Adult Consent Form

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**1) Title of Research Study:** Examining the Impact of Vocabulary Instruction on the Vocabulary Growth and Acquisition of Adults Enrolled in a Community College Developmental Reading Course

**2) Investigator:** Gail Burnaford, Ph.D. and Jodi Robson (Doctoral Student)

**3) Purpose:** The purpose of this research study is to examine the impact of vocabulary instruction on the acquisition of vocabulary of adults enrolled in a community college developmental reading course. This study is relevant in identifying effective vocabulary instruction for vocabulary acquisition.

**4) Procedures:** Upon receiving consent to participate in the study, each participant in the classroom will complete a vocabulary pretest to identify their baseline knowledge of 40 vocabulary words. The results from the pretest will be compared to the posttest at the end to measure vocabulary acquisition. The pretest will contain 40 cloze type statements and you will select from one of four answers to complete the blank. In the next phase of the study, the instructor will use four instructional methods to teach you 40 vocabulary over four days (10 each day). The duration of each method of instruction is approximately 30 minutes. After instruction, students will complete a targeted vocabulary instructional quiz on 10 words in the same format as the pretest. In the final phase of the study, students will complete a vocabulary posttest identical to the pretest which will be used to measure acquisition.

**5) Risks:** The risks involved with participation in this study are no more than one would experience in regular daily activities.

**6) Benefits:** Potential benefits that subjects may attain from participation in this research study include a more extensive vocabulary knowledge.

**7) Data Collection & Storage:** All of the results will be kept confidential and secure and only the people working with the study will see the data, unless required by law.

**8) Contact Information:** For questions or problems regarding your rights as a research subject, you can contact the Florida Atlantic University Division of Research at (561) 297-0777. For other questions about the study, you should call the principal investigator(s), Jodi Robson at (772)462-7532 or Dr. Gail Burnaford at (561)297-2305.

**9) Consent Statement:** I have read or had read to me the preceding information describing this study. All my questions have been answered to my satisfaction. I am 18 years of age or older and freely consent to participate. I understand that I am free to withdraw from the study at any time without penalty. I have received a copy of this consent form.

Signature of Subject: \_\_\_\_\_ Date: \_\_\_\_\_

Signature of Investigator: \_\_\_\_\_ Date: \_\_\_\_\_

Appendix R  
**Teacher Consent Form**

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**1) Title of Research Study:** Examining the Impact of Vocabulary Instruction on the Vocabulary Growth and Acquisition of Adults Enrolled in a Community College Developmental Reading Course

**2) Investigator:** Gail Burnaford, Ph.D. and Jodi Robson (Doctoral Student)

**3) Purpose:** The purpose of this research study is to examine the impact of vocabulary instruction on the acquisition of vocabulary of adults enrolled in a community college developmental reading course. This study is relevant in identifying effective vocabulary instruction for vocabulary acquisition.

**4) Procedures:** Upon receiving consent to participate in the study, you will administer a vocabulary pretest to identify your students' baseline knowledge of 40 vocabulary words. The results from the pretest will be compared to the posttest at the end to measure vocabulary acquisition. The pretest will contain 40 cloze type statements and students will select from one of four answers to complete the blank. In the next phase of the study, you will use scripts for four instructional methods to teach 40 vocabulary over four days (10 each day). The duration of each method of instruction is approximately 30 minutes. After instruction, students will complete a targeted vocabulary instructional quiz on 10 words in the same format as the pretest. In the final phase of the study, students will complete a vocabulary posttest identical to the pretest which will be used to measure acquisition.

**5) Risks:** The risks involved with participation in this study are no more than one would experience in regular daily activities.

**6) Benefits:** The benefits of the study are varied. An immediate benefit to the participants is their increased vocabulary as they are exposed to new words and methods of instruction. There is also the benefit to the instructor regarding identification of effective instructional methods used to teach vocabulary. This may benefit instructors on a larger scale at the college who are teaching developmental reading classes by redesigning their vocabulary instruction and classroom practices based on the knowledge gained from the study.

**7) Data Collection & Storage:** All of the results will be kept confidential and secure and only the people working with the study will see the data, unless required by law.

**8) Contact Information:** For questions or problems regarding your rights as a research subject, you can contact the Florida Atlantic University Division of Research at (561) 297-0777. For other questions about the study, you should call the principal investigator(s), Jodi Robson at (772)462-7532 or Dr. Gail Burnaford at (561)297-2305.

Appendix R (continued)

**9) Consent Statement:** I have read or had read to me the preceding information describing this study. All my questions have been answered to my satisfaction. I am 18 years of age or older and freely consent to participate. I understand that I am free to withdraw from the study at any time without penalty. I have received a copy of this consent form.

Signature of Subject: \_\_\_\_\_ Date: \_\_\_\_\_

Signature of Investigator: \_\_\_\_\_ Date: \_\_\_\_\_

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