ABSTRACT

Title of Document:	THE IMPACT OF VOCABULARY INSTRUCTION ON THE VOCABULARY KNOWLEDGE AND WRITING PERFORMANCE OF THIRD GRADE STUDENTS
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I examined the effects of vocabulary instruction in theme-related words on students' knowledge of these words, knowledge about the themes, use of these words in their writing, and quality of their writing. Thirty-one third graders, identified as average and below average writers, based on their pre-intervention scores on the Test of Written Language-3 (Hammill & Larsen, 1996) participated in this study. Participants were randomly assigned to two treatment groups; an experimental that received instruction on adventure and mystery words, and a control, minimal-treatment that did not receive vocabulary instruction on these words.

Vocabulary instruction was delivered over two consecutive weeks (six sessions) for each set of words and consisted of activities such as story reading and writing, sentence completion, vocabulary card games, and review sessions. Students in the control condition were introduced to adventure and mystery through reading

and writing activities during two instructional sessions for each theme.

The effects of vocabulary instruction were assessed using: (a) a multiple-choice vocabulary test used to assess students' vocabulary learning; (b) a story writing task used to determine whether vocabulary instruction resulted in better writing quality ratings and larger number of instructional words included in students' adventures and mysteries, and (c) a knowledge telling task where students were asked to tell everything they knew about adventures and mysteries. Additionally, a social acceptability inventory was administered to all experimental students to assess whether the instruction implemented was perceived as socially acceptable for learning adventure and mystery words.

Analysis revealed several statistically significant findings. Vocabulary instruction enhanced students' knowledge of adventure and mystery words taught (eta squared, 0.937 and 0.905), the use of mystery words taught in students' writing (eta squared, 0.293) and the writing quality of students' mystery stories (eta squared, 0.183). Vocabulary instruction was also perceived as socially acceptable for learning new adventure and mystery words and enhancing students' vocabulary and writing performance about both themes. More research is needed to examine the relationship between vocabulary instruction in theme-related words, knowledge about the theme, and writing about the theme. Limitations of the present study and directions for future research are also discussed.

THE IMPACT OF VOCABULARY INSTRUCTION ON THE

VOCABULARY KNOWLEDGE AND WRITING PERFORMANCE OF THIRD

GRADE STUDENTS

By

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Dissertation submitted to the Faculty of the Graduate School of the
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Dedication

Στους γονείς μου, Μαυρουδή και Δωροθέα Παπαδοπούλου

που ποτέ δεν έπαψαν να πιστεύουν σε μένα,

στην αδελφή μου Λουίζα Παπαδοπούλου και στην

ανιψιά μου Άννα-Μαρία Οικονομίδου για την αγάπη τους,

στον αγαπημένο μου σύζυγο, Κωνσταντίνο Μποκή,

για την κατανόηση που έδειξε δυο χρόνια που μέναμε μακριά,

και στα ξαδέλφια μου Αντρέα Σταθόπουλο και Ευγενία Σμυρνή

για τη βοήθειά τους ιδιαίτερα τα πρώτα χρόνια που ήρθα στην Αμερική.

To my parents, Mavroudi and Dorothea Papadopoulou,

who never stopped believing in me,

to my sister Louisa Papadopoulou

and my niece Anna-Maria Economidou for their love,

to my dearest husband, Constantinos Bokis for his understanding during the last two

years we had to live apart,

and to my cousins Andrea Stathopoulos and Evgenia Smirni

for their help, especially during my first years in the United States of America.

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Chapter 1: Introduction

The purpose of this study was to examine the impact of vocabulary instruction in theme-related words on third-grade average and struggling writers' knowledge of these words, knowledge about the theme, use of the theme-related words in their writing, and quality of their writing about the theme. In this chapter, I first discuss the importance of writing and examine the composing difficulties of struggling and average writers. Next, I consider the importance of vocabulary to writing and describe the vocabulary characteristics of struggling and average writers. Finally, I present the problem under investigation and provide a rationale for the current study.

Importance of Writing

In many societies, writing is an essential tool for communication, learning, and self-expression. Through writing individuals are able to maintain personal links with friends, family, and colleagues from a distance (Graham, 2006). Writing also makes it possible to gather, preserve, and transmit information with accuracy and detail (Diamond, 1999). Individuals can further record their ideas, reflect on their thoughts, or extend their knowledge on a topic through the use of writing (Brodie, 1997). Perhaps even more importantly, many jobs in industrialized countries require a basic competence in written language. Writing is beneficial both psychologically and physiologically (Smyth, 1998); it fulfills emotional needs of communication and self-exploration, provides a source of entertainment and enjoyment, and can reduce the sense of loneliness.

Writing is also important in academic settings. Progress in school depends on developing an adequate degree of writing proficiency and fluency (Scardamalia & Bereiter, 1983). Writing is the primary medium by which teachers evaluate students' performance. It also provides a flexible tool for assessing students' knowledge and academic competence in class and on high-stakes educational assessments (Christenson, Thurlow, Ysseldyke, & McVicar, 1989; Graham & Harris, 1988). For some children, writing even represents an alternative medium for expressing thoughts and ideas that they might be unable or unwilling to express in a different way (Polloway & Smith, 1982). Persistent writing problems, therefore, make it difficult for students to reach their educational, occupational, and personal potential (Graham, 2006).

Finally, writing is considered a fundamental means for passing the social aspects of a culture from one generation to the next (Rohr, 1994). Lindemann (1995) indicated that human beings are social animals who use language (and its form of written language) to make sense of the world, and to remember and organize their lives. He also claimed that many financial, legal, or other transactions require writing, and thus in our society, putting it in writing has a greater force than speaking. The importance of writing is also illustrated by Gelb (1952) who suggested that written language is necessary for a civilization to exist.

Composing Challenges Experienced by Beginning Average Writers and Struggling Writers

Concerns about the writing achievement of American students were raised more than 30 years ago by the National Council of Teachers of English (1975). These

concerns continue to persist. According to the National Assessment of Educational Progress (1998, 2002) many students experience difficulties mastering writing, despite its longstanding importance. In 1999, Greenwald, Persky, Cambell, and Mazzeo reported that only 30% of female and 16% of male fourth-grade students were proficient writers. Similar results were also reported by Persky, Daane, and Jin (2003) in the most recent National Assessment of Educational Progress. Because only a small percentage of students learn to write well, the College Board warned that students and society would be short-changed if schools do not include writing as part of their reform efforts (National Commission on Writing, 2003).

Even though most young students do not learn to write well enough to meet classroom demands (Persky et al., 2003), it is a perpetual challenge for struggling writers (Graham & Harris, 1989a). Nevertheless, these children as well as their normally achieving counterparts (young/novice writers) use a similar approach to writing. This approach, referred to as "knowledge telling" (Bereiter & Scardamalia, 1987), involves simply telling what one knows about a topic without much advanced planning or metacognitive control. Typically, any information considered relevant is quickly retrieved from memory and written down with little regard for audience needs and perspectives.

In order to better understand, however, the writing difficulties that many students experience in American schools it is important to become familiar with the processes of writing and the developmental trend leading students from novice to competent/skilled writers. The most widely cited model depicting the writing process is the one developed by Flower and Hayes (1981). According to this model, skilled

writing is characterized as a form of problem solving that is recursive in nature moving from planning (generating ideas for content and goals to be pursued), to translating, to reviewing and back again to planning. Novice writers on the other hand, use a greatly simplified version of the above model (i.e., knowledge telling), allowing them to cope with the demands of composing, even though they have access to limited range of mental representations (Bereiter & Scardamalia, 1986).

Based on this model, the composing process of young/novice writers moves in a straight line from writing-as-remembering or writing-by-pattern through editing for mechanical errors with little or no recursive movement. All writing tasks are simple converted into tasks of telling what the writer knows about a topic with little consideration of what readers know or do not know and if they will be or will be not interested in what the writer says (Bereiter & Scardamalia, 1986).

When comparing more skilled writers to novice writers, the former appears to have a better-developed knowledge of genre structure, can apply this abstract knowledge when composing, and can regulate their writing behavior by formatting goals, making strategic decisions, and constructing high-level representations of content that can be manipulated effectively as they write. More skilled writers typically generate more content than they can use in their compositions. Finding enough content, however, is frequently a challenge for young/novice writers, especially ones who experience difficulties learning this skill. These children rarely discard anything that would fit in their compositions because, they either do not know enough about the subjects they are asked to write about or they have difficulties gaining access to the knowledge they do have (Scardamalia & Bereiter, 1986).

Another difference between novice and more skilled writers lies in the memory search strategies used during content generation. According to Scardamalia and Bereiter (1986), two processes that are critical in more skilled performance are metamemorial and heuristic or goal-directed search. During metamemorial search, writers determine the availability of information in memory rather than retrieving specific information. During heuristic search, on the other hand, writers take advantage of the partial knowledge they posses, thus, narrowing the scope of their search through memory. Skilled and novice writers alike generate content partly by heuristic search guided by knowledge of what they are looking to find and partly by associative processes that bring content spontaneously to mind. Young/novice writers, however, lack effective metamemorial search strategies for narrowing the scope of their search (Bereiter & Scardamalia, 1982) and rely more on trial-and-error search, using whatever cues are available in the environment to stimulate retrieval of content from memory (Flower & Hayes, 1981). Bereiter and Scardamalia (1982), for example, reported that students in Grades 4 and 6 experienced difficulties with naming topics about which they knew relatively a lot and only a little.

When it comes to language production, skilled writers are assumed to have largely automatized basic writing procedures, such as spelling and punctuation, so that they require limited mental resources, making them available for higher-level tasks. Young/novice writers (primary grade students), on the other hand, devote considerable attention to these basic transcription tasks (Bereiter & Scardamalia, 1982).

Flower and Hayes (1981) also found that skilled writers plan purposefully by translating high-level goals into subgoals and constructing a network of subgoals leading to the main goal. These writers recognize that attaining one subgoal creates the opportunity to attain another, and so they choose and arrange subgoals accordingly. Young beginning/novice writers, on the other hand, when asked to plan a composition in advance, simply conduct an initial rehearsal of writing their composition. The material they generate either orally or in notes closely resembles the eventual product and may properly be considered a first draft rather than a plan (Burtis, Bereiter, Scardamalia, & Tetroe, 1983). Even though older students' and adult novices' notes show more references to goals, goals still do not appear to be the highly functional symbolic entities that they are for skilled writers, and there is an absence of formulation of subgoals (Flower & Hayes, 1981). McCutchen (1995, 2006) also reported that novice and less skilled writers typically do little explicit planning, especially in advance of writing, whereas among skilled writers, 80% of the content statements produced early in the process of composing focus on planning (Hayes & Flower, 1980).

Another difference between skilled and novice writers involves the process of revision (Bereiter & Scadamalia, 1986). More skilled writers construct new goals when revising, often making many changes in what they say and the structure of their text. Young/novice writers on the other hand, appear to concentrate their revising efforts at the level of proofreading, mainly making changes in word choice, spelling, punctuation, and so forth.

Similarly to young/novice writers, struggling writers (including students with LD) also experience writing problems at two levels. These include problems with lower level skills, including grammar, punctuation/capitalization, handwriting, and spelling, as well as higher level processes, including audience awareness, content generation, planning, revising, and knowledge about genre/text structures and the topic (Newcomer, Nodine, & Barenbaum, 1988; Wong, Wong, Darlington, & Jones, 1991).

In terms of lower level writing tasks, two areas of weakness for many struggling writers are handwriting and spelling (Deno, Marston, & Mirkin, 1982b; Graham & Weintraub, 1996). Ten percent or more of the words included in compositions produced by students with LD are misspelled, whereas capitalization and punctuation errors occur in one third or more of their sentences (MacArthur & Graham, 1987; Moran, 1981; Thomas, Englert, & Gregg, 1987). Problems with the mechanics of producing text and getting language onto paper also have an adverse effect on the quantity and quality of students' written products as was demonstrated by Graham (1990).

In terms of higher level writing tasks, struggling writers often lack strategies for generating and discarding ideas based on the constraints of writing. Struggling writers have difficulty sustaining their thinking about a topic when retrieving ideas from memory, which makes it difficult for them to generate appropriate ideas for the topic (Englert & Raphael, 1988). Additionally, struggling writers tend to generate a considerable amount of irrelevant information about a topic (Graham, 1990), and are particularly reluctant to discard an idea once it is placed onto paper (Graham, Harris,

MacArthur, & Schwartz, 1991). When compared to writing produced by their normally achieving peers, papers composed by students with LD are shorter, less cohesive, and more confusing (Deno, Marston, & Mirkin, Lowry, Sindelar, & Jenkins, 1982a; Moran, 1981; Myklebust, 1973; Nodine, Barenbaum, & Newcomer, 1985). Students with LD have also been reported to leave out such critical parts as the end of a story or basic premises underlying an essay opinion when composing (Englert & Thomas, 1987; Graham & Harris, 1989).

Struggling writers and students with LD also encounter difficulties with planning and revising. Specifically, the available evidence supports the notion that students with LD employ immature and ineffective strategies for revising and planning their compositions (MacArthur & Graham, 1987; MacArthur, Graham, & Schwartz, 1991; Thomas et al., 1987). Researchers also identified qualitative differences in the way struggling and skilled writers plan, but those differences may not exist as students become older. According to Bereiter and Scardamalia (1986), sixth graders use planning notes to synthesize rather than to repeat information, whereas second- and fourth-grade students usually repeat rather than synthesize information when they plan. Struggling writers also appear to do a poor job when revising. Not only do they devote less time to revising than more skilled writers, but they primarily make superficial changes in their written products, correcting spelling errors and making small changes in wording (Fitzgerald, 1987; MacArthur, Graham, & Harris, 2004).

Finally, differences between good and struggling writers are also reported in terms of their knowledge about writing. Specifically, Graham, Schwartz, and

MacArthur (1993) found that skilled writers are more knowledgeable about writing

and possess a more sophisticated conceptualization of writing than struggling writers.

Good writers also have a greater knowledge about the attributes and structure of

different genres (Englert & Thomas, 1987), the strategies for carrying out the

processes of writing (Englert, Raphael, Fear, & Anderson, 1988), and the role of

audience in writing (Wong, Wong, & Blenkinsop, 1989).

In a recent study (Saddler & Graham, in press), more skilled fourth-grade

writers were more knowledgeable about writing than their less skilled peers and were

able to provide more examples about the importance of writing in and outside of

school. More skilled writers were almost twice as likely to generate ideas involving

substantive processes of writing, such as planning and revising, than less skilled

writers when asked to define writing and the attributes of good and poor writers.

Additionally, more skilled writers placed more emphasis on the value of seeking

assistance to address difficulties with writing than their counterparts. There is

considerable evidence to support the idea that students become increasingly

knowledgeable about the process of writing (Graham et al., 1993), the attributes of

different genres (Donovan & Smolkin, 2006), and the role of audience in writing with

age and schooling.

Despite the substantial differences in students' knowledge about writing and

in students' writing performance there is a relatively small number of studies,

examining the role of knowledge in students' writing performance. Englert et al.,

(1988) examined the effects of knowledge about writing strategies on fourth- and

fifth-grade students' writing performance. Results showed that knowledge about

writing was significantly related to students' performance on expository writing tasks (correlations ranged from .25 to .70). Additionally, knowledge of writing strategies was also found to be associated with the quality of papers (correlations ranged between .35 and .45) produced by sixth-, seventh-, and eight-grade students (Bonk, Middleton, Reynold, & West, 1990). Saddler and Graham (in press) reported similar results, as they found that story quality of more skilled writers was correlated strongly with the students' knowledge of substantive and production writing procedures.

The most replicated finding, however, involves the relationship between knowledge of the writing topic and writing performance (Saddler & Graham, in press). Albin, Benton, and Khramatsova (1996) for example, reported that students' baseball knowledge accounted for unique variance in predicting the number of common story elements and game actions in students' written stories about baseball after controlling for initial differences in genre and English usage skills among students.

Vocabulary Characteristics of Struggling Writers

Even though researchers agree that learning vocabulary is important in the language learning process and that vocabulary growth is closely linked to school progress (Walker, Greenwood, Hart, & Carta, 1994), there has been an ongoing debate since the beginning of the 20th century, as to exactly how children learn new words, what are the normal rates of vocabulary growth, and what is the average vocabulary size of students in the primary grades. Recent estimates of vocabulary growth and size have become more consistent, with suggested vocabulary gains in

early grades estimated at 3,000 words per year (Graves, 1986) and vocabulary size of five-six year old students as being between 2,500 and 5,000 words (Beck & McKeown, 1991). Research findings, however, show that students differ significantly in both of these areas as early as the primary grades (Baker, Simmons, & Kameenui, 1995). For example, second-grade students in the lowest quartile can gain, on average, 1.5 root (Anglin, 1993) words a day for a total of 4,000 root word meanings, whereas second-grade students in the highest quartile can gain, on average, 3 root words a day, for a total of 8,000 root word meanings.

These vocabulary gaps tend to increase significantly throughout school with the first onset being at about Grade 4 or 5, when students are required to shift their attention from word recognition (the medium) to word meaning (the message). This shift takes place when students can recognize most common words and can decode others, but have difficulties with reading textbooks with more abstract, specialized, and unfamiliar words (Chall, 1987).

Although the problem of acquiring larger meaning vocabularies exists for all students, the youngsters that encounter the greatest difficulty are children of low-income families, minorities and bilinguals, and students with disabilities. Chall and Snow (1982) reported that children from low-income families had similar vocabulary scores to those of their peers at Grades 2 and 3, but that they began to decelerate in word meaning acquisition in Grade 4. Similar results were also found by White, Graves, and Slater, (1990), who reported that vocabulary growth among students in Grades 1 through 4 in two low- and one middle-socioeconomic status schools differed as result of their socioeconomic status.

Hart and Risley (1995) conducted a longitudinal study to shed light onto the complex role of students' socioeconomic status and other relevant factors on the vocabulary growth, vocabulary use, and children' performance on the Stanford-Binet IQ test and other standardized tests. At the age of 3, vocabulary growth, vocabulary use (number of different words children used per hour), and children's performance on a variety of tasks contained in Stanford-Binet IQ test were associated with students' socioeconomic status as defined by specific features of children-parents interactions. These five features - language diversity, feedback tone, symbolic emphasis, guidance style, and responsiveness - accounted for 61% of the variance in the rates of vocabulary growth and vocabulary use of students. The same features also accounted for 59% of the variance in students' general accomplishments as estimated by the Stanford-Binet IQ score. Children-parents interactions, as early as the age of 1-2 years, were also found to predict children language skills at the age of 9-10, as measured by the Test of Language Development (TOLD) and the Peabody Picture Vocabulary Test – Revised of receptive language (PPVT-R). A multiple-regression analysis showed that the five features defining children-parents interactions before the age of 3 together accounted for 61% of the variance in children's scores on both tests (Hart & Risley, 1995).

Apart from socioeconomic status, the research literature identifies both biological and environmental factors that contribute to differential rates of vocabulary growth and acquisition. Some of the biological factors include language deficits, memory capacity, and comprehension ability (Baker, Simmons, & Kameenui, 1995; Cain, Oakhill & Lemmon, 2004), whereas vocabulary knowledge and knowledge

about strategies needed to infer the meaning of new words when words are removed from their context are two of the suggested environmental factors (Baker, Simmons, & Kameenui, 1995; Cain, Oakhill, & Lemmon, 2004).

Research on the differences between normally developing students and struggling writers has examined possible differences between the two student populations in memory, use of strategies for learning word meanings, and linguistic performance. In terms of memory differences, struggling writers recall fewer target words than their better writing counterparts. In one of the most comprehensive studies in this area, Swanson (1986) reported that students with LD were less efficient in clustering words by categorical membership (i.e., semantically, phonemically, structurally), so when asked to recall word features from semantic memory to match the demands of a task they did not perform as well as their peers. In terms of strategy use, this factor did not account for the smaller percentage of unknown words learned by these students when compared to normally achieving peers. It was reported however, that students who knew more word meanings prior to studying unknown words learned the meanings of more new words after studying (Griswold, Gelzheiser, & Shepherd, 1987). Students with poor vocabulary were also found to experience difficulties with adjusting their model of word meaning when they acquire new information about the meaning of a word (Van Daalen-Kapteijns & Elshout-Mohr, 1981).

Finally, no significant differences between struggling and normally achieving students were found in tasks designed to measure language performance in syntactic, semantic, orthographic, and discourse levels (Stahl & Erickson, 1986).

Struggling students were reported to use similar words and with the same intended meaning as their normally achieving counterparts (Boucher, 1986). Other research, however, suggests that struggling students may need more time to acquire new words (Boucher, 1986), ample opportunities to use these new words frequently (Boucher, 1986), and explicit vocabulary instruction that would not require students to use context clues to derive the meaning of important unknown words encountered in written text (Stahl & Erickson, 1986).

A number of studies exist that support the idea that struggling students and their normally achieving counterparts differ in the amount and type of vocabulary they use in their writing. For example, students with LD were found to employ less sophisticated (Poplin, Gray, Larsen, Banikowski, & Mehring, 1980) and less diverse (Morris & Crump, 1982) vocabulary in their writing than students without LD. Such students also appear to use smaller words (words with seven or more letters) more often (Houck & Billingsley, 1989) than normally achieving students. In addition, their vocabulary knowledge was less accurate than that of their normally developing peers, according to their responses on word knowledge tests (Simmons & Kame'enui, 1987).

These differences in vocabulary knowledge tend to have strong implications for students' long-term educational success. Biemiller (2004) proposed early intervention for vocabulary-disadvantaged students in order for them to catch up with their vocabulary-advantaged peers. Research on the learning and teaching of meaning vocabularies started as early as 1938 with a study by Gray and Holmes (1938), who found that direct vocabulary instruction was more effective than wide reading for the

vocabulary development of fourth-grade students. Since then, several studies have been conducted to examine the effects of direct versus indirect approaches to vocabulary instruction. Research and experience however, suggest that both direct teaching and contextual learning are needed (Chall, 1987) to adequately reduce the gap between students with poor and rich vocabularies. According to Baker, Simmons, and Kameenui (1995) equally important to learning the meaning of a word is to learn the strategy for learning the word's meaning independently.

Importance of Vocabulary in Writing

Vocabulary is defined as knowledge of words and the ability to use these words in the generation and understanding of sentences. Vocabulary is considered essential for language acquisition and development and is recognized as a necessary factor for success in school and achievement in society. There is a substantial body of evidence demonstrating a link between vocabulary and students' ability to read and comprehend passages (Beck, McCaslin, & McKeown, 1980; Coleman, 1971; Draper & Moellar, 1971; Klare, 1984; National Reading Panel, 2000).

Researchers have also explored the role of vocabulary in three main aspects of students' writing performance: (a) shaping teachers' perceptions of writing quality; (b) predicting students' overall writing performance, and (c) enhancing the quality of students' written compositions. Specifically, Grobe (1981) investigated the relationship between vocabulary characteristics and teacher judgments of the quality of 5th-, 8th-, and 11th-grade students' narrative writing. He found that measures of vocabulary diversity were among the most robust predictors of writing quality when compared to the number of words written, freedom from spelling errors, mechanics,

and syntactic maturity. Similar results from a different study (Neilsen & Piche', 1981) revealed a positive relationship between mature vocabulary (assessed by lexical choice) and high quality ratings. Particularly, when Neilsen and Piche' (1981) compared the effects of syntactic complexity versus lexical choice on the ratings of writing quality, they reported high quality ratings for passages with mature vocabulary regardless of the passages' syntactic complexity.

Similarly, Steward and Leaman (1983) examined the role of vocabulary in formatting teachers' judgments of college freshmen's written arguments. It was reported that the appropriateness of words used, rather than the simple production of words, was more important in influencing teachers' judgments of writing quality. The number of diction or word-choice errors per 100 words written was found to be a particularly strong predictor of writing quality (Steward & Leaman, 1983). In addition, Gansle, Noell, VanDerHeyden, Naquin, and Slider (2002) explored the predictor-criterion relationship among teacher assessment of the quality of 3rd- and 4th-grade students' compositions, standardized group tests of writing skills, and various measures of writing competence. Perceptions of writing quality were found to relate positively with three of the four vocabulary measures assessed (the number of different words, the number of mature words, and the number of diction or word-choice errors per 100 words written). The number of long words (words with eight or more letters) and the number of complex words did not appear to significantly influence perceptions of writing quality.

Vocabulary is also considered a strong predictor of students' overall writing performance when vocabulary scores are compared to more elaborated criterion

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measures of written expression such as the Test of Written Language (TOWL; Hammill & Larsen, 1978), the Stanford Achievement Test (SAT; Madden, Gardner, Rudman, Karlsen, & Merwin, 1978), and the Developmental Sentence Scoring System (Lee & Canter, 1971). In a study by Deno, Marston, and Mirkin (1982b) for example, the number of mature words students used in their writing predicted students' writing performance on the SAT, Intermediate I, Word Usage subtest, the Developmental Sentence Scoring System, and the TOWL Vocabulary subtest. Correlations of mature words with SAT, Developmental Sentences Scoring System, and TOWL were .72, .74, and .61, respectively. Likewise, Gansle et al. (2002) reported moderate correlations (.21 and .24) between the number of long words and two subtests of the Louisiana Educational Assessment Program (LEAP), *Write Competently* and *Use Conventions of Language*, among fourth-grade students in all academic areas. In the same study (Gansle et al., 2002), significant correlations (.33) were reported between the number of long words and third-grade students' scores on the Language Subscale of the Iowa Test of Basic Skills (ITBS).

Preliminary evidence also exists to support the effects of vocabulary instruction on the quality of students' written products. Thibodeau (1963) reported that elaborative thinking and vocabulary exercises enhanced sixth graders' vocabulary knowledge, its retention, as well as the quality of students' writing. Duin (1983) found that instruction in theme-related words and their use in fourth and sixth graders' narratives resulted in improvements in the quality of students' written products. These students' compositions were more structured, had more substance, and were more interesting than papers composed by students who did not receive

vocabulary instruction. Even though older students used less of the instructional words in their compositions (40%) than their younger counterparts (80%) the former students showed a more tentative but more correct use of the words than the latter students. Furthermore, Harris and Graham (1985) found that teaching students how to generate and use more action words, action helpers, and describing words in their compositions improved the quality of stories produced by two 12-year-old students with LD.

The current study was based on the work by Duin and Graves (1986, 1987) who examined the effects of pre-teaching a set of words relevant to a specific topic on the subsequent compositions produced about the topic. Instruction in both studies included activities recommended by Beck and her colleagues (Beck, McCaslin, & McKeown, 1980; Beck, Perfetti, & McKeown, 1982; McKeown, Beck, Omanson, & Perfetti, 1983; McKeown, Beck, Omanson, & Pople, 1985) with an emphasis on providing frequent review sessions and ample opportunities for students to use the new words in writing inside and outside their classrooms.

In the first investigation (Duin & Graves, 1986), a heterogeneous group of fourth-grade students (low, average, and high achievers) and two groups of sixth-grade students (a group of low and a group of high achievers) were taught a set of 10 words in four days. Instruction delivered to students in the experimental condition consisted of activities that emphasized the relationship between known and unknown words. Students in the control condition were a heterogeneous group of fourth-grade students who were instructed in public speaking and a group of sixth-grade average students, who studied capitalization and worked on a unit about Africa. In the second

investigation (Duin & Graves, 1987), 7th-grade students, identified as low, average, and high achievers based on their scores on the verbal component of the Cognitive Abilities Test (Cog AT, 1984) (their scores ranged from the 8th to the 99th percentile), were taught a set of 13 words over a six-day period using three different vocabulary instruction approaches: traditional, intensive vocabulary alone, or intensive vocabulary and writing.

In both studies, results showed that vocabulary instruction in theme-related words increased students' knowledge of these words, the use of these words in students' compositions, and the quality of students' written narratives (Duin & Graves, 1986) and expository essays (Duin & Graves, 1987). Additional findings obtained from the second study (Duin & Graves, 1987) revealed that students in the intensive vocabulary with writing condition showed better results in vocabulary and writing performance than students in the other two conditions, even though students in both intensive vocabulary instruction conditions (with and without writing) outperformed students in the traditional vocabulary instruction condition.

Statement of the Problem

Despite the importance of writing in today's society, many students have difficulty acquiring this critical skill. The writing performance of students in American schools has been an issue more than 30 years now. Vocabulary, on the other hand, has been identified as an essential factor in language acquisition and development, an important component in reading comprehension, and a valid predictor of students' language development and writing performance. Vocabulary has also been linked to people's perceptions of writing quality. Relevant studies

conducted with struggling writers and their normally achieving peers found that vocabulary instruction helped these students acquire, retain, and access new word meanings more effortlessly and rapidly. It is therefore tenable that effective vocabulary instruction in theme-related words enhances the quality of students' writing on the theme as a result of students learning and using new words in their writing.

Furthermore, there is limited information about the role of vocabulary instruction in theme-related words on the development and growth of students' existing knowledge about the theme, and subsequently on the quality of students' written products about the theme. When they compose, writers assess different types of knowledge including knowledge about the theme, the intended audience, genre, task schemas, and linguistic awareness (Saddler & Graham, in press). Research on the effects of instruction designed to increase writing knowledge has revealed positive impact on students' writing quality.

Fitzgerald and Teasley (1986) found that teaching fourth-grade students about the parts of a story improved the organization and quality of their writing. Instruction about different revising strategies also resulted in improvements in students' revising behavior and writing quality (Fitzgerald & Markham, 1987). In a more recent study, knowledge about writing theme was also shown to predict the number of common story elements and game actions included in a story about the theme (Albin et al., 1996). Finally, Saddler and Graham (in press) reported statistically significant correlations between story writing quality and knowledge of substantive and production writing procedures among skilled writers in fourth grade.

In this particular study, it was expected that teaching students theme-related words would result in students' acquisition of these words. Increasing students' knowledge of these words and the accompanying knowledge this provided in terms of the theme would lead to improvements in the quality of students' writing about the theme. These benefits were perceived to be equally possible for struggling as well as average writers based on observation data gathered during a pilot study. A distinction however, needs to be made between prior vocabulary instruction and writing studies and the present one. In the present study, I directly taught words important to the target themes students wrote stories about (e.g., alibi for the theme of mystery), and it was expected that students would learn these words and use them in their writing, and as a result of learning the words they would acquire important knowledge about the target theme. Therefore in this study, vocabulary instruction is also perceived as a means to gain information about genre writing. It is important to note that the phrases "theme-" and "genre-" writing are used interchangeable in this study.

Purpose of the Study

The purpose of this study was to examine the effects of vocabulary instruction in theme-related words on struggling and average third-grade writers' acquisition of these words, knowledge about the theme, use of these words in their writing, and quality of their genre writing. It was hypothesized that vocabulary instruction in theme-related words provided to students with average to poor writing performance would facilitate these students' mastery of the words and increase theme knowledge, resulting in advanced writing performance. This research study was, therefore,

conducted to explore the three-way relationship between vocabulary instruction, writing quality, and knowledge.

Description of the Current Study

This exploratory study was conducted to provide evidence on the effects of vocabulary instruction on students' vocabulary and writing performance, especially with average and struggling writers. For the purpose of this study, average writers were defined as students who performed at or below the 50th percentile on the Test of Written Language-3 (TOWL-3; Hammill & Larsen, 1996), Story Construction subtest (Form B), and struggling writers as students who performed at or below the 25th percentile on the TOWL-3 Story Construction subtest (Form B).

Initially, students participating in this study met the following selection criteria: (a) they were identified as struggling or average writers based on their scores on the Story Construction subtest from the TOWL-3; (b) they were able to write at least three connected sentences on the TOWL-3 Story Construction subtest; (c) they had English as their first language, and (d) they attended school regularly (students did not miss school more than one or two days a week). However, prior to the beginning of the study, I revised the above criteria and included three ESL students (English as a second language). This decision was based on classroom teachers' comments and verified by instructors' observations (including my own). Specifically, the teachers reassured the researcher that these students' English were sufficiently developed so that they would be able to benefit from the instruction provided during the study. In addition, all of the instructors (including myself) observed that this was the case during assessment and instruction.

All participants were randomly assigned to two conditions/treatment groups: experimental, vocabulary-instruction group, and control, minimal-treatment group. Students in the experimental condition were taught 10 words pertinent to the theme of mystery and 10 words pertinent to the theme of adventure.

Both themes are typically included in state language arts standards (see for example California, Texas, and Florida standards) and they are common staples of basal language arts programs. Therefore, instruction in words related to these themes was perceived as important and interesting for students of this particular age.

All 20 theme-related words selected for this study met three criteria set by Beck and colleagues (2002) for identifying Tier Two words: (a) importance and utility (Criterion 1); (b) instructional potential (Criterion 2), and (c) conceptual understanding (Criterion 3). Moreover, instructional words were limited to nouns and verbs (Criterion 4) that were perceived to enhance students' knowledge about the two themes (Criterion 5), but which could also be used in writing in a variety of other contexts (Criterion 6). Finally, target words were relatively difficult and less frequently used based on *The Educator's Word Frequency Guide* (WFG) by Zeno, Ivens, Millard, and Duvvuri (1995).

Vocabulary instruction was delivered to small groups of students ($n = 3$-5) in 30-minute sessions, three times a week. Each set of theme-related words was taught for two consecutive weeks (total of six sessions) with students receiving instruction on five theme-related words per week. Students in the control, minimal-treatment condition did not receive any type of vocabulary instruction on the target words, but were introduced to the concepts of adventure and mystery through discussion, and

completed the same reading and writing activities as students in the experimental condition. Students in both conditions did not receive any type of writing instruction except for what was normally provided in their classrooms.

The instructional procedures used in this study were based on a direct, intensive vocabulary teaching approach (Beck et al., 1982; Duin & Graves, 1986, 1987; McKeown et al., 1983; McKeown et al., 1985) with the addition of activities aimed at increasing student motivation. The main goal of the instruction was to help students acquire a deep knowledge of the target words by identifying relationships between known and less known vocabulary words, by encountering these words in different and multiple contexts, and by practicing using these new words in writing.

Vocabulary instruction in this study consisted of three components: (a) definitional and contextual information about each word, as students need to see a word in context and learn how its meaning relates to the words around it in order to learn the word; (b) multiple exposures to a word in different contexts, as every time students see a word they gather more information about it (a word that is encountered only once has about 10% chance of being learned from context, Hunt & Beglar, 1998), and (c) encouraging students' active participation in their word learning, as students remember words better when they discuss word meanings and relate them to knowledge they already have (Johnson & Johnson, 2004). Instructional activities included in daily lesson plans were story reading about the themes, story writing about the themes, vocabulary card games, sentence generation, fill-in-the-blank, true/false, and review activities.

In this study, the impact of vocabulary instruction in theme-related word was assessed using four measures administered before and after instruction. All assessments were individually administered except for the screening measure, the TOWL-3 Story Construction subtest (Form B). First, students were asked to demonstrate knowledge of the 20 theme-related words by completing a multiple-choice vocabulary test. This test consisted of the target adventure and mystery words as stem items and six alternative options for each stem item from which students had to select the word's correct definition. The test was developed by the researcher and administered before and after instruction on the theme, separately for each theme.

Second, students were asked to write a story about a theme in response to a story writing prompt. Prompts consisted of a picture related to the theme and two blank pieces of papers attached for students to write their responses. The test was timed and its purpose was twofold: (a) to detect any differences in the number of instructional words and their synonyms students used in their stories, separately for each theme, and (b) to identify the quality of students' writing for each theme, prior and upon instruction.

The third assessment used in this study was another instrument developed by the researcher. With this test, students were asked to tell the instructor everything they knew about a theme, separately for each theme. The test was timed and its purpose was to evaluate the level of students' theme-related knowledge prior and upon instruction in the theme-related words by assessing the number of on-topic units of knowledge included in students' knowledge telling.

Finally, upon completion of instruction on each theme, students in the

experimental condition were asked to complete a social acceptability inventory, separately for each theme. The purpose of this measure was to examine whether the instruction in theme-related words that students received throughout the duration of the study was perceived to be acceptable for learning new words.

This study extends previous research efforts examining the role of vocabulary instruction on students' writing performance in three important ways. First, the current study is the first conducted with primary grade students. All prior studies involved students at the upper elementary (Duin, 1983; Duin & Graves, 1986), middle (Duin, 1983; Duin & Graves, 1986; 1987; Thibodeau, 1963), high school (Harris & Graham, 1985), or college level (Wolfe, 1975). The decision to include 3rd-grade average and below average (struggling) writers was based on several factors, including Berninger's et al. (2002) contention that third grade is a critical period in the teaching of writing. In third grade, writing problems become more apparent, as writing demands become more intense at this point. By this grade, students are typically skilled enough in writing to be able to produce text containing multiple ideas, making the use of vocabulary in writing more important. In addition, students in the primary grades, even struggling writers, generally maintain a more positive attitude toward writing than older students. Moreover, many schools may not focus on poor writing performance before third grade, as high-stakes assessments of writing are typically administered in fourth grade. Additionally, Grade 3 is perceived as an important milestone for students' vocabulary development. It is at that age when students start to shift their attention from getting word recognition to gaining word meaning (Chall, 1987).

Second, even though the vocabulary instruction implemented in this study was still based on teaching theme-related words, as in the Duin and Graves studies (1986, 1987), students in this study were provided instruction in two sets of words for two different themes (instruction lasted in total four weeks). This provided a fuller test of the effects of vocabulary instruction on writing performance than prior investigations, because it allowed for results generalization to a different theme.

Third, in this study, vocabulary instruction was also examined as a knowledge building approach. Through vocabulary instruction, students in the experimental condition were expected not only to expand their knowledge on the theme (content knowledge), which would subsequently enhance the quality of their written products, but also demonstrate generalization of this knowledge in genre writing. Specifically in this study, it was hypothesized that by providing instruction in theme-related words typically used in adventure and mystery stories, and knowledge about the broader context in which these words are used students would enhance their genre writing even though no direct instruction on genre writing was provided. For the purpose of this study however, the phrases "theme-" and "genre-" writing are used interchangeable. This study adds to the existing literature on the relationship between writing knowledge and writing performance (Albin et al., 1996; Bonk, et al., 1990; Englert, et al., 1988; Fitzgerald & Teasley, 1986; Fitzgerald & Markham, 1987; Saddler & Graham, in press).

In summary, this study was conducted in an attempt to explore the effects of vocabulary instruction in theme-related words on the vocabulary and writing performance of third-grade average and struggling writers as well as on their

knowledge about the themes. In the next section, I present the five research questions

that I answered as well as my predictions.

Research Questions

1. Does vocabulary instruction with theme-related words as well as practice

    using these words to write about a theme improve students' knowledge of

    the words taught?

2. Does vocabulary instruction with theme-related words as well as practice

    using these words to write about a theme result in an increased use of

    these words when students write about the theme?

3. Does vocabulary instruction with theme-related words as well as practice

    using these words to write about a theme improve students' knowledge

    about the theme?

4. Does vocabulary instruction with theme-related words as well as practice

    using these words to write about a theme improve the quality of students'

    writing about the theme?

5. Is vocabulary instruction in theme-related words perceived as socially

    acceptable by third-grade average and below average (struggling) writers

    for learning new words and enhancing their writing performance and

    knowledge about the theme?

Expected Outcomes

Based on previous research conducted on this area (Duin & Graves, 1986;

1987), it was expected that participants in the experimental condition would learn the

target words as a result of direct instruction on the words. Second, participation in the experimental condition would result in an increased use of the target theme-related words when writing about the themes. Such an increase would be the result of growth in students' knowledge and number of words they know about the themes from pre- to posttest. When students' knowledge about a theme increases, so does the probability of students displaying this knowledge as well as the words that encapsulate that knowledge, when they write a story about the same theme.

Third, participation in the experimental condition would result in improvement in the quality of students' story writing about the theme following instruction in theme-related words. When students apply the knowledge of the theme they gained through instruction and use the words taught in their writing, they are able to write better stories about the theme because the use of diverse vocabulary has been found to relate to writing quality. Since the taught words also convey knowledge about the themes, I anticipated that this would further enhance writing quality about each theme. Therefore, I approached vocabulary instruction in theme-related words more as a means to increase knowledge about a theme and knowledge about genre writing through a deep understanding of the concepts underlying the words taught rather than an approach to enhance content knowledge and rote memorization of word meanings.

Fourth, instruction in theme-related words would also result in students' enhanced knowledge about the theme. Participants in the experimental condition would demonstrate a larger number of on-topic units of knowledge about the theme as a result of the vocabulary instruction on the theme. Finally, it was anticipated that

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students in the experimental condition would perceive the vocabulary instruction as a socially acceptable tool for learning new words and enhancing their writing performance and knowledge about the theme.

Definition of Terms

Adventure – is an unusual and exciting experience.

Knowledge of production writing procedures – is the knowledge of procedures related to producing a written paper such as using a computer, writing neatly, spelling the words correctly (Saddler & Graham , in press).

Knowledge of substantive writing procedures – is the knowledge of procedures related to generating ideas, planning, revising, editing, and using good words when writing (Saddler & Graham, in press).

Mystery – is a problem or puzzle that is difficult to explain and solve.

On-topic unit of knowledge – is a new and unique idea on the theme that is dictated by the student during knowledge telling and can consist of one or more than one sentences/phrases.

Students' knowledge of the words taught – is students' ability to correctly identify the definition of each of the 20 theme-related words taught during instruction among five alternative options provided to them in a multiple-choice format.

Symbolic emphasis – is the richness of nouns, modifiers, and past-tense verbs in parent utterances per hour (Hart & Risley, 1995).

Syntactic maturity – is a measure of a writer's use of more complex sentence structures according to indices developed by Hunt (1965).

Vocabulary instruction on theme-related words – is a direct vocabulary teaching

approach where instructor teaches a set of conceptually related words in order to facilitate students' acquisition, retention, and access of the words taught. This approach helps students identify relationships between known and less known words through practice using the new words in writing in multiple, different contexts inside and outside the classroom. Special consideration is also given to students' motivation.

Chapter 2: Literature Review

This chapter provides an overview of the available literature on topics important to the current research study. The chapter is divided into eight sections. In the first two sections, I present a rationale for the need to improve students' writing performance by establishing the importance of writing and identifying some of the difficulties that poor and average writers encounter and what skills are crucial for enhancing their writing performance. In the following three sections, I highlight the importance of vocabulary in writing by reviewing studies on: (a) the predictive validity of vocabulary; (b) the effects of vocabulary on teachers' judgments of writing quality, and (c) the positive influences of vocabulary instruction on students' writing performance. Next, I examine issues related to vocabulary development and assessment, and identify the vocabulary characteristics of poor and average writers setting the stage for the underlying principle of vocabulary instruction. Finally, in the last section, I present information on effective vocabulary instructional approaches and provide a rationale for the type of instruction selected in this particular study.

Overview of Writing

In 2003, the National Commission on Writing in America's Schools and Colleges emphasized the importance of writing and highlighted the need to make writing improvement a national goal. Throughout the report, members of the commission talked about the technological advances and the available knowledge on how to teach writing effectively, emphasizing the need for progress in the science of writing. But why is writing so important?

Since writing was initially used as a tool for representing the number of animals or commodities more than 5,000 years ago, it has undergone an incredible metamorphosis (Graham, 2006). It now provides a tool for communication, learning, as well as artistic, political, spiritual, and self-expression (Graham & Harris, 2000). As a tool for communication, writing allows individuals to maintain personal links from a distance with family, friends, and colleagues, and to foster a sense of heritage and purpose among larger groups of people. As a tool for learning, writing facilitates the process of gathering, preserving, and transmitting information with great detail and accuracy (Diamond, 1999). The permanent, explicit, and active nature of written products make ideas readily available for review and evaluation, encourage the establishment of connections between ideas, and foster the exploration of unexamined assumptions (Applebee, 1984). Furthermore, writers have the potential to refine and extend their knowledge about a particular topic (Brodie, 1997) when they reflect upon the thoughts they put on paper (Bangert-Drowns, Hurley, & Wilkinson, 2004 found modest average effect size of 0.26 for writing on learning in school). From a different perspective, writing about experiences and feelings can also be beneficial psychologically and physiologically (Smyth, 1998), because it facilitates self-expression and self-exploration and combats loneliness (the average effect sizes for these variables was 0.42 when healthy participants were asked to write about a traumatic experience).

In the past, authors have used the persuasive power of writing to influence their audiences. Chairman Mao's *Little Red Book* introduced millions to the ideology of communism and Thomas Paine's pamphlet, *Common Sense,* inflamed

revolutionary sentiment in colonial America. Regardless of some governments'

actions to reduce or eliminate the impact of writing by "banning" subversive

documents and jailing authors, writing remains a very powerful tool for persuading

others (Graham, 2006).

People who cannot write (less than 15% of the world's population; Swedlow,

1999) are at a disadvantage; they lose a valuable tool for communication, learning,

and self-expression and have limited opportunities for employment and education

(Graham, 1982). In school, writing becomes the primary means for demonstrating

knowledge and assessing progress. Specifically, students use writing to gather,

remember, and share subject-matter knowledge as well as to explore, organize, and

refine their ideas about a topic (Durst & Newell, 1989). Educators, on the other hand,

use writing, especially with older students, to assess their knowledge. Students with

persistent writing problems are unlikely to reach their educational, occupational, and

personal potential if they do not acquire basic writing skills.

Writing Difficulties

Writing is a very complex process that requires the coordination of many high

level metacognitive skills. Specifically, in order to produce a high quality written

narrative, writers must generate and organize ideas, develop and act on a plan, as well

as review and revise their written product. At the same time, writers must also possess

knowledge and understanding about the particular writing topic, the particular genre,

the audience needs and characteristics, language skills, vocabulary, mechanics, and

conventions of print. Writers must also be able to focus on abstract topics (Roth,

2000) and self-monitor their performance.

Graham and Harris (2005) reported that even though the number of children with a writing disability is not known, data from the National Assessment of Educational Progress reveal that many students in the United States do not write well. In both 1998, and 2002, the majority of 4th-, 8th-, and 12th-graders who completed this assessment demonstrated only partial mastery of the writing skills and knowledge needed at their respective grade levels (Greenwald et al., 1999; Pesky et al., 2003). Writing problems are also common among children with special needs. For example it was reported that children with behavioral disorders, attention-deficit/hyperactivity disorders (ADHD), learning disabilities, and speech and language difficulties experience considerable difficulty learning to write (Gilliam & Johnston, 1992; Nelson, Benner, Lane, & Smith, 2004; Newcomer & Barenbaum, 1991; Resta & Eliot, 1994).

The College Board, an organization of more than 4,300 colleges, warned that students and society would be short-changed if writing is not included in current school-reform efforts. If writing performance is to be maximized, effective instructional procedures, especially for beginning writers and those who struggle with writing, need to be identified. Such an attempt is particularly important given the fact that effective instruction can minimize writing failure for young writers and ameliorate the severity of writing difficulties experienced by other students whose primary problems are not instructional (Graham & Harris, 2002).

In the following sections, I examine the aspects of the writing process where students often encounter difficulties when composing such as generating ideas, knowledge about writing, mechanics, planning, revising, and self-monitoring. Then, I

identify the skills and strategies that these students need to acquire in order to become more proficient in writing. Information about the characteristics of struggling writers is obtained mainly from studies including students with LD, because limited research has been conducted with struggling writers, and both student populations appear to experience similar delayed development in cognitive and metacognitive aspects of writing (Wong, Wong, & Blenkinsop, 1989).

Characteristics of Struggling Writers and Students with LD

Observations of how immature and struggling writers compose led Bereiter and Scardamalia (1987) to develop a writing model for novice, inexperienced, and struggling writers. This model is commonly referred to as "knowledge telling" model because writers simply tell what they know about a topic without doing much advanced planning or considering the issues they need to address in their writing. Typically, each sentence an immature writer composes serves as a starting point for the next sentence. It has been proposed that beginning writers use this approach, as it minimizes the use of other cognitive processes such as planning and revising, which require considerable cognitive resources (Graham, 1990). The "knowledge telling" approach is also used by students with LD (Graham, 2006).

Results from research studies conducted to address differences between the written products of students with LD and those produced by normally achieving students have not always produced identical results. For example, Laughton and Morris (1989) reported no differences between 6th-graders with and without LD in terms of story production. The compositions written by students in these two groups were also similar in terms of syntactic complexity in several studies (Deno, Marston,

Mirkin, Lowry, Sindelar, & Jenkins, 1982; Morris & Crump, 1982; Nodine et al., 1985). Likewise, no differences between these populations were found in syntactical errors in one study (Poteet, 1979) and in vocabulary measures in two other investigations (Morris & Crump, 1982; Poplin, Gray, Larsen, Banikowski, & Mehring, 1980).

However, the vast majority of the studies examining differences between students with and without LD indicated that these two groups differ in their writing performance. In comparison to their normally achieving peers, the compositions written by students with LD were shorter (Deno et al., 1982(a); Nodine et al., 1985), less cohesive (Nodine et al., 1985), and poorer in overall quality (Poplin et al., 1980). Furthermore, they contained fewer structural elements (Thomas, Englert, & Gregg, 1987) and had more spelling, capitalization, and punctuation errors (Houck & Billingsley, 1989; Poplin et al., 1980; Poteet, 1979).

Specifically, for struggling writers and students with LD, problems are present at two levels: (a) lower level skills – including grammar, punctuation/capitalization, handwriting, and spelling, and (b) higher level processes – including audience awareness, content generation, planning, revising, and knowledge about genre/text structures and the topic (Newcomer, Nodine, & Barenbaum, 1988; Wong, Wong, Darlington, & Jones, 1991). These writing problems are examined below.

Lower-level Writing Problems

Evaluations of student writing are influenced heavily by spelling (phonetic and non-phonetic misspellings), punctuation and capitalization (when to use them and when not), handwriting (letter formation, spacing, consistent slant, line quality,

alignment, letter size, and fluency), and grammatical errors (subject-predicate agreement, tense, plurals, possessive endings, word order, omissions, and incomplete sentences or fragments) (Graham, 1982). Students with LD and other struggling writers typically exhibit problems with many of these skills in their writing (Deno et al., 1982a; Graham & Weintraub, 1996; Thomas et al., 1987). Results from a longitudinal study by Juel (1988) showed that 14 of the 21 fourth graders classified as poor writers scored one standard deviation below the mean on a standardized test of spelling. Although handwriting and spelling are challenging skills for students with writing difficulties, these skills improve with age (Farr, Hughes, Robbins, & Greene, 1990; Graham & Weintraub, 1996; Treiman, 1993).

Mechanics of writing are also a challenging area also for students with LD. Ten percent or more of the words included in compositions produced by students with LD are misspelled, whereas capitalization and punctuation errors occur in one third or more of their sentences (MacArthur & Graham, 1987; Moran, 1981; Thomas, Englert, & Gregg, 1987).

The role of different methods of text production in the writing process and written products of students with LD was also investigated by MacArthur and Graham (1987). The researchers examined the stories produced by handwriting, dictation, or word processing with 11 fifth- and sixth-grade students with learning disabilities, in relation to the quantity and quality of their compositions as well as several other aspects of the writing process (rate of writing, and the amount, types, and timing of revisions). Results from the study showed that dictated stories were longer, of higher quality, and contained more vocabulary and fewer grammatical

errors. Word processing produced better results in composing rate and showed differences in the type and amount of revisions done by students; the ease of revision in word processing encouraged students to spend more time correcting minor errors as they wrote the first draft. No significant differences were found between handwriting and word processing conditions on any of the product measures (length, quality, story structure, mechanical or grammatical errors, vocabulary, or average T-unit length).

Higher-level Writing Problems

Starting with planning and generating ideas about a particular writing topic, skilled writers typically plan more than poor writers. Hayes and Flowers (1980) found that among skilled writers, 80% of content statements produced early in the process of composing focus on planning, whereas novice and less skilled writers typically do little explicit planning, especially in advance of writing (McCutchen, 1995; 2006). Cameron and Moshenko (1996) found that sixth graders spend on average two minutes on planning in advance, whereas struggling writers of the same age spend less than one-half minute (MacArthur & Graham, 1987). In addition, Bereiter and Scardamalia (1987) reported qualitative differences in the planning strategies of struggling in comparison to more skilled writers. Skilled undergraduate students appeared to plan their entire composition in advance, some times generating multiple and abbreviated lists of ideas that were connected by lines or arrows, and not just simply generating content like less skilled writers in 4th-, 6th-, and 8th-grades (Bereiter & Scardamalia, 1987). On a more positive note, Bereiter and Scardamalia (1986) found that struggling writers become more sophisticated in planning with age.

Specifically, they reported that sixth graders wrote twice as many planning notes than fourth graders (Bereiter & Scardamalia, 1986). In a different study, sixth graders used planning notes to synthesize rather than merely repeat information, as did second- and fourth-graders (Boscolo, 1990).

Similarly, students with learning disabilities use immature and ineffective planning strategies. They often do not focus on the specific text structures or purpose of the papers they are writing (Graham, 2006). Beginning writers often lack strategies for generating or discarding ideas based on the constraints of the writing task; they also lack strategies for composing written products that conform to accepted text structures (Scardamalia & Bereiter, 1986). The development of these cognitive processes is evident in the unity, clarity, and coherence of the final composition, and these characteristics are often poorly developed in the products of struggling writers. In addition, both narrative and expository text structures present difficulties for young students, especially for struggling writers, but expository text appears to be more challenging. Poor writers also have difficulty using different types of expository structures and keywords such as *however*, *therefore*, and *in contrast to* (Thomas, Englert & Gregg, 1987).

Poor writers also appear to do little meaningful revising. There is a difference in the amount of time poor writers devote to revising when compared to more skilled writers. There is also a difference in the nature of their revising. Less skilled writers make mostly superficial changes in their written products, correcting spelling errors and making small changes in wording (Fitzgerald, 1987; MacArthur, Graham, & Harris, 2004).

During the writing process individuals access different types of knowledge from memory. This includes knowledge about: (a) the writing topic; (b) the intended audience; (c) the genre; (d) the task schemas, and (e) linguistic awareness (grammar, sentence construction, and spelling). Available research in this area shows that writing development is shaped by changes in writing knowledge. Skilled writers are more knowledgeable about writing in general and possess a more sophisticated conceptualization of writing than poor writers (Graham, Schwartz, & MacArthur, 1993). Good writers also have greater knowledge about (a) the attributes and structure of different genres (Englert & Thomas, 1987); (b) strategies for carrying out the processes of writing (Englert, Raphael, Fear, & Anderson, 1988); (c) the role of audience in writing (Wong, Wong, & Blenkinsop, 1989), and (d) the purpose of writing (Saddler, Moran, Graham, & Harris, 2004).

In a recent study (Saddler & Graham, in press), more skilled fourth-grade writers were more knowledgeable about writing than their less skilled peers and were able to provide more examples about the importance of writing in and outside of school. More skilled writers were almost twice as likely to generate ideas involving substantive processes of writing, such as planning and revising, than less skilled writers when asked to define writing and the attributes of good and poor writers. Additionally, more skilled writers placed more emphasis on the value of seeking assistance to address difficulties with writing than their counterparts.

Developing writers, on the other hand, become increasingly knowledgeable about writing with age. There is considerable evidence that knowledge of the attributes and structures of different genres develops early and becomes more

complex with age (Donovan & Smolkin, 2006). Older writers have a more sophisticated conceptualization of writing than younger writers and a greater knowledge about the role of audience in writing (Holliway & McCutchen, 2004).

On a less positive note, research conducted with seventh-grade and college students showed that students' knowledge about potential writing topics might not increase with age (McCutchen, Francis, & Kerr, 1997). Specifically, McCutchen et al. (1997) found no differences in students' knowledge about two writing topics (Christopher Columbus and Margaret Mead). In terms of group differences, there is no evidence in the available literature as to whether good writers possess more knowledge than weaker writers about the topics they write about.

Knowledge about writing is another area where students with and without disabilities differ. Students with LD have little strategic awareness of the text structure categories that might facilitate generation and organization of ideas (Englert, Raphael, Anderson, Gregg, & Anthony, 1989), and are also less aware of modelled writing strategies, steps in writing process, strategies for presenting expository ideas, use of organizational strategies, and procedures for selecting and integrating information from multiple sources (metacognitive processes) (Englert, Raphael, Fear, & Anderson, 1988). Finally, students with LD are less familiar with writing tasks, the relevance of planning, and the importance of understanding the needs of audience (Wong, Wong, & Blenkinsop, 1989).

Despite the differences between struggling writers and students with LD and average writers, as writing skills develop, average achieving students are able to gain

competence and write more words in gradually longer and more complex messages due to maturation and exposure to instruction. This is not necessarily the case, however, for struggling writers based on the studies reviewed in this section. Similarly, teachers should not expect the same developmental progress for students with disabilities.

Barenbaum, Newcomer, and Nodine (1987) reported improvements with age among students with disabilities, but they did not find a linear progression; fifth graders with learning disabilities exceeded 3rd- and 7th- grade students with learning disabilities but fell below the non-LD students and poor readers. In a more recent study, Newcomer and Barenbaum (1991) found that LD students produced fewer words per composition (they were less fluent) than non-LD students and that these deficiencies were persistent across grade levels. It was further suggested that fluency deficiencies among LD students are not mitigated by maturation and/or instruction in school.

In conclusion, writing is an essential tool for communication and learning; a very powerful means for artistic, political, spiritual, and self-expression; and a primary avenue for individuals to meet their educational, occupational, and personal potential. Writing is also a very complex process that requires the coordination of many high level metacognitive skills so that relatively few people develop expertise in writing. Demonstrated writing difficulties among struggling students and students with and without disabilities are present at lower-level writing skills such as grammar, punctuation/capitalization, spelling, and handwriting, as well as at higher-level writing skills such as context generation, knowledge about the topic, the

audience needs, and the genre/text structures, and planning and revising strategies. This population of students uses the same writing model with that used by novice and inexperienced writers, referred to as "knowledge telling." Based on this writing approach writers simply tell what they know about a topic without doing much advanced planning. When it comes to progress over time, students with disabilities are reported to also show a slower developmental trend than that of students without disabilities and struggling writers, and at a non-linear progression.

Given the characteristics of poor and average writers and students with learning disabilities that have been described above, in the next section I will attempt to identify the skills and strategies deemed necessary for these students in order to reach proficiency in writing.

Skills and Strategies Needed for Successful Writing

Writing is considered one of the most complex human mental activities. Flower and Hayes (1981) approached writing as a conscious, self-directed, problem-solving process, where each writing task is a problem to be solved with no-single correct solution. Writers need to first create an internal representation of the problem; they need to activate background knowledge about the theme, define the purpose for writing, consider the needs of the audience, and identify the conventions of the specific type of writing. Second, writers need to define the strategies and objectives for achieving these goals (plan), and move to the third task of composing. Throughout the process of composing, writers translate ideas into acceptable English sentences while paying attention to the mechanics, capitalization, punctuation, and spelling. The fourth task in the writing process includes frequent assessment of the progress

towards meeting the goals (self-evaluation), whereas during the last task writers are required to redefine their goals as needed (reviewing and revising). Lastly, even though self-evaluation, reviewing, and revising are important during and after the composing task, writers need to self-monitor their performance in an ongoing manner throughout the writing process (Roth, 2000).

Flower and Hayes (1980) also identified the two fundamental but very demanding problems that writers face during the composing process: the knowledge problem and the communication problem. On one hand, writers must produce an organized set of ideas for a paper by selecting and arranging a manageable number of concepts and relations from a vast body of background knowledge and experiences. On the other hand, writers must fit what they know to the needs of the reader and the constraints of formal prose (Flower & Hayes, 1980). They basically need to demonstrate knowledge and understanding of story components, language skills, vocabulary, mechanics, conventions of print, audience needs and characteristics, and an ability to focus on abstract topics (Roth, 2000).

Writing is therefore considered a skill that is not mastered easily, but acquired gradually as a result of considerable changes in a writer's basic composing skills, knowledge about writing, self-regulatory or strategic behavior, and motivation as individuals move from novice, to competent, and then for a small few to expert writers. For struggling writers and students with disabilities such a process can be extremely complicated and time demanding, but it can be facilitated through appropriate writing programs (Graham, 2006). So, despite the fact that there is no universal agreement as to what writing instruction should involve (Carroll, 1984),

studies conducted with average, poor writers, and students with LD have shown that providing instruction in specific areas can positively enhance students' writing achievement. Graham (2006) also advised that skills and strategies that influence writing performance should be taught directly, that writing activities should be interesting, students should interact with each other around the writing task, and that the writing environment should be structured in a way to maximize students' success and learning through substantive and facilitative assistance.

Two of the skills that can influence writing performance are, handwriting fluency and spelling. In a review of 13 studies, Graham, Berninger, Abbott, Abbott, and Whitaker (1997) found that handwriting fluency and spelling were moderately correlated with measures of writing achievement. More specifically, handwriting and spelling appeared to account for 25% to 42% of the variance in the writing quality of 600 first-through sixth-grade students and for 66% to 41% of the variance in writing output at the same grades. Planning, revising, and self-regulation skills are three other factors that play an important role in students' writing development (Graham & Harris, 2000). All three of these processes predict writing performance (Graham & Harris, 2000), but even more importantly when school-age students are specifically taught strategies to carry out these processes, large effect sizes are obtained (Graham, 2006).

The relatively limited research on the motivational differences between skilled and less skilled writers shows contradictory results in terms of the role of motivation in predicting students' writing achievement. Knudson (1995) reported that even after controlling for grade-level variance, attitudes toward writing appear to predict writing

achievement, a finding that was also supported by Pajares' review of literature

(2003). In terms of students' writing interest, Hidi and McLaren (1991) did not find a

relation between writing interest and performance of sixth graders, whereas Albin et

al. (1996) found that interest does predict the writing performance of older students.

Finally, another factor that appears to influence students' writing achievement

is the level of knowledge that writers bring to the composing task. Despite the

relatively small number of studies examining the role of knowledge in students'

writing performance, the results generally support the importance of knowledge.

Specifically, Englert, Raphael, Fear, and Anderson (1988) reported that knowledge of

10 different strategies for carrying out different writing processes was significantly

related to fourth- and fifth-grade students' performance on expository writing tasks

(correlations ranged from .25 to .70). Knowledge of writing strategies was also found

to be associated with the quality of papers (correlations ranged between .35 and .45)

produced by sixth-, seventh-, and eight-grade students (Bonk, Middleton, Reynolds,

& Stead, 1990). Additionally, moderate correlations (.35 and .45) were reported

between knowledge of writing strategies and the quality of papers produced by sixth-,

seventh-, and eighth-grade students (Bonk et al., 1990). In a more recent study,

Saddler and Graham (in press) reported similar results, as they found that story

quality of more skilled writers was correlated strongly with the students' knowledge

of substantive and production writing procedures.

Teaching fourth graders about the parts of a story was also found to improve

the organization and quality of students' story writing (Fitzgerald & Teasley, 1986).

Likewise, writers provided with first-hand experience with the types of difficulties an

audience might experience with their text improved children's and college students' descriptive narratives (Holliway & McCutchen, 2004; Traxler & Gernsbacher, 1993).

Writing performance is also related to the writer's familiarity with the writing topic (Voss, Vesonder, & Spilich, 1980; Mosenthall, Conley, Colella, & Davidson-Mosenthall, 1985). Albin et al. (1996) reported that after controlling for English and usage skills and gender students' baseball knowledge accounted for unique variance in the prediction of thematic maturity of a paper about baseball and number of game actions included in the story. On the other hand, Kellogg (1987) reported that topic knowledge was not related to how often college students engaged in various writing processes. This finding was in conflict with previous findings that students with lower topic knowledge expended more cognitive effort when writing than more knowledgeable peers (Butterfield, Hacker, & Plumb, 1994).

To summarize, researchers defined writing as a two-tiered problem solving process where writers typically face communication and knowledge issues. Specifically, writers have to initially produce an organized set of ideas recalled from background knowledge and experience and then, to communicate these ideas based on the needs of the reader and the constraints of formal prose. In an attempt to identify skills and strategies crucial to successful writing, researchers reported among others that writers should acquire and demonstrate sufficient knowledge and understanding of conventions of print, the mechanics of writing, story components, language skills, vocabulary, audience needs, and an ability to focus on abstract topics. They should also be motivated to write, and possess an adequate knowledge about

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writing and the writing topic, self-regulatory or strategic behaviour, and good

handwriting and spelling skills.

The study in this dissertation extends the research done so far on this topic by

examining the effects of vocabulary instruction as a knowledge building approach to

students' writing performance. The role of vocabulary in students' compositions is

examined separately in the next section. Even though there is limited research on the

positive effects of vocabulary on students' writing, results from six studies on

vocabulary instruction provide sufficient evidence to support this notion and suggest

a possible causal link between vocabulary instruction and the quality of students'

written products (Duin, 1983; Duin & Graves, 1986; 1987; Harris & Graham, 1985;

Thibodeau, 1963; Wolfe, 1975).

Importance of Vocabulary to Writing

It is widely recognized that knowledge of words and the ability to use

language are essential to success in school and achievement in society (Petty, Harold,

& Stoll, 1968). A number of researchers have made specific claims about the

importance of vocabulary. For example, some of them argued that vocabulary

knowledge is one of the best predictors of verbal ability (Jensen, 1980; Miner, 1957;

Terman, 1918), others reported that vocabulary strongly influences the readability of

texts (Coleman, 1971; Klare, 1984), and still others indicated that teaching the

vocabulary of a reading selection can improve students' comprehension of the

selection (Beck, McCaslin, & McKeown, 1980; Draper & Moellar, 1971).

Researchers have also noted that the lack of vocabulary knowledge is one of the most

crucial factors underlying the school failure of disadvantaged students (Becker, 1977).

Vocabulary, however, has also been considered an important part of the writing process. Even though it has not been established that students' vocabulary predicts writing quality with elementary school students, the development of a rich and varied vocabulary is considered an essential step in becoming an effective writer (Baker, Gersten, & Graham, 2003; Roth, 2000). Isaacson (1988) defined writing vocabulary as the originality and maturity of a student's choice of words, and identified it as one of the five principle components that emerge from every major writing theory.

Researchers have examined the importance of vocabulary to writing using three different approaches. These include: (a) examining how vocabulary influences teachers' quality ratings of students' written products; (b) correlating vocabulary measures to students' overall writing performance, and (c) exploring the impact of vocabulary instruction on the quality and quantity of students' written products. I examine each of these approaches next.

Vocabulary and Teachers' Ratings

Several researchers have explored which components of writing most heavily influence teachers' quality ratings. Most of this research has been done at the secondary level and has focused more on syntax than vocabulary. Studies on syntactic density and sentence combining showed that students who composed qualitative better writing used more structures of modification and more complex sentence structure than students who composed writing judged to be of lower quality (Combs,

1976; O'Hare, 1973; Pedersen, 1977; Potter, 1967; Schmeling, 1970). However, there is evidence that syntactic complexity does not necessarily result in higher qualitative ratings of a passage (Mellon, 1969; San Jose, 1972) and that syntactic criteria alone cannot suffice when it comes to explaining overall writing quality (Neilsen & Piche', 1981).

There is a reasonable amount of evidence that the vocabulary students use in their compositions can influence peoples' perceptions of others' speech or writing (Grobe, 1981; Neilsen & Piche', 1981). The semantic aspects of writing, particularly lexical maturity, have been important factors in the evaluation of students' compositions. Researchers have considered the role of writing vocabulary not only in teachers' evaluations, but also in textbooks (Loban, Ryan, & Squire, 1969), essay scales (Judine, 1965), and the National Writing Assessment (Forbes, 1975). Whether or not word frequency can be correlated with quality or maturity of word choice in writing is difficult to determine even though a positive correlation does exist between grade level and students' knowledge of infrequent words (Graves, 1977). It is, however, likely that students with a broader more sophisticated vocabulary may avail themselves of more potentially accurate lexical choices in their writing and hence produce qualitatively better work (Neilsen & Piche', 1981).

An analysis of student expository writing by Steward and Grobe (1979) showed that holistic quality scores awarded by teacher-raters were influenced more by essay length, freedom from spelling errors, syntactic maturity, and mechanics than by vocabulary. Grobe (1981), however, expanded the previous study by Steward and Grobe (1979) by adding eight additional vocabulary variables. Specifically, he

explored the relationship between particular vocabulary characteristics and teacher quality ratings of fifth-, eighth-, and eleventh-grade students' narrative writing. The researcher randomly selected 50 essays written by students at each of the three grade levels. The results of the analysis produced a large variety of data on each of the compositions, ranging from a simple word count to ranking the words with respect to their frequency of occurrence in written English. This task was accomplished by comparing each word in the essay to an internal list of 10,000 words.

The vocabulary variables used in the study to predict teachers' holistic quality rating scores included: (a) four vocabulary diversity measures, DIVE, TYPE, YULES, and TTR; (b) the percentage of words written that were from a list of the 500 most frequently used words; (c) the vocabulary repeat rate, and (d) word size (see Tables 1a and 1b). Grobe's (1981) analysis showed that when compared to the study by Steward and Grobe (1979), vocabulary characteristics increased the proportion of explained variance among teachers' quality ratings from 59.8% to 82.4%. With the exception of paraphrasing, the first 10 variables to enter the stepwise prediction system contained only vocabulary information, whereas three measures of vocabulary diversity (YULES, VOCDIV, and DIVE) were among the nine most efficient predictors of quality score.

Particularly, in grade five TYPES, RANK, and REPEAT entered the regression model in the second, fourth, and fifth place, whereas in grade eleven vocabulary variables (TYPES, DIVE, and VOCDIV) were found at the first, third, and fourth place of the regression model (Table 1a). At grades five and eleven, the number of different words replaced the total words written as the "best" predictor

Table 1a

Vocabulary Diversity Measures and Definitions

TYPES   *TYPES* is the number of different words in the composition (Barenbaum et al.,

           1987; Chatterjee, 1983; Fox, 1972; Gajar, 1989; Gajar & Harriman, 1987;

           Grobe, 1981; Silverman & Ratner, 2002)

TTR   *Type-Token Ratio (TTR)* is the number of different words in a composition

           divided by the total number of words in the composition (Barenbaum et al.,

           1987; Chotlos, 1944; Grobe, 1981; Hess et al.,1986; Johnson, 1944; Richards,

           1987; Vetterli & Furedy, 1997)

CTTR   *Corrected Type-Token Ratio (CTTR)* is the number of different word types

           divided by the square root of twice the number of words in the composition

           (Andolina, 1980; Carroll, 1964; Chatterjee, 1983; Fox, 1972; Gajar, 1989;

           Gajra & Harriman, 1987; Leaird, 2005; MacArthur & Graham, 1987; Morris &

           Crump, 1982; Silverman & Ratner, 2002; Vermeer, 2000).

YULE'S   *YULE'S K* is a measure of vocabulary diversity relatively independent of sample
K
           size and content (Grobe, 1981; Vetterli & Furedy, 1997). It assesses the repeat rate

           for words, which means the probability that two words randomly selected from a

           text will be the same word.

Herdan's   *Herdan's K* also functions independently of composition length and indicates
K
           richness or density of vocabulary as well as diversity (Gajar, 1989; Gajar &

           Harriman, 1987)

DIVE   *DIVE* is the reciprocal of the *YULE'S K* measure (Grobe, 1981)

VOCDIV   *VOCDIV* is the S.D. of Repeat Rate divided by the opposite of the

           TTR (Grobe, 1981):

           <u> S.D.   </u>

           <u>Number of words_____</u>

           TYPES

VII   *Vocabulary Intensity Index* (VII) is a measure of vocabulary

           development that considers the number of multi-syllabic words,

           word-building application, levels of vocabulary difficulty, and

           vocabulary diversity (Andolina, 1980; Chatterjee, 1983; Morris &

           Crump, 1982)

MSTTR   *Mean Segmental Type-Token Ratio* (MSTTR) is defined as the

           average TTR for successive segments of text containing a standard

           number of word tokens and is used to calculate lexical diversity from

           varying sample sizes (Richards & Malvern, 1997)

           D is referred as a third parameter in the equation that relates TTR to

           token size and has been effective in measuring vocabulary diversity

           (Richards & Malvern, 2002)

D   Number of different action words, different action helpers, and

           different describing words (Harris & Graham, 1985)

_____

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Table 1b

Vocabulary Maturity, Word Appropriateness, Functional Use of Content Area

Words, Word Size Measures, and Definitions

Vocabulary Maturity/ Uniqueness	Words considered mature were less frequently listed in *Word Frequency Norms* such as Carroll, Davies, & Richman's (1971) *American Heritage Word Frequency Book* (Neilsen & Piche', 1981) / More mature words were considered to be included in lists with words at later grade levels based on Dale and O'Rourke's *Living Word Vocabulary (*1976) (Neilsen & Piche', 1981) / Number of words not found on Finn's (1972) undistinguished word list (Deno, Marston, & Mirkin, 1982)
Vocabulary Sophistication Index	*Vocabulary Sophistication Index* calculated by dividing the number of words in students' compositions that are not included in the Basic Spelling Vocabulary List by the total number of unique words in the sample (Leaird, 2005)
RANK	*RANK* is the percentage of words which were from a list of the 500 most frequently used words (Grobe, 1981)
REPEAT	Vocabulary repeat rate (*REPEAT*) (Grobe, 1981) / Number of words that are not proper nouns, slang, or contractions (MacArthur & Graham, 1987) / Number of words included in McGivern & Levin's materials (1983) / Proportion of written words that were considered rare as determined from a word-frequency list supplied by Kurzweil Applied Intelligence in Boston, MA (Vetterli & Furedy, 1997) / Lexical diversity defined as the ratio of adjectival, adverbal, Nominal, and verbal types to tokens (Bradac et al., 1976; 1977)

Word Appropriateness	*D* is the number of diction or word-choice errors per 100 words written; errors include (a) inaccurate or inappropriate choice of words; (b) confused or non-idiomatic prepositions and phrasal structures; (c) serious redundancies, and (d) non-standard expressions (Steward & Leaman, 1983)
Functional Use of Content Area Words	Number of theme-related words included in students' writing (Duin, 1983; Duin & Graves, 1986; 1987; Wolfe, 1975)
Word Size	*Word Size* defined as the total number of letters in the essay divided by the number of words (Grobe, 1981)
	Average length of the words used (Deno et al., 1982b; Gajar, 1989)
	Average syllable length (Gansle et al., 2002; Grobe, 1981; Leaird, 2005)
	Average number or letters (Vetterli & Furedy, 1997)
	Number of words with seven or more letters (Houck & Billingsley, 1989; Gansle et al., 2002; Barenbaum et al., 1987)
	Average number of multi-syllabic words (three syllables or more) per 100 words in the composition (Leaird, 2005)

of writing quality, accounting for nearly 30% of the score variance at grade 11. Finally, the researcher suggested that TYPES is the "true" predictor of quality scores in all three grades and not the essay length, because the relationship between score and essay length was considered the result of a covariance (spurious effect) between the total words written and TYPES.

In another study by Neilsen and Piche' (1981), the focus shifted to the effects of syntactic and semantic features on teachers' evaluations of writing. The two independent variables in the study included headed nominal complexity (simple or complex noun heads) as measured by the number of modifiers (adjectives, genitives, and prepositional phrases) around the noun head, and lexical choice (mature or simple vocabulary), as measured by the following three criteria: (a) grade level based on Dale and O'Rourke's (1976) *Living Word Vocabulary*; (b) word frequency norms according to the work by Carroll, Davies, and Richman (1971), and (c) consensus of six graduate and undergraduate students that one word in each of the 21 given synonymous pairs would be more mature than the other. Neilsen and Piche' (1981) asked the participating teachers to assess four versions of the same twelfth-grade descriptive passage that varied only in their syntactic complexity and semantic maturity. The passage combinations included sentences with complex nominals and mature or immature vocabulary and sentences with simple nominals and mature or immature vocabulary.

Two instruments of composition evaluation served as dependent measures. The first one was comprised of 11 quality scales assessing coherence, organization, vocabulary (good or poor), logic, grammar, sentence structure, imagination, personal

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style, and precision, quality of writing, and use of standard English (Piche', Rubin, Turner, & Michlin, 1978). The second instrument was a holistic, 7-item, rating scale with 7 being the highest and 1 the lowest score. Results of the study did not show any relationship between syntactic complexity and superiority in qualitative ratings. There was, however, a relationship between lexical choice and judged quality of writing. It was reported that of all four versions of the passage, the mature vocabulary/simple nominal complexity version was consistently rated the highest, suggesting that mature vocabulary produces a significant effect regardless of the complexity of the nominals within the passage. This finding was consistent with previous research, which indicated that regardless of the level of syntactic density in a message, listeners are more sensitive to and seem to retain and recall semantic variations and lexical information from sentences for longer periods of time (Bradac, Davies, & Courtright, 1977).

Bradac and his colleagues (1976, 1977) found that undergraduate students rated positively a high-diversity message and negatively a low-diversity message when the lexical diversity of the messages was held constant. Messages of low-diversity consisted of messages with low lexical and syntactic diversity. Lexical diversity was defined as the ratio of adjectival, adverbial, nominal, and verbal types to tokes (lexical diversity). A message with high-syntactic diversity, on the other hand, contained a greater diversity of verbal tenses and a greater number and diversity of connectives, subordinate clauses, and complex verbal stems. Information about the students' judgments was obtained through seven-interval rating scales assessing evaluation of the speaker (competence, trustworthiness, dynamism, socioeconomic

status, and anxiety level), attitude toward the message (organization, clarity, and general effectiveness), and evaluation of the speaker's language (lexical effectiveness, syntactic effectiveness, and appropriateness). A final evaluative scale asked students to rate the potential teaching effectiveness of the speaker.

Steward and Leaman (1983), further examined the relationship between teachers' quality ratings of college freshmen written arguments and vocabulary. Specifically, the researchers asked English-social studies, business education, and mathematics-science senior high school teachers to assess 30 argument samples on eight writing variables, one of which was the number of diction or word-choice errors per 100 words written (index D). Main error categories included were: (a) inaccurate or inappropriate choice of words; (b) confused or non-idiomatic prepositions and phrasal structures; (c) serious redundancies, and (d) non-standard expressions, like problems with *it is* and *its*. Other writing variables assessed were the total words written, the number of spelling errors per 100 words written, the number of punctuation errors per 100 words written, the number of words per T-unit-ratio, the number of clauses per-T-unit ratio, the total number of free modifiers, and the number of free modifiers per-T-unit ratio. Writing samples were assessed holistically on a scale of 1 to 4.

Results from the study demonstrated that the effect of vocabulary on quality judgments was the most pervasive. The appropriateness of words used rather than the simple production of words was most important in influencing teachers' judgments. Findings also highlighted the predictive power of vocabulary. The number of diction or word-choice errors per 100 words written (D) was found to be the best predictor

for all quality ratings, accounting for about 40% of the variance, whereas free modifiers and syntactic complexity proved to be the weakest predictors.

More recently, Gansle, Noell, VanDerHeyden, Naquin, and Slider, (2002) examined predictor-criterion relationships between teacher assessment of third- and fourth-grade students' writing skill, standardized group tests of the students' writing skills (the criterion-referenced testing program initiated by the Louisiana Department of Education – LEAP - and the IOWA Test of Basic Skills – ITBS) as well as several measures of students' writing competence. Among the writing skills assessed were: (a) the number of words written and spelled correctly; (b) the number of long words (eight or more letters); (c) words in correct sequence and in complete sentences; (d) punctuation, and (e) computer-scored variables (Microsoft Word Flesch Reading Ease and Word Flesch-Kincaid Grade Level, Corel WordPerfect Sentence and Vocabulary Complexity). Even though results showed a correlation between long words and students' writing skills in both grades neither long words nor vocabulary complexity measure were significantly correlated with teacher assessment of writing skill.

To summarize, vocabulary knowledge and the ability to use language have long been recognized by researchers as essential elements to school success and achievement in society. Specifically, vocabulary was found to predict verbal ability, influence text readability, and affect reading comprehension. Vocabulary has also been considered to play an important role in the writing process and especially to influence teachers' judgements of writing quality. Results from the studies reviewed above were mixed. Vocabulary as assessed by the number of different words, the number of mature words, and the number of diction or word-choice errors per 100

words written in students' compositions (Grobe, 1981; Neilsen & Piche', 1981; Steward & Leaman, 1983) influenced the perceptions of writing quality, whereas a different vocabulary variable - the number of long words in students' compositions – did not (Gansle et al., 2002).

This is not to say that schools should or should not concentrate on vocabulary in order to improve students writing, because the ability to write in a narrative fashion consists of a complex set of skills, strategies, and other factors. It is however, possible that vocabulary instruction is one of the missing pieces in the puzzle for improving writing performance, and thus educators should focus their attention in facilitating writing vocabulary development as early as possible in students' school years in order to prevent academic failure.

Predictive Validity of Vocabulary Scores

The importance of vocabulary has also been examined in terms of its predictive validity of the overall quality of students' narratives. Deno et al. (1982b) examined the criterion validity of six indices of written expression. Specifically, the researchers assessed the written compositions of elementary school students with and without LD (from third to sixth grades) on: (a) grammatical maturity (mean T-unit length); (b) number of mature words (words not found on Finn's undistinguished word list); (c) total number of words in the composition; (d) word length; (e) words spelled correctly, and (f) letter sequences written correctly. Those six types of scores were then correlated with the students' performance on more elaborated criterion measures such as the Written Language Quotient from TOWL, the Vocabulary, Thematic Maturity, Word Usage, Spelling, and Punctuation subtests of TOWL, the

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Stanford Achievement Test, Intermediate I, Word Usage Subtest (Madden et al., 1978) as well as the Developmental Sentence Scoring System (Lee & Ganter, 1971), which measures syntactic maturity.

Results from the study showed that the highest correlations from the scores obtained using the six procedures for scoring written expression and the scores on the three criterion tests were for Mature Words (.61 to .83). Not only did vocabulary, as measured by the number of mature words, predict written expression, but it also distinguished students across grade levels and students with disabilities from those without.

The predictive power of vocabulary in comparison to that of seven other writing components was also examined by Steward and Leaman (1983). Thirty written arguments of college freshman students were assessed according to eight writing variables and given a holistic rating. The eight variables included: (a) total number of words written; (b) number of spelling errors per 100 words written; (c) number of punctuation errors per 100 words written; (d) number of words per T-unit-ratio; (e) number of clauses per-T-unit ratio; (f) number of diction or word-choice errors per 100 word written; (g) total number of free modifiers, and (h) number of free modifiers per-T-unit ratio. The number of diction or word-choice errors per 100 words written (D) was found the best predictor for all quality ratings, accounting for about 40% of the variance. Free modifiers and syntactic complexity proved to be the weakest predictors.

Chatterjee (1983) examined differences and developmental trends of syntactic density and vocabulary richness of students with and without disabilities at third- and

fifth-grade. The number of word types, the total number of words, and the word-building skills of the students were used to measure vocabulary richness (TTR, CTTR, VII, word types, word tokens). Syntactic density was assessed using the number of T-units and the Syntactic Density Score. These components were generated using a computer program developed by Kidder, whereas discriminant analysis was employed to examine differences between groups. Group differences were reported only for fifth-graders where students with learning disabilities appeared to use a considerable larger and varied vocabulary than those of students without disabilities. Although word type and total words used were powerful discriminators, Syntactic Density Score and Vocabulary Intensity Index were poor discriminators between the two groups in both grades.

Gajar and Harriman (1987) examined the role of 12 variables, including syntax, fluency, and vocabulary in the quality ratings of university students' with and without disabilities compositions. The compositions were scored by two independent raters and assigned a holistic rating. Each composition was entered into a computer's file in its original form and analyzed by a computerized language analysis (CALS) program (Borden & Watts, 1981). Fluency measures calculated by the number of words used in the compositions included (a) the total number of words; (b) the total number of paragraphs; (c) the total number of sentences, and (d) the total number of T-units. Syntactic maturity was analyzed by the number of words per T-unit, the number of words per paragraph, the number of words per sentence, the number of sentences per paragraph, and the number of statements, questions, and exclamations used. Lastly, vocabulary was analyzed by diversity as measured by the number of

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different words used in the compositions. Diversity was calculated by the average length of the words used and two type token ratios, the Herdan's K, and the Carroll's (see Table 1a).

Results from two stepwise regression analyses showed that the number of different words in a composition was the best predictor of holistic writing quality, accounting for 31% and 33% of the variance, respectively. The number of words per paragraph entered the regression equation at the second step of the analysis accounting for 0.02% and 0.03% of the respective variance.

Hart and Risley (1995) conducted a longitudinal study to shed light onto the complex role of students' socioeconomic status and other relevant factors on the vocabulary growth, vocabulary use, and children' performance on the Stanford-Binet IQ test and other standardized tests. According to Hart and Risley (1995), vocabulary use as well as the rate of vocabulary growth at the age of 1 to 2 years can predict students' language skills at the age of 9 to 10 as measured by the Test of Language Development (TOLD) and the Peabody Picture Vocabulary Test-Revised of receptive language (PPVT-R; Dunn & Dunn, 1981).

More recently, Leaird (2005) conducted a preliminary, non-intervention study to determine whether measures of vocabulary predict the variance in second- and fourth-graders' narrative writing quality beyond what is predicted by grade, fluency, and spelling. The investigator attempted to examine whether vocabulary matters, and which vocabulary measures have the most predictive utility. Narrative writing samples from 104 average achieving second-graders and 109 average achieving fourth-graders were scored for four vocabulary measures: (a) diversity; (b)

sophistication; (c) mean syllable length, and (d) frequency of long words used. All four vocabulary measures were calculated by the Spache (Micro Power & Light Co., 1995) and Concordance (Watt, 2000) computer programs. Concordance was used to assess the first two vocabulary variables, whereas the Spache program was used for the remaining two variables. Twenty percent of writing samples were randomly selected on which to rerun all vocabulary measures on the computer. Interrater agreement was 100%.

Vocabulary diversity was measured by the CTTR. Sophistication of vocabulary was assessed by the percentage of words in students' compositions that were not included in the Basic Spelling Vocabulary List (BSVL) that contains the 850 words most commonly used in children' writing (Graham, Harris, & Loynachan, 1993). This sophistication index was calculated by dividing the number of words not on the BSVL by the total number of unique words in the sample. The measure of syllables per 100 words (SP100) assessed the mean syllable length of vocabulary used in students' compositions whereas the number of polysyllabic words (with three syllables or more) per 100 words measure (PSWP100) assessed the average number of multi-syllabic words per 100 words in students' compositions. The last two vocabulary variables, the average syllables per word and the number of words with three syllables or more are used in two text readability formulas at the elementary level: the Flesch-Kincaid Index and the Power Summer Kearl.

The quality of students' written compositions was assessed analytically using three quality subtests on a 1-7 scale with 7 being the highest score, and holistically by adding the three subtest scores and obtaining an overall quality score ranging from 3-

21. The three quality subtests were: (a) the Plot Development (Plot) subtest assessing the development and elaboration of story elements, the specificity and clarity of details provided as well as the presence or absence of problem, emotional response, action, and outcome; (b) the Organization subtest assessing the clarity of the topic, the logic and clear direction of the narrative and transitions as well as the degree to which the story sequence moved smoothly from start to finish, and (c) the Creativity of Ideation and Word Usage (Creativity) assessing the originality of the beginning, end, plot, and methods of solving situational events in the story as well as the degree to which word usage grabbed the readers' attention and reflected original thinking. The students' writing samples were also scored for the Total Words Written (TWW) (fluency) and Correctly Spelled Words (CSW) (spelling).

Correlations between all vocabulary measures and analytic writing quality scores appeared significant at the .01 level, and ranged from .24 (correlation between Organization and PSWP100) to .80 (correlation between Plot and CTTR). Subsequently, the correlations between holistic writing quality scores and all vocabulary measures were also significant at the .01 level with the highest correlation being .81 (CTTR) and the lowest being .29 (PSWP100) (see Table 2). These findings were not expected given previous research studies showing significant correlations between writing quality and total words written and percentage correctly spelled words.

Results from the multiple regression analysis showed that all entered variables explained 74.5 percent of variance in the narrative writing overall quality with three of the vocabulary variables contributing significantly to the model (CTTR, SP100,

Table 2

Correlations Between Vocabulary Measures and Analytic Writing Quality Scores

	Organization	Creativity	Plot	Quality
CTTR	.73*	.79*	.80*	.81*
PWNL	.32*	.43*	.38*	.40*
SP100	.36*	.40*	.37*	.40*
PSWP100	.24*	.28*	.27*	.29*

Note. *p < .01; CTTR = correct type token ration; PWNL = percentage of words not on word list; SP 100 = syllables per 100 words; PSWP = number of polysyllabic words per 100 words. "*The relationship between measures of vocabulary and narrative writing quality in second- and fourth-grade students*," by J. T. Leaird, 2005, p. 24, Unpublished Master thesis. Peabody College of Vanderbilt University, TN. Adapted with permission of the author.

and PWNL). After controlling for the effects of total words written, percentage correctly spelled words, and grade which accounted for 57.5 percent of the variance in writing quality, word diversity appeared to contribute the most predictive power to the model (13.8 %), with only an additional 3.1 % of the variance explained with the addition of PWNL, SP100, and PSWP100. The addition of PWNL explained an additional 4.0 % of the variance in writing quality beyond that explained by TWW and PCSW, whereas for the SP100 and the PSWP100 the percentages of explained variance were 7.4 and 2.8, respectively.

To summarize, even though the vast majority of studies on the predictive validity of writing components on the quality of students' compositions have been on spelling, handwriting, syntax, and fluency, it is important to note that a significant amount of variance in writing quality not explained by those variables can be attributed to vocabulary. Results from the studies reviewed above (Deno et al., 1982b; Gajar & Harriman, 1987; Leaird, 2005) showed positive results in terms of the predictive validity of vocabulary measures on students' written compositions and have shed some light into the larger and complicated process of writing. Among the several vocabulary variables, the number of different words in students' compositions was found to explain some of the writing variance across a wide range of age levels. Given the synergetic nature of the skills that make up written language, it is thus important that educators know where to focus their instructional and assessment efforts in order to improve writing quality.

Vocabulary Instruction and Improvements in Writing Quality

The bulk of research on vocabulary instruction examines its effect on reading. Researchers explored students' acquisition of word definitions after practice with dictionary definitions (Anderson & Kulhavy, 1972); synonym pairs, word lists, and three-sentence passages (Gipe, 1979); word association tasks or the keyword method (McDaniel & Pressley, 1984; Pressley, Levin, & McDaniel, 1987); and the semantic mapping and semantic feature analysis (Johnson, Toms-Bronowski, & Pittleman, 1982). In addition, researchers have studied the effects of vocabulary instruction on reading comprehension. Some of these studies have had positive results in terms of the learning of word meanings, but no demonstrated gains in reading comprehension (Kame'enui, Carnine, & Freschi, 1982; Lieberman, 1967; Pany & Jenkins, 1978). Other studies found gains in both learning of word meanings and in reading comprehension (Beck, Perfetti, & McKeown, 1982; Draper & Moeller, 1971; Graves & Bender, 1980; McKeown, Beck, Omanson, & Perfetti, 1983; Stahl, 1983; Wixson, 1986). Even though there is a sizeable body of literature on vocabulary instruction and reading, there is limited research exploring the possible link between vocabulary instruction and improvement in writing quality.

Thibodeau (1963) was the first researcher to explore the role of instruction on elaborative thinking and vocabulary enrichment of sixth-graders' compositions. Elaborative thinking exercises included responding verbally and in writing to paragraphs, sentences, phrases, and words. Vocabulary exercises, on the other hand, included working with synonyms and antonyms, prefixes and suffixes, matching words, context clues, and descriptive words. Students received 30 minutes of daily instruction for eight weeks, and they were tested three times throughout the study: for

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initial, final, and retained vocabulary knowledge. Testing focused on vocabulary

knowledge and its retention as well as on the quality of students' writing. It was

reported that the experimental group scored significantly higher than the control

group on measures of writing ability, elaborative thinking, and vocabulary

knowledge.

Almost a decade later, Wolfe (1975) conducted a second study to assess the

importance of reading vocabulary instruction on freshman students' writing.

Specifically, the researcher compared the effects of two methods of teaching

vocabulary on the writing vocabulary in student themes. The two different treatments

were: (a) teaching vocabulary with students' practice of vocabulary words in

sentences and (b) teaching vocabulary with students' practice of words in multiple-

choice exercises. The control group in this study did not receive any instruction on

vocabulary but used this time to practice several study skills through individual

exercises. Additionally, Wolfe (1975) assessed the retention of writing vocabulary in

student themes after the vocabulary program was completed (six weeks later).

Measures included 3 pre-, 3 post-treatment themes, and 3 maintenance themes. Each

instructional word was selected based on three criteria: (a) words occurring in the

Thorndike list, one, two, three, or five times in a running million words, representing

words to be learned by students in grades nine through graduation from high school

as suggested by Thorndike and Lorge (1944); (b) words occurring in the Horn (1926)

list, with credit numbers of 11 to 74, that were least commonly-used in writing and

defined as relatively difficult by Horn (1926), and (c) words used in evaluating

things, people, and events such as nouns, adjectives, verbs, and adverbs.

The themes were analyzed based on the complexity of writing vocabulary, use of words taught in the vocabulary program, and use of words that were of the same general levels of complexity (how frequent are the words in students' themes compared to the Thorndike and Lorge's *Teacher's Word Book of 30,000 Words*). Complexity of writing vocabulary was used to indicate students' ability to use words in writing compositions, as measured by an analysis of words in students' compositions. To maintain consistency in theme sample length, a word sample of 800 words was used for each pre-, post-, and maintenance testing theme sample. Each word in each 800-word theme sample for each student was assigned a number from one to 51, indicating the number of times a word occurs in a running million, as tabulated by Thorndike and Lorge's *Teacher's Word Book of 30,000 Words*. The assignment of the number *one* would indicate that the word occurs only once in a running million words (it is among the least frequently-used words) and thus it is among the most difficult.

In Treatment 1, students were presented with 100 vocabulary words on an individual basis through 18 successive vocabulary lessons (5-6 words in each lesson) over a period of six weeks. In each lesson there were five to six words in a one-page selection (text) that introduced the study skill discussed in the latter half of the class. Each selection was followed by a printed explanation for each word. The explanation for each word was provided through dictionary definitions of the word in its different meanings and an example of the different meanings of the word in sample sentences. In every lesson, students were asked to review a sampling of vocabulary words introduced in the previous lessons. Lessons were completed on individual basis and

consisted of printed words distributed three times a week in student folders at the beginning of class. Lessons were then collected at the end of the 20-minute period allotted for vocabulary study. Students practiced using new words in sentences and were instructed to demonstrate understanding of those words through their correct use in sentences (sentences which merely defined the word were not acceptable). Students were also encouraged to use these words in their writing whenever feasible. Students' sentences were checked daily by the instructor.

In Treatment 2, students followed the same program as in Treatment 1, except for the format of vocabulary exercises. Instead of practicing words in sentences, students practiced new words in multiple-choice exercises. No reference was made to using words in writing. Students' exercises were again checked daily by the instructor. In the control group, students received the same selection distributed to the two treatment groups but all references to vocabulary words or vocabulary instruction were deleted. Each selection was followed by practical study skills exercises, which were completed within the twenty-minute period. Similarly to the other two groups, the instructor was checking students' exercises daily.

Results indicated that neither treatment resulted in students' increased use of the taught words in their writing or students' retention of those words in their writing. Specifically, there were no statistically significant differences among the three groups in the complexity of writing vocabulary and its retention on students' themes and in the use of words taught in the vocabulary program and their retention in students' themes. There were, however, reported statistically significant differences among the groups in the use and retention of words in students' themes that were not taught

during the vocabulary program, but which were of the same levels of complexity as the words taught. Even though students in both Treatment 1 and 2 were more effective in the immediate use of difficult words in student themes than students in the control group, Treatment 1 (practice words in sentences) was more effective in the retention of those words. The difference between the two groups was likely related to the students' participation in an active, creative process of writing sentences as opposed to the immediate recall method of practicing words in multiple-choice exercises.

Duin (1983) found that instruction in theme-related words and their use in fourth and sixth graders' narratives resulted in improvements in the quality of students' written products. Specifically, students were taught a set of 10 words that lent themselves to writing a narrative about exploring. Then, students were asked to write a composition involving exploring. The results showed that students who received instruction in theme-related words wrote compositions that were more structured, had more substance, and were more interesting than papers composed by students who did not receive vocabulary instruction in theme-related words. In addition, students who received vocabulary instruction used the words taught more frequently in their narratives than students who did not receive instruction. Even though older students used fewer of the instructional words in their compositions (40%) than their younger counterparts (80%) the former students showed a more tentative but more correct use of the words than the latter students. Additionally, Duin (1983) reported that students were excited about learning and using words and

suggested that a "word awareness" effect may influence them to pay more attention to their lexical choices in their future writing.

Harris and Graham (1985) attempted to improve the composition skills of two, 12-year-old students with LD by providing them with self-control strategy training. The intervention package combined strategy training, self-regulation training, and instruction in the significance of these activities. In particular, self-regulation training included criterion-setting, self-instructions, self-assessment, and self-reinforcement. Strategies and composition skills were taught via a modification of the well-validated, 7-step strategy developed by researchers at the University of Kansas Institute for Research in Learning Disabilities (Schumaker, Deshler, Alley, Warner, & Denton, 1982). The seven instructional steps were: (a) introduce task-specific strategy; (b) review current performance level; (c) describe the learning strategy; (d) model the strategy and self-instruction; (e) mastery of strategy steps; (f) controlled practice of strategy steps and self-instructions, and (g) training data collection.

The investigators instructed the students to use more different action words, action helpers, and describing words in their compositions. Action words were defined as words that express a physical or mental act, occurrence, or movement (what people, things, or animals do), not including verbs that represent a state of being. Different tenses of the same verb were not counted as separate responses. Action helpers were defined as words that modify a verb and express how something is done (provide more information about the action). Adverb that tell when, where, why, and to what extent were not counted. Finally, describing words were adjectives that modify nouns and denote the quality or quantity of the thing named (provide

more information about people, animals, places, or things such as shape, size, and feelings). Adjectives that specify a noun as distinct from something else (e.g., *this*) were not included. After the student completed the seven instructional steps for action words, instruction began again at step one for action helpers and then for describing words. Instruction was delivered three to two days a week, in 45-minute sessions until both students met the criterion. Throughout the duration of the study each student wrote one story per session in response to a black-and-white picture stimulus, for a total of 22 stories.

Results from this study obtained using a multiple-baseline-across-behaviors and across subjects design showed an increase in the number of action words, action helpers, and describing words; students wrote eight action words, 11 action helpers, and 13 describing words more during instruction than during baseline. Stories composed after training were also rated substantially higher than those composed before training. Findings demonstrated that as students' use of more diverse vocabulary increased throughout the study so did the quality of their compositions, suggesting a relationship between vocabulary instruction and overall writing quality. Maintenance data collected after the termination of each training session (over a period of six weeks for action words, over a period of four weeks for action helpers and over a period of two weeks for describing words) were very positive. Treatment effects were maintained on all three variables two weeks after all training sessions were terminated.

Duin and Graves (1986) investigated the effect of pre-teaching a theme-related set of words on writing about the specific theme. Students in the experimental

condition were a heterogeneous group of fourth-grade students (low, average, and high achievers) and two groups of sixth-grade students (a group of low and a group of high achievers). These students were taught a set of 10 words related to the theme of adventure in four 40-minute sessions. Students in the control condition were a heterogeneous group of fourth-grade students who were instructed in public speaking and a group of sixth-grade average students, who studied capitalization and worked on a unit about Africa.

Instruction delivered to students in the experimental condition consisted of activities that emphasized the relationship between known and unknown words and consisted of different types of activities: (a) definitions; (b) associations; (c) response to situations created by a well-known word and a new word; (d) completion of open-ended sentences; (e) matching words to their definitions; (f) yes/no questions about the words; (g) mini-story compositions using the instructed words, and (h) daily reviews of the words learned up to that point. Duin and Graves (1986) also designed and implemented two outside-the-class activities, *Say It To Someone* and *Word of the Day*. These activities provided students with small prizes and social type of reinforcement in an attempt to enhance students' motivation to use the new words in different contexts.

Instruction was based on work by Beck and her colleagues (Beck, McCaslin, & McKeown, 1980; Beck, Perfetti, & McKeown, 1982; McKeown, Beck, Omanson, & Perfetti, 1983; McKeown, Beck, Omanson, & Pople, 1985) with an emphasis on the use of new words when writing stories. Students were taught ten words in relationship to other well-known words, in relationship to the students' prior

experiences, and in relationship to the words' potential application in speaking, reading, and writing. The researchers also timed activities so that students achieve automaticity in recognizing the words.

A multiple-choice vocabulary pre- and posttest and a writing composition pre- and posttest were used to assess the number of words learned, the number of words used in writing after prompting, and improvements in writing quality. Findings indicated that students who received the instruction learned more of the words taught, used these words more frequently in their writing, and wrote narratives that were judged to be of higher quality than those of the other group of students. Teachers who administered the treatment talked about their excitement in using the activities, whereas students' responses to the social validity questionnaire showed that the activities throughout the study had amplified their interest in learning and using new words. Specifically fourth graders and sixth graders used the target words in their narratives 80% and 40% of the time respectively whereas the sixth graders appeared to use these words more appropriately. There was also an increase in vocabulary knowledge (62%) from pre- to posttest among fourth graders and 29% and 32% respectively, among high and low achieving sixth graders. Writing quality increases were in the range of 23% among fourth graders and 30-35% among sixth graders.

The most recent investigation on writing and vocabulary was conducted by Duin and Graves (1987). The researchers attempted to answer the following three questions: (a) Does students' knowledge of words increase with the provision of intensive instruction on those words as measured by a 13-item multiple-choice vocabulary test? (b) Does such instruction improve the quality of students' expository

writing as measured by a holistic writing scale (Cooper, 1984; Myers, 1980; White, 1985) and an 11-item quality scale adapted by Piche' and his colleagues (Neilsen & Piche', 1981; Piche' et al., 1978), and (c) Does such instruction result in students' having greater enthusiasm toward learning and using new words as measured by an attitude inventory?

The 80 seventh-grade students who participated in the study were divided into high-, middle-, and low-ability students based on their responses to the verbal component of the Cognitive Abilities Test (CogAT, 1984) (students' scores ranged from the 8th to the 99th percentile). The 13 words selected for instruction were related to the topic of space, but were not unique to it, so that they could be used in several contexts. All words were above the 10-grade level according to the *Living Word Vocabulary Book* (Dale & O'Rourke, 1981) and fell within the frequency block of 10 thousand and 50 thousand occurrences in the *American Heritage Word Frequency Book* (Carroll, Davies, & Richman, 1971).

The researchers compared three vocabulary instructional approaches: (a) intensive vocabulary and writing; (b) intensive vocabulary alone, and (c) traditional vocabulary. The first approach consisted of six instructional days. During Day 1 and 2 students were instructed on and reviewed the first set of five words respectively. During Day 3 and 4 students were taught the second set of five words along with the remaining three words and participated in review activities for all 13 words. Day 5 included a review of all new words and a presentation about space, whereas Day 6 was devoted to writing activities. Day 7 included the final writing activity, where students were encouraged to use the words they learned to write about space. Some

examples of activities included open-ended sentences, matching tasks, word association activities where students had to respond to questions consisting of new words, synonym tasks, reading/writing activities where students had to response in writing after reading a passage, and writing activities where students had to write stories including the new words taught and share those stories with their peers.

Similar to Beck and colleagues' work (Beck et al., 1980; Beck et al., 1982; McKeown et al., 1983; McKeown et al., 1985), the researchers used a lot of reviewing and two outside-of-class activities to enhance the students' motivation to write (*Payload* and *Momentous Maneuvers*). The intensive vocabulary alone approach was the same as the intensive vocabulary and writing approach except that the former did not include the specific writing activities. Finally, during the traditional vocabulary approach students were provided dictionary definitions for the new words and were asked to complete open-ended sentences using those words.

Even though the researchers reported that the intervention lasted seven consecutive days (six instructional sessions and one session for the posttest writing activity) there was no reference as to the duration of the instructional sessions (Day 1, 2, 3, 4, 5, and 6) for any of the three treatment conditions. Interpretation of the results in all three posttests, the multiple-choice vocabulary test, the number of target words written, and the total scores from the holistic and the set of composition quality scales showed that the scores of students in the intensive vocabulary alone and the intensive vocabulary and writing conditions increased significantly, whereas the scores of students in the traditional condition decreased. It was also noted that the students in the combined condition (vocabulary and writing) outperformed and were more

enthusiastic than the students in the other two conditions. It was therefore, suggested

that teaching a related set of words to students before they write an expository essay

in which the words might be used can improve the overall quality of the essays the

students produce.

Results from both Duin and Graves' studies (1986, 1987) showed that

vocabulary instruction in theme-related words increased students' knowledge of these

words, the use of these words in students' compositions after prompting, and the

quality of students' written narratives (Duin & Graves, 1986) and expository essays

(Duin & Graves, 1987). Additionally, it was reported that even though students in

both intensive vocabulary instruction conditions (with and without writing)

outperformed students in the traditional vocabulary instruction condition, students in

the intensive vocabulary with writing condition showed better results in vocabulary

and writing performance measures than the students in the other two conditions (Duin

& Graves, 1987).

Even though both studies reported promising results for the effects of teaching

theme-related words on students' knowledge of the words taught and the quality of

students' written products when considering the relatively rigor of the studies these

results must be interpreted with relative caution. For example, researchers in both

studies used intact classrooms or groups as participants in their studies, whereas in the

second Duin and Graves' study (1987) these intact classrooms were randomly

assigned to treatments. The information provided about the participants'

demographics, ability level, and pretest scores was also minimal for the participants

in the first Duin and Graves' study (1986). In the same study, no reference was made

to the participants' selection criteria, the decisions made about the words selected for instruction as well as the rationale for the particular instructional activities implemented and the time allocated to each of the four instructional sessions. In the second study (Duin & Graves, 1997), on the other hand, the researchers did not fail to report the participants' ability level and demographic characteristics or the criteria for selecting the particular instructional theme and target words. Although in both studies the researchers did a very good job delineating the activities used by the participating classroom teachers during each of the instructional sessions, there was no reference to training sessions provided to the instructors (if any) or to possible safety guards in place to ensure that instruction was implementation as intended.

When it comes to scoring, stories in both studies were scored by two independent raters, vocabulary tests were scored by an independent rater and checked by the researchers, whereas the number of words taught included in students' stories was tallied only by the researcher. No reference to the raters' training was provided or to the interrater agreement between scorers, when applicable, except for the medium correlation coefficient reported in the first study (Duin & Graves, 1986) between the two scorers of the story quality. Both studies used a factorial design to test the hypotheses whether the particular vocabulary instruction influenced students' knowledge of the words taught, use of the words taught in their writing, and the quality of students' writing. The researchers in both studies (Duin & Graves, 1986; 1987) also conducted posthoc analyses whenever a statistical significant interaction effect was found, and a Bonferroni adjustment for each of the separate tests being conducted, but failed to report the practical significance of the results obtained.

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My exploratory study can be considered a replication and extension of the previous work by Duin and Graves (1987). Specifically, I used the Duin and Graves (1987) study as the basic framework and made a number of modifications to add to the existing literature on the topic. First, participants in this study were younger students (3rd-grade) than those who participated in the Duin and Graves' study (1987), and were identified as average and below average writers. Second, experimental students in this study were provided instruction on two sets of theme-related words instead of one. The first set consisted of 10 words related to the theme of adventure and the second set consisted of 10 words related to the theme of mystery. This provided a fuller test of the effects of vocabulary instruction on writing performance than prior investigations, because it allowed for a test of generalization across themes.

Specifically, instruction on each set of theme-related words was implemented in six 30-45 minute sessions three times a week for two consecutive weeks. Students in the experimental condition were pretested on their knowledge about one theme and the related set of words as well as on their story writing about the theme. Then, they were provided instruction on this set of words during the first two weeks of instruction. After instruction on the first set of theme-related words was completed students in the experimental condition were posttested on their knowledge about the first theme, the first set of theme-related words, and their story writing about the first theme. Then, students were pretested on their knowledge about the second theme, the second set of theme-related words, and their story writing about the second theme. Finally, following instruction on the second theme of theme-related words, students

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in the experimental condition were posttested on their knowledge about these words, their knowledge about the theme, and their story writing about the theme.

Students in the minimal-treatment, control condition were not provided any type of vocabulary instruction, but were introduced to the two themes by participating in discussions about the themes, reading the same stories, and completing the same writing activities with those used with the experimental students. Control students were also assessed with the same measures with those used with the experimental students.

The third modification I made in this study was that I approached vocabulary instruction as a knowledge building approach that can subsequently enhance students' writing performance. Through vocabulary instruction on theme-related words, students in the experimental condition were expected to expand their knowledge on the theme, and consequently improve the quality of their written stories about the theme. Therefore I decided to move one step further from instruction on content knowledge (Duin & Graves, 1987) to implicit information about genre writing.

Specifically, I provided a general overview of two writing genres (adventure writing and mystery writing) by defining the two themes (adventure and mystery) and identifying the parts of a good adventure and mystery story. Then I coupled this information with additional knowledge of the genre by teaching theme-related words, which are typically used in genre writing, and the concepts underlying these words. It can thus be inferred that the vocabulary instruction in theme-related words used in this study should be perceived more as a means to increase knowledge about a theme and knowledge about genre writing through a deep understanding of the concepts

underlying the words taught rather than an approach to enhance content knowledge and rote memorization of word meanings.

Dependent measures included: (a) students' knowledge of the instructed theme-related words assessed using a multiple-choice vocabulary test; (b) the number of instructed theme-related words used in students' written stories; (c) the quality of students' written stories assessed using a 7-point holistic scale; (d) students' knowledge about the themes assessed by calculating the number of on-topic ideas used in students' knowledge telling tests, and (e) the extent to which the intervention provided to students in the experimental condition was perceived as socially acceptable for learning new words and for enhancing students' knowledge about the themes. The intervention's social acceptability was assessed using experimental students' responses to an inventory (adapted and revised from the original instrument developed by Duin and Graves, 1987).

The holistic scoring used to assess students' writing performance involved the relative ranking of a writing sample in relation to other samples written by other individuals; holistic scores are therefore, considered norm-referenced (Espin, Weissenburger, & Benson, 2004). Even though findings regarding the reliability and validity of holistically scored writing assessments are mixed (interrater reliability coefficients can be quite variable ranging between .13 and .94), the measure's predictive validity is questionable, and alternate-form reliability has not been supported, the holistic scoring method has been used since the 1950s and is widely accepted for assessing students' writing performance. Gardner, Rudman, Karlsen and Merwin (1982) reported strong correlations (.85) between students' with

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disabilities written performance assessed using a holistic rating and their scores on the Stanford Achievement Test.

In conclusion, even though the vast majority of research has examined the effects of vocabulary instruction on reading and reading comprehension, there is considerable evidence to support a possible link between vocabulary instruction and improvements in students' writing quality. Among others' Duin (1983) and Duin and Graves' (1986, 1987) adapted an intensive and structured vocabulary instruction suggested by Beck and colleagues and reported promising results of vocabulary instruction in theme-related words to students' knowledge of the words taught, use of the words taught in their writing, and quality of their writing. The particular dissertation study is considered a replication and extension of Duin and Graves' study (1987), as I used a different student population, attempted to generalize the results to a second theme, and approached vocabulary instruction as a knowledge-building method. Specifically, students were provided information about two themes (adventure and mystery) and then paired this information with additional knowledge of the writing genres through the teaching of words typically used in mystery and adventure writing and the concepts underlying these words. It was expected that vocabulary instruction in theme-related words would not only enhance students' knowledge of these words and content knowledge of adventures and mysteries, but also improve students' ability to write adventure and mystery stories.

In the next sections, I first address the issues of vocabulary development and assessment. Then, I identify the vocabulary characteristics of struggling and average writers.

How does Vocabulary Develop

All languages have a vocabulary, a set of words that are the basic building blocks used in the generation and understanding of sentences. Without some knowledge of that vocabulary, neither language production nor language comprehension would be possible. The growth of vocabulary knowledge is considered one of the essential prerequisites for language acquisition and development (Miller, 1991) and has therefore, become the focus of many investigations since the beginning of this century.

The vast majority of researchers agree that vocabulary knowledge develops at a remarkable rate during the early and middle elementary school years (Anderson & Freebody, 1981; Miller, 1977; 1978; 1981; 1986a; 1986b; 1988; 1991; Nagy & Anderson, 1984; Nagy & Herman, 1987; Wysocki & Jenkins, 1987). It is, however, not relatively clear if the rapid vocabulary development reported at these years is greater than that evidenced in the preschool years.

Moreover, there is considerable evidence of a sequential nature of vocabulary acquisition where children learn some words earlier than others. The Living Word Vocabulary (LWV; Dale & O' Rourke, 1981) is considered the best available source on when word meanings are likely to be learned. It contains 44,000 word meanings and identifies the grade level at which a word is first known by 67% or more of children or adults. Grade levels at which two-thirds or more of children know a word range from grade 4 to grade 12. There are about 30,000 word meanings known by students in high school. Of these, 17,500 entries are root word meanings whereas some root words may often have several word meanings known at different ages. A

grade level 2 vocabulary can be formed using words known by 81% or more of children in grade 4 (Biemiller & Slonim, 2001). These are words usually learned before other words, by grade 2 or earlier, and include the most common meanings used in Chall and Dale's (1995) readability test. Even though the middle LWV levels (4-6 and 8-10) were found to be poorer indicators of the sequence of word learning, it was suggested that LWV words from levels 4 and 6 be used as vocabulary work with children in grades 1 and 2.

Another group of researchers focused their attention on the qualitative aspects of vocabulary development; that is the types of words students acquire at different age and grade levels. Specifically, they found that in the earliest period of language acquisition children do not engage in any morphological analysis when attempting to comprehend words, they do not combine morphemes when producing words, and all words are psychologically mono-morphemic (Bowerman, 1982; Brown, 1973; Miller, 1991). It was reported that not until somewhat later do children begin to include words with more than one morpheme in their vocabularies, such as nouns marked with the plural inflection, verbs marked with the progressive inflection, or two-term compounds. Clark and colleagues demonstrated that lexical development at later ages is characterized by growth in morphemic complexity with increasingly complex forms being added to vocabulary knowledge as children grow older and learn more about language (Clark & Berman, 1987; Clark, Hecht, & Mulford, 1986).

Similar results were also obtained from Anglin's research (1993). Anglin studied vocabulary development in children in grades 1st, 3rd, and 5th in order to

clarify the nature and rate of its developmental process. Specifically, he attempted to identify the kinds of morphologically defined types of words (root words, bi-morphemic and multi-morphemic derived words, bi-morphemic and multi-morphemic compound words, inflected words, and words with idiomatic meanings) that make up children's recognition vocabulary at different ages and grade levels. Words were analyzed and classified based on the number and type of morphemes included. Morpheme was defined as the minimal meaningful linguistic unit that contains no smaller meaningful parts. Findings indicated that: (a) a child's knowledge of vocabulary increases in terms of morphological complexity; (b) words are primarily mono-morphemic in the earliest phase of language development; (c) knowledge of bi-morphemic words increases substantially during the preschool years and beyond, and (d) there is a considerable increase in the knowledge of multi-morphemic words after the child goes to school.

Specifically, it was reported that idioms were the least extensively known of all word types at each grade. Root words were associated with the highest raw scores and estimates followed by inflected words and literal compounds. Derived words were less known in grade 1, in grade 3 they were associated with the highest raw scores and estimates, and by grade 5 they were associated by far with the highest raw scores and estimates. The proportion of vocabulary knowledge accounted for by root words decreased between grade 1 and grade 5, as did the proportion accounted for by inflected words. The proportion for literal compounds did not change significantly. In contrast, the proportion of vocabulary knowledge accounted for by derived words increased substantially over this period, representing on average about 16% of

recognition vocabulary in grade 1 and almost 40% of recognition knowledge by grade 5. The proportion of vocabulary knowledge accounted for by idioms increased significantly, but this proportion was significantly smaller than the corresponding proportions for every other word type at each grade level.

Analyses of possible interactions between gender and grade did not show any significant gender effects. The lack of significant gender differences in Anglin's study (1993) is consistent with many studies that reported no significant gender differences in the development of recognition vocabulary after about 2 years of age, as well as in the acquisition of morphological rules (Berko, 1958; Dupuy, 1974; Huttenlocher, Haight, Bryk, Seltzer, & Lyons, 1991; Templin, 1957). On the other hand, several analyses revealed significant, but small socio-economic status (SES) differences, almost always in favor of upper-SES children. One very interesting finding from the study (Anglin, 1993) showed that while upper-SES children might learn more words on average than lower-SES children, they are not significantly more capable of morphological analysis and composition than lower-SES children.

As children advance in age, the number of different words spoken increases as does the total number of words. Language investigators have reported conflicting results on the appearance of gender differences for this measure (Fox, 1972). In one of the earlier studies, Davis (1937) indicated that girls had greater vocabulary diversity. More recently, Bougere (1968) reported boys uttering more words not found on the Thorndike-Lorge List than girls. Templin (1957) found no pattern of gender differences on this language factor. In her study, boys spoke with greater

vocabulary diversity at some age levels while girls spoke with greater vocabulary diversity at other ages.

Fox (1972) explored the developmental trend reflected in syntactic maturity (measured by total number of words in T-units, number of T-units, average word length within T-units, and number of words in garbles) and vocabulary diversity (measured by the corrected type token ratio and the number of types) among boys and girls in Kindergarten, 1st-, 2nd-, and 3rd-grades. Participants were shown a cartoon with the sound track turned off and were asked to tell the story they had just viewed.

Both vocabulary diversity measures indicated an increase with chronological age across all four grade levels, whereas analysis of these measures showed a significant growth between kindergarten and first grade on the number of types and on the CTTR. The consistent increase in mean number of types spoken at succeeding grade levels is in agreement with previous results using this measure (Templin, 1957). Templin (1957) reported a significant increase at school entrance age for children on the number of different words spoken in 50 responses. The increase in number of types found in this study between kindergarten and first grade occurred at the year following Templin's (1975) last age group showing significant increases on this measure. There was significant growth reported in types between second and third grades.

No significant differences appeared between boys and girls on the CTTR. When all four levels of grades were analyzed, boys produced a significant higher number of types. The gender difference on the number of types was not significant. Vocabulary diversity measures were tested on the 40 boys in the sample as a group

and the results were compared with a set of 20 boys and girls randomly drawn from the entire sample. The difference in total number of tokens between the two groups was 798; the difference between the number of types produced between the two groups was 83, whereas the CTTR varied by .173. Little difference was thus reported within these analyses on vocabulary usage of boys and girls (Fox, 1972).

Similar results were obtained by Ciani (1976), who conducted a similar study with first-, second-, and third-graders. He explored the developmental trend of syntactic maturity (as measured by mean T-unit length and verb ratio) and vocabulary diversity (as measured by types, tokens, TTR, and CTTR). Results showed an increase on all language measures, indicating a developmental trend with a significant increase in the rate of oral language growth between grades two and three. The number of tokens jumped from 95.4 in 1st-grade to 132.2 in 3rd-grade, whereas a small increase was also reported in the CTTR, which moved from 3.384 (1st grade) to 3.654 (3rd grade). In terms of sex differences, findings from Ciani's study (1976) supported Fox's (1972) results that no gender differences exist in the oral language development of primary school students.

Earlier studies using sampling-and-estimation methods resulted in various estimates of children's vocabulary size. In particular, for first graders vocabulary size ranged from 2,562 (Smith, M.E., 1926) to about 16,500 "basic" words (Smith, M. K., 1941), and approximately 21,000 to 26,000 "total" words (Smith, 1941); for third graders vocabulary size ranged from about 1,500 (Dupuy, 1974) to about 24,000 "basic" words (Smith, 1941) and approximately 38,000 "total" words (Smith, 1941); and for seventh graders vocabulary size ranged from a low about 4,500 (Dupuy,

1974) to about 34,000 "basic" words (Smith, 1941) and approximately 54,000 "total" words (Smith, 1941). Results from more recent studies showed somewhat different results.

Anderson and Nagy (1991) reported that even though the average child enters school with a small reading vocabulary consisting primarily of environmental print, once in school annual vocabulary gains appear to range between 3,000 to 4,000 words. Eighth-graders were considered to have reading vocabularies of approximately 25,000 words, which will likely exceed 50,000 words by the end of high school. The same researchers also emphasized that reading plays a crucial role in the development of vocabulary. Anderson and Nagy (1991) claimed that students who read for at least 10 minutes per day appear to experience substantial higher rates of vocabulary growth than students who do very little reading. It was found that an average 5th-grader who spends 25 minutes a day reading would possibly encounter almost one million words of text per year.

Another researcher who provided an estimate of children' vocabulary was Anglin (1993). He provided an estimate at the range of 10,000, 20,000, and 40,000 words in recognition vocabularies of students in 1st-, 3rd-, and 5th-grades respectively with an average rate of growth starting at five and a half words per day for children a year and a half old until 1st-grade to 20 words per day for children at grades 1st to 5th. In an attempt to answer the question whether children appeared to use morphological knowledge to construct the meanings of the complex words that they were credited with understanding, he also made the distinction between psychologically basic words, words that are known because they have been previously learned and stored as

distinct units in long-term memory, and words that are known or potential knowable because they can be figured out through morphological analysis – morphological problem solving.

Anglin (1993) found evidence of morphological problem solving at all grade levels, with the proportion of words for which such evidence existed increasing as a function of grade (from 40% on average in grade 1 to 51% in grade 5). The percentage of just the known morphologically complex words also increased from 56% in 1ˢᵗ-grade to 65% in 5ᵗʰ-grade. Based on the above approximations of psychologically "basic vocabulary," it is possible that first grade children had established on average lexical representations for some 6,000 words and that fifth grade children are able to decipher words' meanings through morphological analysis and composition for roughly half of the 40,000 main entries in Webster's Third that they recognized.

Morphology refers to the structure of words that consists of morphemes or "minimal meaningful elements" (Bloomfield, 1933), such as prefixes, roots, and suffixes. Morphological knowledge, like other types of linguistic knowledge is often tacit, which means it is accessible in unconscious working memory, but not necessarily available in conscious working memory. For example, children as young as two years old can instantly come up with plurals for nouns they have heard for the very first time (Berko, 1958), but are unlikely to be able to articulate the process by which they do so. In a study by Nagy, Berninger, Abbot, Vaughan, and Vermeulen (2003), morphology was found to significantly correlate with two writing skills

(sentence writing fluency and grammatical completeness and sentence quality) along with orthography, oral vocabulary, and phonology among 4th-grade, at-risk (for passing a high-stakes test) writers. Results from this study showed that language factors play an important role in writing development.

Despite the considerable number of studies on receptive vocabulary development, there is limited research on the development of written vocabulary. Gunderson (1943) assessed the vocabulary of 21, 7-year-old students in free writing (the students had to select the topic to write about) and found that to a large extent writing vocabularies are not general, but individual. The number of total words written by the participants ranged from 348 to 4,036 (written by the most prolific writer) whereas the number of different words ranged from 139 to 600 with a median of 238 and a total of 1,741. It is also noteworthy that from these 1,741 different words used, 857 (49%) were written by only one participant in the study.

Fitzgerald (1936) compared the writing vocabularies of adults and students in high and elementary schools. Specifically, he ranked 100 words of the highest credit in Horn's *A Basic Writing Vocabulary* (it includes the 10,000 words mostly commonly used in adult writing) with the frequency rankings of these words in Ashbaugh's *High-School List* (it includes the 6,324 different words tabulated from 195, 727 running words of 741 letters written by junior and senior high-school girls) and Fitzgerald's *Elementary-School List* (it includes 7,587 different words tabulated from 470,046 running words contained in 3,184 fourth-, fifth-, and sixth-grade friendly letters written in life outside the school and 320 business letters of elementary-school children). This comparison showed a significant overlapping among adult, high

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school, and elementary school written vocabularies. For example, a comparison of the vocabulary between Horn's list and Fitzgerald's list showed 4,927 common words (without counting hundreds of words of which a derived form was found in one list and another derived form or the base word was found in the other list). The number of words common to Ashbaugh' and Fitzgerald's lists was 4,127 without counting again the words that were common in both lists in different forms.

Inspection also showed that the rankings between high school and adult lists were more similar than the rankings between the adult and elementary school lists. Also, the rankings between the elementary school and the high school lists were more similar than the rankings between the adult and the elementary school lists. Differences among the three lists were observed in terms of marginal and infrequently used words. Not only were these differences shown by the appearance of different words, but also they were indicated by the occurrence and absence of various forms of the same stems in the different lists. The degree of overlapping of vocabularies is of considerable importance to curriculum builders and to any decisions regarding the selection of instructional words (Fitzgerald, 1936).

Herrick and Howell (1954), in an attempt to identify what constitutes a mature writing vocabulary, examined the differences and similarities between writing vocabularies of children at different ages. Particularly, the researchers compared the words used by 25 seven-year-old children in directed and independent writing over a five-month period in the second grade with the words that Fitzgerald (1931) found that are used by fourth-, fifth-, and sixth-graders in 3,184 social letters and 321 business letters written outside school. Results of the study indicated different aspects

of vocabulary maturity. One aspect was the increase in the number of words used by children at different age or grade levels (there were 1,539 different words used by 2nd-graders in oppose to the 7,442 different words used by 4th-, 5th-, and 6th-graders) even though the nature and rate of this increase were less clear. Several researchers emphasized that maturity in vocabulary development is much more complex than mere increase in number of words used. Furthermore, they reported that a substantial core of this increase in vocabulary consists of the same words irrespective of the grade level.

Another aspect of the writing vocabulary maturity was the extent to which the child uses the same word in an increasingly skilful and precise manner for the conveyance of meaning. Lastly, the third aspect of vocabulary maturity identified was the extent to which common words in the vocabulary of 7- to 13-year-old students belong to a particular (presumably low) level of adult use.

Herrick and Howell (1954) supported the idea that maturity is more strongly associated with an increase in the quality of word use rather than an increase in the number of words used; quality of use was further defined as: (a) an increase in the number of meanings a given word is used to convey; (b) an increase in the precision with which a word is used, and (c) the extent to which fewer words are used to convey a meaning formerly conveyed by many words. Gains in maturity of vocabulary were perceived to be the result of the child's increasing understanding of the world and a growing perception of the extent to which words and language are able to convey this understanding. The investigators pointed out that the nature and quality of the children's educative experiences in the course of living can determine

students' writing vocabularies and suggested that teachers encourage children's oral and written expression and support their use of new and multiple-meaning words as much as possible.

Bromley (1991) investigated whether there are age-related changes in the written language production (self-description) of 240 (120 men and 120 women) adults with specific reference to lexical functions and grammatical complexity. In case of demonstrated changes in the written products of the participants, the researcher also examined whether and to what extent these changes are associated with the background variables of gender, vocabulary, fluid intelligence, and a combined measure of educational and occupational status. The participants were selected so that there were equal numbers of men and women at each of six age levels (ages were between 20 and 86 years old) and an even distribution across age and gender, as well as educational status and occupational status.

The lexical variables consisted of word output (total numbers of words), long words (the proportion of words containing 10 or more letters), mean word length in syllables measured by Reference and Software International's, Grammatik. IV, and vocabulary diversity (TTR) measured by Oxford Computing Services 1988 (Micro-OCP). The four complexity variables consisted of sentence complexity, subordinating conjunctions as a percentage of word output, readability measured by means of the Flesch formula in RSI's (1989) Grammatik. IV, and mean sentence length in words. Vocabulary and nonverbal intelligence were assessed by the Mill Hill Vocabulary test and Raven's Progressive Matrices Test, respectively (Raven, 1982). Educational status was assessed based on life history obtained from subjects and was scored from

1 to 6. Occupational status was similarly assessed in terms of the United Kingdom Registrar General's classification. The subjects' educational and occupational levels proved to be closely associated and were combined to a single measure labeled *status*.

The correlations between the lexical variables were consistent in that long words and word length (in syllables) showed the highest correlation at .74, because word length accounts for long words. Word output, long words, and word length had significantly but low correlations with vocabulary. The measures of long words and word length were controlled for word output, so they did not correlate with it. Vocabulary diversity (TTR) was not related to vocabulary, but was related in a small but significant way to long words and word length. The explanation is that higher word output corresponded to higher levels of vocabulary (longer words) indexed by both word length and long words. Vocabulary diversity was related negatively to word output, because text length (tokens) can increase without limit, whereas vocabulary (types) cannot.

Even though the available literature suggested that vocabulary diversity might decline with age, the stability of vocabulary diversity across the six age groups did not support this argument. There were no main effects reported for age groups, gender, or any interaction between age and gender for vocabulary diversity. Age has more noticeable effects on the complexity variables, excluding readability. Regression analyses, on the other hand, showed that age contributes to the prediction of vocabulary diversity (it is the best predictor) and word length (small effect), but not to word output or the number of long words. The *status* (the educational and occupational status) and vocabulary have a positive association with word output,

long words, and word length, but not with vocabulary diversity. Status was also found to contribute significantly to word output, long words, and word length.

Lastly, after controlling other background variables, three of the four measures of written language output showed a significant effect of age. These are vocabulary diversity, sentence complexity, and subordinating conjunctions (and possible also sentence length). The remaining four variables – word length, long words, readability, and word output – were mainly a function of vocabulary and educational and occupational status (Bromley, 1991).

In conclusion, researchers have documented a link between vocabulary knowledge and language acquisition and development and attempted to examine the developmental trends of vocabulary acquisition and growth. Some important findings include the following. First, there is no consensus among researchers in terms of vocabulary size and vocabulary acquisition rate at different grade levels with estimates ranging from approximately 10,000 to 26,000 words for first graders and an annual vocabulary gains rate from two root words to five and a half words a day. Second, there is a documented sequential nature of vocabulary, where children appear to learn some words earlier than others. Third, children' knowledge of vocabulary increases in terms of morphological complexity indicating a qualitative aspect in vocabulary development. Fourth, significant but small SES differences have been reported in terms of vocabulary acquisition almost always favoring the upper-SES children.

The fifth significant finding deals with conflicting results on the appearance of gender differences on vocabulary diversity measures across different age levels. A

significant increase has been found in the rate of oral language growth and the number of different words spoken between grades two and three. Sixth, researchers reported a significant overlapping among adult, high school, and elementary school students' written vocabulary, whereas the maturity of written vocabulary was further defined as an increasingly skilful and precise use of a word, an increase in the number of meanings a given word is conveyed or a decrease in the number of words used to convey a meaning formerly conveyed by many words. Finally, a study by Bromley (1991) showed that age was a significant predictor of vocabulary diversity and word length but not of word output or the number of long words, whereas the educational and occupational status and vocabulary had a positive association with word output, long words, and word length, but not with vocabulary diversity.

Vocabulary Assessment

What it means to know a word is clearly a complicated, multifaceted matter, and one that has serious implications for how words are taught and how word knowledge is measured. According to Flood, Jensen, Lapp, and Squire (1991), there are two primary reasons why researchers have not yet met consensus as to what it means to know a word: (a) the difficulty of delimiting the boundaries of a word, especially when a word can be defined in numerous ways, and (b) the inherent difficulty in deciding when something is known (or not known) (p. 605). Beck et al. (2002) stated that knowing a word is not an-all-or-nothing proposition; it is not the case that one either knows or does not know a word. Word knowledge is in fact considered a complex concept that proceeds in stages and consists of several

qualitative dimensions. Therefore, vocabulary development appears to require different levels of word knowledge.

In the next sections, I provide information about the complexity of word knowledge and describe ways for assessing knowledge of word meanings. Then, I present measures for assessing writing vocabulary and discuss issues related to the reliability and validity of these measures.

Complexity of Word Knowledge

Nagy and Scott (2000) pointed out that different facets of word knowledge are relatively independent. A learner might know, for example, the definition of a word, but be unable to produce a context for it, or might be able to use it in seemingly appropriate ways, but actually have a misunderstanding of its meaning. Flood et al. (1991) stated that in order for a word to be used in expressive vocabulary (speaking and writing), the word must be adequately learned or acquired, retained in memory, and retrieved either out of context or as part of a common expression. In receptive vocabulary (listening and reading), however, a person does not need to know a word in the same way a word is known in expressive vocabulary in order to appreciate its meaning. In fact, in some instances, a word does not need to be known at all, and the reader or listener can still derive the meaning for the unknown label or word (Flood et al., 1991).

Beck et al. (2002) supported the notion that decisions about adequate vocabulary instruction and assessment depend on what kind of learning is desired. If the teacher's goal is that students are able to use the instructed words in understanding a text containing those words and to recall the words well enough to

use them in speech or writing, they should aim at helping students get deep word knowledge and use appropriate vocabulary measure to assess this type of knowledge. Based on how *knowing a word* is defined, teachers need to interpret any data obtained from vocabulary measures (e.g., measures of superficial knowledge may overestimate how many words a person knows usefully). On the contrary, if the teacher's goal is for students to fully understand and use a word, then evaluations based on simple synonym matching and multiple-choice definitions will not provide the teacher with information as to whether that goal was reached. Those kinds of measures cannot differentiate shallow from deep word knowledge.

Nagy and Scott (2000) claimed that any attempt to understand the processes by which children's vocabularies grow must be based on the recognition of the complexity of word knowledge. There are five aspects of this complexity: (a) incrementality – knowing a word is a matter of degrees and not an all-or-nothing condition; (b) multidimensionality – word knowledge consists of several qualitatively different types of knowledge; (c) polysemy – words often have multiple meanings; (d) interrelatedness – an individual's knowledge of any given word is not independent of the person's knowledge of other words, and (e) heterogeneity – what it means to to know a word differs substantially depending on the kind of word.

Incrementality

Clark (1973, 1993) talked extensively about early childhood language development and provided a detailed picture of how children's knowledge of word meanings is often initially incomplete, but over time gradually approximates adult understanding. Dale (1965) was one of the first researchers to express the

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incremental nature of word learning using a linear scale with several points. Specifically, he proposed four stages: (a) never saw the word before; (b) heard the word but don't know what it means; (c) recognize the word in context as having something to do with a different word or concept, and (d) know the word well. Later on, Paribakht and Wesche (1997) added a fifth stage, "can use the word in a sentence."

Beck, McKeown, and Omanson (1987) suggested that an individual's knowledge about a word can be described as falling on a continuum along the following points: (a) no knowledge; (b) general sense, such as knowing the negative or positive connotation of a word; (c) narrow, context-bound knowledge; (d) having knowledge of word but not being able to recall it readily enough to use it in appropriate situations, and (e) rich, de-contextualized knowledge of a word's meaning, its relationship to other words, and its extensions to metaphorical uses. Another aspect of word knowledge is its qualitative dimensions – the kind of knowledge one has about a word and the uses to which that knowledge can be put.

Cronbach (1942) identified four such dimensions: a) generalization, which is the ability to define a word; (b) application, which is the ability to select or recognize situations appropriate to a word; (c) breadth, which is knowledge of multiple meanings; (d) precision, which is the ability to apply a term correctly to all situations and to recognize inappropriate use, and (e) availability, which is the actual use of a word in thinking and discourse. Other dimensions of word knowledge identified by researchers include the relationship of a word to other concepts as well as the word's

register, meaning the word's grammatical form, its affective connotation, and whether the word is used in formal or less formal contexts.

An incremental view of word learning helps explain how a great deal of vocabulary knowledge can be gained incidentally from context, even when individual encounters with words in context are not particularly informative (Schatz & Baldwin, 1986). Even though research has shown that word learning can be incremental (Nagy & Scott, 2000), less is known about the extent to which word learning is necessarily incremental and what limits may exist on the amount or type of knowledge that a learner can gain about a word on the basis of any single encounter.

It was found, for example, that even four instructional encounters of high quality do not lead to a level of knowledge adequate to measurably improve comprehension of text containing the instructed word (McKeown et al., 1985). Other research on word learning (Gildea, Miller, & Wurtenberg, 1990) showed that there are significant limitations on learners' ability to integrate information from multiple sources on any given occasion.

Polysemy

Words often have more than one meaning; specifically, the more frequent a word is in the language, the more meanings it is likely to have. The fact that a word can have two or more unrelated meanings adds substantial cognitive complexity to the task of using a dictionary (Miller & Gildea, 1987). It is even more troublesome that the multiple meanings of a word can range from being completely unrelated to being so close that the shade of meaning separating the two may be very thin and difficult to recognize by an immature reader and writer (Anderson & Nagy, 1991).

This is the reason why the meaning of a word must be inferred from context even if the word is already familiar (Polacco, 1996). Green (1989) and Nagy (1997) have very accurately reported that word meanings are inherently flexible, and always nuanced in some way by the context in which they occur. Additional concern is raised in the case of figurative language where inferring a word meaning from context is less natural and easy for students (Winner, Engel, & Gardner, 1980). Effective vocabulary instruction should therefore address the issue of word knowledge complexity; teach students how to choose among the multiple meanings of words inferred in dictionaries, and to expect words to be used with novel shades of meanings.

Multidimensionality

It has long been recognized that word knowledge consists of multiple dimensions (Calfee & Drum, 1986; Cronbach, 1942; Kame'enui, Dixon, & Carnine, 1987; Richards, 1976). Nation (1990) offered eight aspects of word knowledge: knowledge of the word's spoken form, written form, grammatical behavior, frequency, stylistic register, conceptual meaning, associations with other words, and other words that commonly occur with the particular word. Laufer (1998) distinguished among different types of relationships between words such as morphological and semantic. Graves (1986) talked about different kinds of word learning tasks – learning new concepts, learning new labels for known concepts, and bringing words into student's productive vocabularies. It is unlikely that there is an order as to which aspects of word knowledge are acquired while everyday observation suggests that those aspects are relatively independent; for example, a

student might know the definition for a word but not be able to use it properly in a sentence (Nagy & Scott, 2000).

Interrelatedness

Words are often taught and tested as if they were essentially isolated units of knowledge. Clearly such practice is inconsistent with a constructivist understanding of knowledge that emphasizes the importance of linking what is learned to familiar words and concepts. Landauer and Dumais (1997) conducted a simulation of word learning from context in order to emphasize the potential extent of interconnectedness in vocabulary knowledge. One of the findings in this study highlighted that as much as three fourths of the learning that resulted from the input of a segment of text was for words that were not even contained in that segment. This finding emphasized how exposure to a text can contribute to one's knowledge of words not in the text.

Heterogeneity

What it means to know a word depends on what kind of word one is talking about. For example knowing a function word, such as *if* or *the,* is different from knowing a term such as *hypotenuse*. Also the fact that different dimensions of word knowledge are at least partially independent of each other means that the same word can require different types of learning from different types of students, depending on what students already know about a word (Nagy & Scott, 2000).

In conclusion, consensus has not been met yet among researchers as to what it means to know a word and how is word knowledge taught and assessed. It is, however, a well-accepted fact that knowing a word is not an all-or-nothing

proposition and that word knowledge proceeds in stages and consists of several

qualitative dimensions (Beck et al., 2002). Specifically, Nagy and Scott (2000)

identified five such qualitative dimensions: (a) incrementality – meaning that a

word's knowledge develops in stages, gradually moving from no knowledge or

general sense of a word to a rich and de-contextualized knowledge of the word; (b)

polysemy – meaning that words often have more than one meanings especially if they

are very frequently occurring in text; (c) multidimensionality – meaning that there are

different aspects of word knowledge such as knowledge of the word's spoken or

written forms and different types of relationships between words that are independent

from each other; (d) interrelatedness – meaning that each word is not an isolated unit

of knowledge but that it is linked to familiar words and concepts within a particular

context, and (e) heterogeneity – meaning that knowing a word depends on the kind of

word and the knowledge that a person already has about the word.

Assessing Knowledge of Word Meanings

Simmons and Kame'enui (1987) identified a variety of task formats that have

been employed to measure student's knowledge of word meanings: multiple/choice,

yes/no judgments, constructed responses, and matching. Each of these forms offers

the researchers and practitioners a different look at the learners' vocabulary

knowledge. Traditional standardized tests employ multiple-choice formats as a means

of providing a relatively parsimonious measure of students' word knowledge. An

alternative to multiple-choice response tasks is the construction task that requires

students to generate responses either verbally or in writing to vocabulary probes.

Anderson and Freebody (1981) examined the four test formats identified by

Simmons and Kame'enui (1987) and provided pros and cons for using each one of them. Specifically, the multiple-choice and matching the subject pairs of words with their synonyms are the most frequently used criteria to determine that a word is in a person's vocabulary. These are also the most widely used formats in standardized vocabulary testing. Both formats make relatively efficient use of examinee time, but present the extra challenge of choosing appropriate distractors, especially the multiple-choice format tests, and sometimes can result in assessing partial knowledge of the word. It was also noted that the set of options provided to students might constraint, to different degrees, the individuals' responses, while different practices for generating distractors can lead to differences in students' performance. Young children were also found to not consider all the distractors provided in a test, simply selecting the first or second alternative if it made reasonable enough sense.

In an attempt to address some of these issues, Nagy, Herman, and Anderson (1985) designed a set of multiple-choice questions to explicitly measure degrees of word knowledge. Instead of relying on one multiple-choice test item per word, they developed test items that assessed three different levels of difficulty for each word. For example, test items in which the distractors were the most semantically and syntactically similar to the target word were considered the most difficult, whereas the least difficult test items included distractors that were very dissimilar in meaning and speech part to the target word. Nagy et al. (1985) also used an interview test that required students to produce the meanings of target words. This modification of the multiple-choice test not only represented a significant improvement of the traditional

format, but also implicitly emphasized the importance of matching assessment task conditions to the specific dimensions of vocabulary knowledge assessed, especially if the objective involves acquisition of partial word knowledge (Flood et al., 1991).

The constructed answer format in which the subject attempts to give a definition, a synonym, an illustration, or use the word in a sentence or phrase was adapted to overcome the problem of selecting distractors and to effectively assess any level of knowing a word. The problem with this particular test format was the scoring of answers and response bias. In the written format, a constructed answer measure was confounded by factors such a spelling ability, sentence construction ability, and even the ability to write legibly. All of these factors might discourage a person from elaborating on a word used or understood in conversation. Another problem was that of adopting a liberal criterion. Then the subject is allowed a range of possible responses to a target word and might adopt a particular strategy for responding. This creates an additional problem where some words are more easily explicated in a particular form or they do not have near-synonyms and students need to produce a rare word in order to show that a common word is known. It is also possible that depending on the scoring criteria the preference at a different age for certain explanatory strategies could produce spurious estimates of the rate of vocabulary growth.

On the other hand, in the yes/no test format, subjects are asked to check from a list the words they know. This test format permits the presentation of a very large number of words in a given interval of examinee time and was found to be more valid than a standardized multiple-choice vocabulary test when both were compared to

interview data (Anderson & Freebody, 1983). Anderson and Freebody (1983) indicated that such a test can be extremely useful and identified a number of possible practical advantages for using it over a multiple-choice test. Yes/no format tests reduce the burden of preparing distractors and eliminate problems caused by poor distractors. They also reduce the demand of irrelevant task that may aversely affect young and/or unskilled readers. However, this type of test presents problems with validity. First of all, it can give inflated estimates of vocabulary size and correlate poorly with other measures in the face of partial word knowledge; second, it is not suitable for distinguishing which meanings of a word are known in case of words with multiple meanings; and third, scores of an individual might be influenced markedly by any differences in tendency to take risks in the face of uncertainty.

In a study by White, Slater, and Graves (1989), the yes/no tests were slightly more accurate than the multiple-choice tests for younger students (grades 1 and 2) and did as well as the multiple-choice tests for older students (grades 3 and 4). Yes/no tests were considered highly efficient and accurate to estimate the average proportion of words that students can read and understand, but were found to be inadequate for assessing the reading vocabularies of individual students.

Gipe (1979) suggested that once words are introduced in several sentences and defined, the students should be asked to apply the new word's meaning to their own experiences; in order to demonstrate understanding of the new word any test responses should be in writing. It is, thus, not sufficient for the teacher to assume that because the new word has been introduced in a familiar context that the child now understands the word. Written exercises demand the learners to think about and use

the word's meaning. Practice and assessment tasks should also include filling in blanks in sentences, matching words with synonyms (making sure that the words used to explain the new word are familiar and that any synonyms used are also understood), grouping words of similar meaning together, and using the dictionary to find synonyms or antonyms (Gipe, 1979).

Gipe (1979) examined the effectiveness of four methods (association, category, context, and dictionary) for teaching the meanings of 96 words assigned to eight sets of 12 words each (the duration of the study was eight weeks). Each of the four instructional methods was based on a different learning theory for teaching word meanings. The first viewpoint for word acquisition was that learning the meaning of a word is an association task, where an unknown word's meaning can become known in connection with a known word of a similar meaning [represents a cognitive theory for an associative memory structure, supported by Mandler and Dean (1969), where items presented together are more likely to be recalled together]. Participants assigned in the association instructional group were asked to memorize and reproduce in writing a list of words and their synonyms.

The second viewpoint was that learning word meanings is hierarchically organized categorical or labeling tasks whereby a word's meaning can become known by including it in a category with other known words, which represent the concept of the new word's meaning [a model by Collins and Quillian, (1970) and Smith, Shoben, and Rips (1974) who talked about the hierarchical organization of words' semantic features]. Participants in the category group were asked to write more words that are like the target words and then regroup a particular set of words.

According to a third perspective each word should be treated and taught as a concept by providing its definition, examples and instances where the word is used appropriately, and ample opportunities for applying its meaning (a cognitive theory of an interactive long-term memory structure by Rumelhart, Lindsay, & Norman, 1972). Participants in the context group were asked to read a set of sentences and fill in blanks.

Finally, the "dictionary" students were asked to look up four words in the dictionary, copy their definition, and use each word in a sentence. Students' knowledge of word meanings was assessed using weekly evaluation tests for a total of eight weeks. Those tests consisted of 12 sentences each, containing one blank where one of the 12 words taught in the previously week could be used appropriately. During the week following the completion of the study students were administered a posttest using the same checklist with the pretest. Students had a choice of three options – one of two sentences or neither as using the underlined word correctly.

All 113 3rd- and 108 5th-grade poor and good readers who participated in the study received all four instructional methods but in different orders. Each instructional method consisted of 4 phases over a 2-week period, where students were taught four words each day with the same method (M, T, and W), with testing on Friday. Results showed that: (a) the context method was better than the other 3 methods for both grades and for both good and poor readers; (b) the association method was better than category and dictionary, and (c) for both grades dictionary and category did not differ significantly, whereas no significant differences were also reported between boys and girls. Moreover, differences between grades revealed that:

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(a) for 3rd-graders, the association method was better than the dictionary but no better than the category method; (b) for 5th-graders, the association method was better than the dictionary and the category methods; (c) the association method was strongest for good 5th-graders, was equal for poor 5th- and good 3rd-graders, but only minimally effective with poor 3rd-graders, and (d) overall good readers performed better than poor readers (Gipe, 1979).

Of the three skill areas related to writing (vocabulary, syntactic maturity, and fluency) vocabulary has received the least attention in previous research. Probably the primary reason is that it is not easily measured by simple frequency counts. According to the National Reading Panel (2000), assessing an individual's vocabulary is a particularly challenging task and it usually provides a less precise than desired estimate of word knowledge for two reasons. First, researchers distinguish between different types of vocabulary. Some researchers classify vocabulary into oral, reading, sight, listening, and writing vocabulary, whereas others distinguish between receptive and productive vocabulary. Regardless of the different categorization systems, researchers agree that vocabulary can take many forms/types, each of which requires the use of different assessments that consequently provide different estimates of vocabulary development. In addition, an individuals' knowledge about each type of vocabulary can vary significantly (i.e., receptive vocabulary is considered to be much larger than productive vocabulary).

Second, it is impossible to know how large a vocabulary a person has because assessment tools assess only a relatively small number of words. Furthermore, assessment instruments are not sensitive enough to differentiate instances when a

person encounters a known word from the situation where the person encounters a familiar word, but outside of a known context. It has long been recognized that there are many dimensions to *knowing a word* and many degrees of knowledge (i.e., collocations, associations, use in context, related meanings). Those levels of word knowledge should be recorded and scored differently (Paul, Stallman, & O'Rourke, 1990). It is therefore apparent that any attempts to assess a person's overall vocabulary development are particularly complicated and challenging, and they should include more than one assessment tools.

The National Reading Panel (2000) emphasized that there is no one-all encompassing measure of vocabulary but that different assessment tools are needed for each of the aspects of vocabulary described above. In order to gain a rounded picture of learner's vocabulary knowledge it is necessary to have a range of vocabulary measures to draw on. A variety of vocabulary measures are useful diagnostically to see if particular aspects of vocabulary knowledge are being neglected. For example, learners who gain a high score in a Vocabulary Levels Test, but do not use the full richness of their vocabulary in writing, may need encouragement and well designed tasks to help them draw more readily on what they know (Meara & Buxton, 1987).

On a similar note, Biemiller (2004) argued that the major barrier for including vocabulary in the primary curriculum is the difficulty of assessing it, especially under classroom conditions. Tests such as the Peabody Picture Vocabulary Test-3rd Edition (PPVT-III; Dunn & Dunn, 1997) and the Expressive Vocabulary Test (EVT; Williams, 1997) that assess children's vocabulary orally on a one-on-one basis are

easy to administer, well established, and predictive of later school achievement. The Root Word Inventory can also be used with young children, and this measure is highly correlated with reading comprehension (Biemiller, 2001; Biemiller & Slonim, 2001). None of these assessment tools, however, are feasible for classroom use because their administration can take 10 to 15 minutes per student. A major reason why vocabulary receives so little attention in the primary grades has therefore been reported as the inability to readily access vocabulary and vocabulary growth (Biemiller, 2004).

In conclusion, assessing an individual's vocabulary knowledge and vocabulary growth is a very challenging task that requires the use of different assessment tools to examine each of the vocabulary aspects. Among the most frequently used task formats employed to measure students' knowledge of word meanings are multiple-choice, yes/no judgments, constructed responses, and matching. All four particular task formats were found to exhibit both pros and cons when used among different student populations (Anderson & Freebody, 1981; 1983; Nagy et al., 1985; Simmons & Kame'enui, 1987; White et al., 1989). Furthermore, Gipe (1987), who investigated the effects of four methods (association, category, context, and dictionary) for teaching the meanings of words, suggested that students should learn, practice, and be asked to demonstrate understanding of new words using mostly writing activities.

In the following sections, I identify the different dimensions on which writing vocabulary can be assessed and present the different types of vocabulary

measures for each of these dimensions (see Tables 1 and 2). In the last section, I report available validity and reliability data for each of the measures.

Functional Use of Content Area Words

Student's writing vocabulary can be assessed on different dimensions. For example, students can be assessed on their functional use of content area words (see Table 1b) that they are taught explicitly (e.g., Duin & Graves, 1986; 1987). Participants in two studies by Duin and Graves (1986, 1987) were taught a set of theme-related words and were asked to write a composition about the theme using the instructed words. The number of these words students used in their compositions was then tallied and recorded, providing a functional measure of students' knowledge of the instructed words.

Word Appropriateness

Steward and Leaman (1983) used the number of diction word-choice errors per 100 words written (d) (see Table 2) to examine differences in teachers' quality ratings of students' essays. Twenty teachers in three senior high school curricular areas assessed arguments written by college freshmen. This vocabulary measure was reported as the most powerful predictor of writing quality, accounting for about 40% of the variance observed.

Word Diversity

Another dimension on which writing vocabulary can be assessed is word diversity (see Table 1a). Measures of vocabulary diversity are used in a wide range of educational and linguistic research (Richards & Malvern, 1997; for a research

example, see Vermeer, 2000). They reflect the variety of active vocabulary deployed by a speaker or writer and – together – with lexical density (the ratio of content words to function words), precision of expression (use of rare words) and lack of errors of lexical choice – they can be regarded as a component of lexical richness in second language assessment (Read, 2000, p. 200-205). Unfortunately lexical diversity is notoriously difficult to quantify reliably (Malvern & Richards, 1997; Richards & Malvern, 1997; Vermeer, 2000). Measurements are based on a comparison between the number of different words (types) and the total number of words (tokens). Samples of the speech or writing of individuals varying in age, intelligence, and background will be found to differ in what may be termed diversity, meaning the relative amount of repetitiveness or the relative variety in vocabulary. Of two samples of equal length, the one of low diversity has fewer different words, most of them common; the sample of higher diversity contains a greater number of different words, so that each word has a lower frequency.

Vocabulary diversity has been measured in several ways, the simplest of which is to count the number of different words (types) students write (Barenbaum et al., 1987; Chatterjee, 1983; Fox, 1972; Gajar, 1989; Gajar & Harriman, 1987; Grobe, 1981; Silverman & Ratner, 2002). Several researchers calculate the number of different words divided by the total number of words written in a composition to produce the Type Token Ratio (TTR) (Barenbaum et al., 1987). This direct TTR varies inversely with the sample size because the more words an individual writes or speaks the greater the number of words repeated (Johnson, 1944); large numbers of tokens in a sample produce lower TTRs than small samples (Chotlos, 1944; Hess,

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Sefton, & Landry, 1986; Richards, 1987). It is invalid therefore to compare overall

TTRs calculated from writers who have produced different sizes of language sample.

In order to control for sample length in the traditional Type Token Ratio,

some investigators have employed the Corrected Type Token Ratio (CTTR)

(Andolina, 1980; Chatterjee, 1983; Fox, 1972; Gajar, 1989; Gajar & Harriman, 1987;

MacArthur & Graham, 1987; Morris & Crump, 1982; Silverman & Ratner, 2002;

Vermeer, 2000). The CTTR, first introduced by Carroll (1964), consists of the

number of different word types divided by the square root of twice the number of

words in the sample. The CRRT has been one of the most commonly used measures

of vocabulary diversity in writing. A second approach to standardize unequal data is

to count a certain amount of words, usually 100, and then find the ratio (Fox, 1972).

Grobe (1981) in addition to the Type Token Ratio and the Corrected Type

Token Ratio used three other vocabulary diversity measures to assess the students'

word knowledge and use. Those measures were: (a) YULES, a measure of vocabulary

diversity relatively independent of sample and content; (b) DIVE, an index of

vocabulary diversity, the reciprocal of YULE'S K, and (c) the VOCDIV, the ratio of

S.D. of Repeat Rate divided by the opposite of the Type Token Ratio.

Yule's K assesses "the repeat rate for words, namely the probability that two

words picked at random from the text will turn out to be the same word" (Herdan,

1960, p.298). Originated by Yule (1944), the advantage of Yule's Characteristic K

(YK) measure of diversity is that YK is independent of text or essay length. The YK

index logically ranges from 0 (lowest repeat rate) to 1, but in practice has values of

approximately .01. To avoid inconvenient decimal points the index is usually

multiplied by 10,000 yielding transformed YK values of about 100; lower values indicate higher diversity.

Other measures of vocabulary diversity in writing include Kidder's (1974) Vocabulary Intensity Index (VII) (Andolina, 1980; Chatterjee, 1983; Morris & Crump, 1982). The Vocabulary Intensity Index (VII) was developed by Kidder (1974) and measures vocabulary development in terms of four variables: (a) levels of vocabulary difficulty; (b) diversity of vocabulary; (c) number of multi-syllabic words, and (d) word-building application. Researchers have also developed a computer program (Morris & Crump, 1982) in order to read spontaneous language samples, compute the VII, and provide scores on the four variables comprising the VII. Finally, Gajar (1989) and Gajar and Harriman (1987) used a different vocabulary index called Herdan's K. This measurement functions independently of composition length and indicates richness or density of vocabulary as well as diversity.

All measures of vocabulary diversity presented above that were reportedly independent of sample size have been shown, however, to be a function of the number of tokens (Menard, 1983; Arnaud, 1984; Hess et al., 1986; Hess, Haug, & Landry, 1989; Malvern & Richards, 1997; Tweedie & Baayen, 1998). Johnson (1944) originally addressed the problem of calculating lexical diversity from varying sample sizes by using a new index called the Mean Segmental Type – token Ratio (MSTTR). Richards and Malvern (1997) described MSTTR as "the average TTR for successive segments of text containing a standard number of word tokens" (p.35). More recently, Richards and Malvern (2000) developed a new mathematical model to represent the probability of new vocabulary being introduced into longer and longer samples of

speech or writing. This new measure of lexical diversity is a mathematical equation

that relates TTR to token size (N) in terms of a third parameter referred to as *D*

(Malvern & Richards, 2002). In a study of teenage learners of French, Malvern and

Richards (2002) demonstrated the validity of *D* as a measure of vocabulary diversity

and the effectiveness of vocd (a software developed to calculate *D*) as a tool to

analyze language data.

Lastly, Harris and Graham (1985) assessed the diversity of writing vocabulary

of two students with disabilities in terms of the number of different action words,

different action helpers, and different describing words. Increase in all three variables

during the intervention was related to a substantial increase in the quality ratings of

students' stories suggesting a relationship between vocabulary instruction and overall

writing quality.

Vocabulary Maturity or Uniqueness

A fourth vocabulary dimension that can be assessed is uniqueness or maturity

of words in a composition (Table 1b) (Isaacson, 1988). This is typically assessed

using word frequency norms (Neilsen & Piche, 1981), such as Dale and O'Rourke's

(1981) *Living Word Vocabulary*, Carroll, Davies and Richman's (1971) *American*

Heritage Word Frequency Book, number of words not found on Finn's (1972)

undistinguished word list (Deno et al., 1982b), number of words that were not proper

nouns, slang, or contractions (MacArthur & Graham, 1987), McGivern and Levin's

materials (1983), percentage of words that appeared on the list of the 500 most

frequently occurring words (RANK) (Grobe, 1981), and vocabulary repeat rate

(Grobe, 1981). Finn (1977) has also developed a computerized frequency technique

to measure mature word use. Finn's procedure allows for atomistic ratings based on complexity of vocabulary, but requires an extensive analytic procedure for each topic that may be impractical for most research use.

Herrick and Howell (1954) argued that maturity in vocabulary that goes beyond gross gains in number of words seems to be more intimately associated with an increase in quality of words' use. They indicated that quality of use included: (a) an increase in the number of meanings a given word is used to convey; (b) an increase in the precision with which a word is used, and (c) the extent to which fewer words are used to convey a meaning formerly conveyed by many words. This idea implies that the need for a word will increasingly determine the nature and the quality of its use (i.e., good book versus interesting and exciting). Furthermore, word frequency was combined with vocabulary complexity (Zeno, Ivens, Millard, & Duvvuri, 1995) and assessed using a computer program (Gansle et al., 2002). Maturity of words was found to correlate with future writing achievement.

Deno et al. (1982b) reported that the number of mature words in students' narrative writings (words not found on a list of high-frequency *undistinguished words)* correlated more highly with achievement scores than the number of large words. Specifically, the researchers compared 3rd- and 6th-grade students' with and without disabilities scores on three standardized writing assessments to seven different measures of writing expression. They correlated criterion measures (subscales of the TOWL, the Stanford Word Usage score, and the Developmental Sentence Scoring) with mean thought-unit (T-unit) length, mature words, large words, words spelled correctly, letter sequences correct, and total words written. The

highest correlations were with mature words (.61 to .83), letter sequences correct (.57 to .86), total words spelled correctly (.57 to .80), and total words written (.58 to .84). It was thus reported that vocabulary as measured by the number of mature words is a valid measure of written expression that can also be used to distinguish students across grade levels and students with disabilities from those without disabilities (Deno et al., 1982b).

Maturity of the words used in students' writing was also assessed based on the judgment of 60 undergraduate and graduate students. Consensus had to be met that one word in a given pair was more mature than the other (Neilsen & Piche', 1981). Results showed that the use of mature vocabulary consistently resulted in higher ratings for students' writing than simple vocabulary regardless of the level of syntactic complexity in the passage.

Lastly, vocabulary rarity was also expressed as the proportion of written words that were rare as determined from a word-frequency list supplied by personnel at the Kurzweil Applied Intelligence in Boston, MA. The Kurzweil list has been calculated from a 50-million word sample obtained from the New York Times and comprises 162,728 words, from the most common (e.g., the most common word, "the" occurred 3,392,590 times) to the least common (defined as words that occurred at least twice) (Vetterli & Furedy, 1997).

Whether or not word frequency can actually be correlated with quality or maturity of word choice in writing is difficult to determine at this time. It appears that a positive correlation does exist between grade level and students' knowledge of infrequent words (Graves & Ryder, 1977). Students with a broader, more

sophisticated vocabulary may avail themselves of more potentially accurate lexical choices in their writing and hence produce qualitatively better work. This conclusion is however, still pending (Neilsen & Grobe, 1981).

Word Size

Writing vocabulary can also be assessed by examining the size of the word (see Table 1b). Word size has been measured by the average length of the words used (Deno et al., 1982b; Gajar, 1989) and the number of words with seven or more letters (Houck & Billingsley, 1989; Gansle et al., 2002; Barenbaum et al., 1987). In certain studies, investigators measured vocabulary elements, such as average syllable length (Gansle et al., 2002; Grobe, 1981).

In conclusion, there are five dimensions on which writing vocabulary can be assessed. The first one is functional use of content area words that can be measured by counting the number of theme or content related words taught during instruction that students include in their written products (Duin & Graves, 1986; 1987). The second dimension is word appropriateness assessed by counting the number of diction word-choice errors per 100 words written (Steward & Leaman, 1983). The third dimension is word diversity and its measures are based on a comparison between the number of different words (types) and the total number of words written (tokens). Specifically, some of the measures used include the number of types (Barenbaum et al., 1987; Chatterjee, 1983; Fox, 1972; Gajar, 1989; Gajar & Harriman, 1987; Grobe, 1981; Silverman & Ratner, 2002), TTR (Barenbaum et al., 1987), CTTR (Andolina, 1980; Chatterjee, 1983; Fox, 1972; Gajar, 1989; Gajar & Harriman, 1987; MacArthur & Graham, 1987; Morris & Crump, 1982; Silverman & Ratner, 2002; Vermeer,

2000), Yule's K (Gajar, 1981), VOCDIV (Gajar, 1981), DIVE (Gajar, 1981), the VII (Andolina, 1980; Chatterjee, 1983; Morris & Crump, 1982), Herdan's K (Gajar, 1989; Gajar & Harriman, 1987), MSTTR (Richards & Malvern, 1997), and the number of different action words, different action helpers, and different describing words (Harris & Graham, 1985).

The fourth dimension on which writing vocabulary can be assessed is vocabulary maturity/uniqueness/rarity that is typically assessed using word frequency norms such as the American Heritage Word Frequency Book (Carroll et al., 1971), Finn's undistinguished word list (Finn, 1977), and Living Word Vocabulary (Dale & O'Rourke, 1981). Measures include the number of words not found on Finn's list (Deno et al., 1982b), number of words that are not proper nouns, slang, or contractions (MacArthur & Graham, 1987), percentage of words that appeared on the list of the 500 most frequently occurring words (RANK, Grobe, 1981), percentage of rare written words as determined from a word-frequency list supplied by personnel at the Kurzweil Applied Intelligence in Boston, MA, and vocabulary repeat rate (Grobe, 1981).

Finally, the last dimension used to assess writing vocabulary is by examining the size of words. In some studies, researchers calculated the number of words with seven or more letters (Houck & Billingsley, 1989; Gansle et al., 2002; Barenbaum et al., 1987), whereas in another studies they measured the average length of the words used (Deno et al., 1982b; Gajar, 1989). In some other studies investigators measured the average syllable length (Gansle at al., 2002; Grobe, 1981).

Reliability and Validity Issues of Vocabulary Measures

Gansle et al. (2002) examined the reliability and validity of alternate measures for curriculum-based measurement in writing of students in 3rd- and 4th-grades. The researchers compared human-scored variables with computer-scored variables from curriculum-based measurements and two standardized, criterion-referenced tests (for 4th-grade students the criterion-referenced testing program initiated by the Louisiana Department of Education – LEAP - and for 3rd-grade students the IOWA Test of Basic Skills – ITBS). The students were asked to complete two 3-minute probes on two consecutive days that were assessed on the following five variables: (a) the number of words written and spelled correctly; (b) the number of long words (eight or more letters); (c) words in correct sequence and in complete sentences; (d) punctuation, and (e) computer-scored variables (Microsoft Word Flesch Reading Ease and Word Flesch-Kincaid Grade Level, Corel WordPerfect Sentence and Vocabulary Complexity).

Alternate forms reliability was obtained by providing students with a different story starter on each of the two consecutive writing sessions. Human-scored variables yielded positive correlations ranging between .006 for long words to .62 for total words written. For computer-scored variables correlations ranged between .09 for vocabulary complexity to .55 for Kincaid grade level, WordPerfect. Based on these results, number of long words and vocabulary complexity from WordPerfect were the least reliable variables across administration. When it comes to the correlation of scored writing variables with group criterion test scores, results showed low to moderate correlations. Correlations between long words and the two standardized

tests were .33 and .21 for IOWA the total subscale score and LEAP write competently

scale, respectively, whereas correlations between the same tests and vocabulary

complexity were .17 and .24, respectively. Specifically, the results showed a high

correlation between the number of long words and third-graders' writing ability as

measured by a standardized group test whereas neither long words nor the vocabulary

complexity measure computed by WordPerfect were significantly correlated with

teacher assessment of writing skills (Gansle et al., 2002).

Espin, Bush, Shin, and Kruschwitz (2001) examined the validity and

reliability of two CBM vocabulary-matching measures (one read by the administrator

and one read by the student) within a social studies classroom. Participants in the

study were 58 7th-graders, five of which received services in special education for

learning disabilities. Probes were developed from terms selected from the classroom

textbook, teacher notes, and teacher lectures whereas the vocabulary used consisted

of 49 terms from each of the three subject areas (sociology, psychology, and

geography). There were three criterion variables in the study: (a) knowledge test –

created from the social studies curriculum used by the teacher and consisted of 36

factual and applied multiple-choice questions from the three subject areas; (b)

students' grades in the social studies class calculated on a 13-point scale, (c) students'

performance on the social studies subtest of the ITBS.

Results with respect to the alternate-form reliability of the measures revealed

that the stability of a single vocabulary-matching measure was low. It was suggested

that researchers combine two measures in order to obtain a more acceptable level of

alternate-form reliability and teachers give two probes and calculate a total or mean

score before graphing a point in order to obtain a more valid and reliable estimate of a student's performance. Results with respect to criterion-related validity of the vocabulary-matching measures were positive.

Specifically, both vocabulary measures were found to be good indicators of student's performance in their social studies classroom (analysis revealed moderately strong and stable correlations across pre- and posttest measures) as well as good indicators of students' general social studies knowledge (analysis revealed stronger correlations between the vocabulary measures and the knowledge posttests, which implies the measures sensitivity in students' performance variability over time). Additionally, both measures were successful in distinguishing students with LD from students without LD. A comparison of the strength of the validity coefficients resulted in only one significant difference: posttest administrator-read vocabulary-matching probe was found to be significantly better at predicting performance on the ITBS than the student-read probe. However, the researchers stated that this single difference did not warrant a recommendation for use of the administrator-read measure.

Vetterli and Furedy (1997) examined specific computer measured aspects of prose vocabulary as correlates of intelligence. This study assessed a word-length measure (average number of letters), two word-diversity measures (ratio of different to total number of words written, and Yule's Characteristic K, which indicates the repeat rate for words) as well as a word-rarity measure (proportion of words on a rare-words list). Essays of 120 11th- and 12th-grade students were assessed in terms of the above vocabulary measures and those scores were compared with the Cooperative

School and College Ability Test (SCAT). Based on Buros' work (1965), SCAT scores of 84, 11th- and 12th- graders were found to correlate with WAIS scores (correlation coefficient was .84). The average word length was expressed as number of letters per word. Hyphens, apostrophes, numerals, and embedded punctuation were counted as letters. One word diversity measure used in this study was TTR expressed in log-transformed terms (LogD/LogT). It has been shown that a logarithmic transformation of both D (number of different words) and T (number of total words) significantly reduces the essay-length source of confounding that seems to be the case with TTR. The other diversity measure was the Yule's Characteristic K. The final assessment measure was word *rarity*. In this study, a word was defined as *rare* if it was made up only of lower case letters and if it occurred with a frequency of 2 to 600 on the Kurzweil list. The lower-case-letter restriction was imposed to avoid acronyms and proper names.

Yule's K diversity measure failed to be significantly reliable (.17), but the other three measures were all significant and about the same magnitude ranging between .46 and .54. However, although the logD/logT diversity measure was reliable (r = .46), it failed to correlate significantly with SCAT total scores. In contrast, both the length and rarity measures correlated significantly with the SCAT scores, with the rarity correlation coefficients being consistent with expectations: brighter writers use longer and rarer words. Word diversity, however, did not appear to be related to total SCAT scores, even though at least one diversity measure (logD/logT) - TTR – appeared to be reliable reflector of some aspects of essay writing.

Both, the computerized word-rarity measure and the word-length measure

were significantly correlated to the SCAT scores and deemed potentially useful measures of intelligence even though the latter one showed lower correlation coefficients with SCAT scores. Of the two word-diversity measures, the second, Yule's Characteristic K failed to show any correlation with SCAT scores, as it did not even show significant internal consistency (reliability). The logD/logT diversity measure showed adequate reliability (r = .46) but was not significantly correlated with SCAT scores (Vetterli & Furedy, 1997).

Progress over Time

Several researchers have also examined the sensitivity of writing measures over time (Deno et al., 1982a; Marston, Lowry, Deno, & Mirkin, 1981) very few of which looked at vocabulary measures. Deno et al. (1982b) and Marston et al. (1981) examined both within- and across-grade level differences for three CBM scores – total words written, words spelled correctly, and correct letter sequences. In both studies, students wrote in response to a story starter for 3 minutes. Results revealed that the three measures generally reflected growth both within and across grades; however, change was relatively small and less stable for older students in upper elementary grades.

Deno et al. (1982b), investigated the validity of two vocabulary measures (counting long and mature words) as a means to assess progress in written expression among students with disabilities. Third- and sixth graders' narrative passages were evaluated based on each of the two measures and the scores were compared to those on standardized writing achievement tests. Only mature words were found to correlate significantly and consistently with achievement measures (i.e., the SAT,

Intermediate I, Word Usage Subtest, the Developmental Sentence Scoring System, and the TOWL Vocabulary Subtest). Correlations of mature words with SAT, Developmental Sentences Scoring System, and TOWL were .72, .74, and .61, respectively.

Differentiation between Different Ability Groups

Results about the sensitivity of specific vocabulary variables to differentiate student at different ability levels were mixed. For instance, the number of words with seven letters or more was found to differentiate students with and without disabilities at grade 11 (Houck & Billinsgley, 1989), whereas the same measure used by Barenbaum and her associates (1987) to assess vocabulary fluency did not show any differences among students at different ability and grade levels (3rd-, 5th-, and 7th-grades). Even though it is possible, that the overall group main effect reported by Houck and Billingsley (1989) represent a cumulative difference that is not evident until high school, the mean number of words with seven letters or more was lower for students with learning disabilities in every grade than for student without disabilities (Houck & Billingsley, 1989).

Morris and Crump (1982) assessed the vocabulary diversity in the written language of students with and without disabilities at four age levels (9 to 15 years old). Results for the CTTR indicated significant differences between groups and among age levels (at the .001 level). The CTTR was greater for non-disabled students than for disabled at each grade level suggesting greater variety in vocabulary employed in the writing samples. This difference may be an indicator of these students' poor word-finding skills or the limitation placed by poor spelling skills on

their word choice. No significant interaction between groups and age levels was observed, whereas no significant differences for groups or age levels or for the interaction of the two were demonstrated for the Vocabulary Intensity Index (VII). The combination of vocabulary difficulty, vocabulary diversity, number of multi-syllabic words, and number of affixes that comprise the VII seems to not include factors that can distinguish students with and students without disabilities. While the CTTR may be of value as an index of vocabulary development for research purposes, its usefulness for teachers in assessing written language is limited (Morris & Crump, 1982).

In conclusion, evidence from the literature reviewed above indicates three major findings: (a) the assessment of vocabulary is a very complicated task that involves the use of different assessment tools for each aspect of vocabulary (receptive versus productive vocabulary); (b) some vocabulary measures are more reliable and valid (alternate form reliability and criterion-related validity) than others (Espin et al., 2001; Gansle et al., 2002; Vetterli & Furedy, 1997), and more valid indices of students' future writing performance (Gansle et al., 2002), ability (Gansle et al., 2002; Vetterli & Furedy, 1997), or content area knowledge (Espin et al., 2001) than others, and (c) there is no consensus as to which are those valid indices of future writing performance since they are compared with different assessment tools. In terms of progress in written expression over time, only the number of mature words was found to correlate significantly with scores on standardized writing achievement tests among students with disabilities. Lastly, the number of words with seven letters or more and CTTR were reported as sensitive enough to detect differences among

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students at various ability levels (Barenbaum et al., 1987; Houck & Billingsley, 1989; Morris & Crump, 1982).

As reported in several studies reviewed in this section, particular measures of vocabulary have been correlated with scales assessing students' IQ. In the following section, I provide more information about the relationship between vocabulary measures and measures of intelligence.

Relationship between Vocabulary Measures and Measures of Intelligence

Across fluid intelligence, which represents largely constitutional and physiological influences, crystallized intelligence, which represents educational influences and acquired techniques and strategies (Cattell, 1971), and other aspects of general intelligence such as verbal intelligence, spatial intelligence, and cognitive speed, intelligence in general has been traditionally considered an important predictor of academic achievement (Furnham, 1995). Vocabulary on the other hand, has also been linked to students' academic achievement either as a successful indicator of the general language skills and overall cognitive abilities of children entering school (Illerbrun, Haines, & Greenough, 1985) or as a measure of crystallized intelligence (Diseth, 2002).

A number of studies have been conducted examining the relationship between specific vocabulary measures and cognitive scales used to assess people' intelligence. For example, Bell, Lassiter, Matthews, and Hutchinson (2001) conducted a study to explore the relationship between the PPVT-III and the Wechsler Adult Intelligence Scale-Third Edition (WAIS-III). The purpose of the study was to evaluate the validity of the PPVT-III and to assess whether it accurately estimates scores from the WAIS

Verbal IQ (VIQ) and Full Scale IQ (FSIQ). The 40 individuals participating in this study were between the ages of 18 and 41 and were administered both tests in counterbalanced fashion to control for order effects. Results from this study revealed that the PPVT-III correlated positively and significantly with the WAIS-III FSIQ (r = .40, $p < .01$) and VIQ (r = .46, $p < .01$), but did not correlate significantly with the WAIS Performance IQ (PIQ) (r = .26, $p > .05$). When comparing the mean scores between the PPVT-III and the three WAIS IQ, the mean PPVT-III standard score was not significantly different from either the FSIQ mean [$t(39)$ = 1.6, $p > .05$] or the PIQ mean [$t(39)$ = .89, $p > .05$], but was significantly lower than the VIQ mean [$t(39)$ = 2.5, $p < .05$]. These findings suggest that the PPVT-III is an accurate instrument for predicting the intellectual functioning of adults who are of average (90-109) and high average (110-119) intelligence. For participants in these two classification categories the mean PPVT-III standard score was within four points of the WAIS-III FSIQ and VIQ. However, PPVT-III scores tended to underestimate the FSIQ and VIQ of participants falling in the superior range (120+) by approximately 10 standard score points.

The magnitude of the correlations between cognitive tests (Wechsler Intelligence Scale for Children-Third Edition, WISC-III) and popular valid measures of receptive language skills (PPVT-III) was also assessed with elementary students between the ages of 7 and 12 years (Hodapp & Gerken, 1999). Thirty-one of the 35 students participating in this study were receiving special education services. The administration of the two tests was counterbalanced to control for possible order effects. Results from this study revealed mostly strong correlations between standard

scores of the PPVT-III (Form A) and scores on the seven scales of the WISC-III, ranging from .53 to .90. Particularly, the highest correlation was reported between the WISC-III VIQ and the PPVT-III, and the lowest correlation was reported between the WISC-III Processing Speed Index and the PPVT-III.

Other studies have also examined the extent to which Wechsler scales and other cognitive instruments used to measure students' IQ can be used to assess students' language skills appropriately and accurately. In a study by Sparks, Ganschow, and Thomas (1996), the Wechsler Verbal IQ in Wechsler Intelligence Scale for Children- Revised (WISC-R) was found to correlate with scores on the PPVT-R with the Peabody PVT-R vocabulary scores being more highly correlated (r = .66) with the VIQ than with the PIQ (r = .44). In the same study, correlations between the Wechsler IQ measures and Receptive Vocabulary test were higher in Grades 8 through 11 than in earlier grades, grades 1 through 3 and grades 4 through 7, suggesting that receptive vocabulary scores might be more strongly associated with intelligence for older students than younger students. Williams (1997) also reported high correlations (.72) between EVT scores and WISC-III VIQ, between EVT scores and WISC-III FSIQ (.68), and moderate correlations (.56) between EVT scores and WISC-III PIQ among 41 students, ages 7-11 through 14-4.

Smith, Smith, Taylor, and Hobby (2005), explored the relationship between WISC–III and the Comprehensive Receptive and Expressive Vocabulary Test (CREVT, Wallace & Hammill, 1994) used to measure receptive, expressive and general vocabulary. Participants in this study were 6 -17 years of age, identified as having LD, speech impairment, LD with speech impairment, and mental retardation.

Verbal IQ was highly and statistically significant correlated with all three subscales of CREVT; the correlations were .75, .70, and .80 for receptive, expressive, and general vocabulary, accordingly (p < .01). Similarly, correlations between the FSIQ and CREVT ranged between .63 and .74, whereas moderate correlations were obtained between PIQ and CREVT (.55, .45, and .55 for receptive, expressive, and general vocabulary, accordingly). Specifically, the WISC-III VIQ accounted for approximately 57% of the variance in the CREVT Receptive vocabulary scores, 48% of the variance in the CREVT Expressive vocabulary scores, and 64% of the variance in the CREVT General Vocabulary test. When the data were broken by grades (K-2, 3-5, and 6-11), significant correlations were obtained between the WISC-III VIQ, Vocabulary subscales, and all CREVT measures. It should be noted, however, that WISC-III VIQ predicted a smaller percentage of variance (48%) of receptive vocabulary among students in the lowest grades than among students in the highest grades (64%). WISC-III VIQ was also found to accurately classify 70% of the students with language disabilities when the cut-off score was 85 (one standard deviation below the mean).

The findings presented above, show a link between intelligence and vocabulary where cognitive scales such as WISC-III are used effectively to screen language problems (Smith et al., 2005). In addition, vocabulary measures such as PPVT-III can predict the intellectual functioning of adults of average and high average intelligence (Bell et al., 2001). However, as suggested by Hodapp and Gerken (1999), the findings presented are not conclusive and therefore scores of language measures and cognitive tests should not be considered interchangeable and

used alone to make diagnoses until further research provides more comprehensive results.

Vocabulary Characteristics of Struggling Learners and Students with LD

Biemiller and his colleagues claim that students' vocabulary levels diverge greatly (Biemiller, 2001; Biemiller, 2004, Biemiller & Slonim, 2001). Even in the primary grades the range in vocabulary between children with smaller and bigger vocabularies is large (Biemiller & Slonim, 2001). By the end of 2nd-grade, children in the lowest quartile have acquired about 1.5 root words a day over 7 years for a total of about 4,000 root word meanings, whereas the same numbers for children in the highest quartile are more than 3 root words a day, for a total of about 8,000 root words meanings (Biemiller, 2001; Biemiller & Slonim 2001).

After second grade, children in all vocabulary quartile groups seem to acquire new words at about the same rate, implying that most important vocabulary differences before grade 3 reflect differences in experiences rather than simple constitutional factors (i.e., in the ease of acquiring new words). Cross-sectional data show that even though students in the lowest quartile might add root words faster than students in the highest quartile, by grade 5, the former could only reach the median for grade-2 students. There is a need to find ways to support more rapid vocabulary growth in the early years, in order for the vocabulary-disadvantaged students to catch up (Biemiller, 2001). It is reported that on average vocabulary increases from 3,500 root word meanings at the beginning of kindergarten to 6,000 at the end of second grade, and that increasing vocabulary gains by 400 words a year would have a measurable effect on vocabulary size. If sustained over three years, this would add

about two-thirds of the number of words needed to bring children from the lowest vocabulary quartile to average vocabulary levels, assuming that these children will continue to learn some words outside school.

Factors that have been examined for their possible contribution to difference in vocabulary among students are the level of parental language support and encouragement and other language sources such as day-care, caregivers, preschool, and school. Hart and Risley (1995) conducted a longitudinal study to shed light onto the complex role of students' socioeconomic status and other relevant factors on the vocabulary growth, vocabulary use, and children' performance on the Stanford-Binet IQ test and other standardized tests. Vocabulary growth, vocabulary use (number of different words children used per hour), and children's performance on a variety of tasks contained in Stanford-Binet IQ test, at the age of 3, were associated with students' socioeconomic status as defined by five specific features of children-parents interactions. These features - language diversity, feedback tone, symbolic emphasis, guidance style, and responsiveness - accounted for 61% of the variance in the rates of vocabulary growth and vocabulary use of students. Children-parents interactions, as early as the age of 1-2 years, were also found to predict children language skills at the age of 9-10 (Hart & Risley, 1995), as measured by the TOLD and the PPVT –R of receptive language.

It is true that schools cannot change what happens to vocabulary acquisition before children start school, but they should definitely facilitate vocabulary acquisition later on. It has been found that when children fall further behind while in primary school, it becomes less likely that they can later catch up. For example,

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children with restricted vocabulary by third grade were reported to have declining comprehension scores in the later elementary years (Chall, Jacobs, & Baldwin, 1990), whereas developed vocabulary size in kindergarten was an effective predictor of reading comprehension in middle elementary years (Scarborough, 1998).

It is unfortunate, however, that age rather than school or other experiences are the factors apparently affecting vocabulary (Biemiller, 2001). Specifically, neither advantaged homes nor primary schools attendance were reported to sufficiently support vocabulary growth (Cantalini, 1987; Hart & Risley, 1995). Cantalini (1987) found that vocabulary acquisition in Kindergarten and grade 1, as measured by the Peabody Vocabulary Test, was little influenced by school experience; first graders appeared to have about the same vocabulary as older kindergarten children.

Cain, Oakhill, and Lemmon (2004) conducted two studies to investigate the relation between students' text comprehension, their ability to acquire new word meanings from context, and four factors perceived to influence vocabulary acquisition from written contexts. These four factors were the students' reading comprehension skills, prior vocabulary knowledge, and memory skills, as well as the proximity of the target word(s) and their useful context. Participants in the first study were a group of 12, 9- to 10-year-old, skilled comprehenders and a group of 13, 9- to 10-year-old, less skilled comprehenders. In a second study, participants were divided into three groups, one group of skilled comprehenders, one group of less skilled comprehenders, and a third group of less skilled comprehenders who also had weaker vocabulary skills relative to the other two groups.

In the first study, the investigators used two measurement tools, a vocabulary inference from context task and a working memory task. In the first case, students were presented with eight short stories containing a made-up word with novel meaning and asked to infer the meaning of the unknown word from the information contained in one or two sentences that occurred either immediately after the word or after some additional filler sentences (there were two versions of each story). In the second case, students were read aloud sentences (the number of sentences increased gradually from three to five) that were missing their final word and were asked to complete the sentence with a single word and remember the word for later recall.

Results from the study showed that children with weak comprehension skills were less able to infer the meanings of novel vocabulary items from context than were their skilled peers. The less skilled group's performance was affected by the proximity of the useful context and the novel word. These students were much less likely to provide an appropriate meaning for the novel word when it was separated from the context by filler text. The skilled group was not affected by this manipulation. Although the interaction between the two factors was significant, the measurement of effect size showed that comprehension ability accounted for the greater proportion of the variance in performance on the vocabulary inference task. It was thus suggested that less skilled comprehenders have difficulties in inferring the meanings of new words from context as well as a more fundamental deficit with vocabulary acquisition in general.

In the second study, the researchers explored how individual differences in both comprehension level and vocabulary knowledge influence the ability to learn

new word meanings. They used 16 stories, each with a different novel word, and assessed students' performance on two working memory tasks (the listening span measure used in Study 1, and a counting span task), a vocabulary direction instruction task (to assess how easily participants acquire the meanings of novel words), a vocabulary inference from context task (the same as that used in Study 1), and a short-term memory task. Results highlighted that children with both weak vocabulary and comprehension skills required more repetitions to learn the definitions of new words than both skilled comprehenders and less skilled comprehenders with good vocabulary skills. The three groups' ability to retain this knowledge was, however, comparable at least over a short delay. A relationship between vocabulary knowledge and verbal working memory was not found. The impaired memory capacity of the less skilled comprehenders was major determinant of their poor performance in the far condition of the vocabulary inference task. Both groups of less skilled comprehenders were impaired on the vocabulary inference task, but only the weak vocabulary group was impaired on the direct instruction task.

The researchers also proposed that less skilled comprehenders with good vocabulary skills might not acquire vocabulary at the same pace as their more skilled comprehenders, but they can acquire the same apparent vocabulary as their skilled peers through direct instruction and possible inference from context. The group of poor comprehenders with weak vocabulary skills, on the other hand, faces additional difficulties in acquiring vocabulary. These students appear to lack the strategic knowledge needed to infer the meanings of new words to consolidate lexical entries.

In conclusion, there are considerable differences among students with lower and bigger vocabularies in terms of acquisition rates and vocabulary growth (Biemiller 2001; 2004; Biemiller & Slonim, 2001). Researchers have tried to identify possible factors that contribute to these discrepancies. Some of the factors suggested were students' low socioeconomic status as defined by specific features of children-parents interactions (Hart & Risley, 1995), students' weak reading comprehension skills (Cain et al., 2004), and students' poor vocabulary (Cain et al., 2004).

Despite the vocabulary deviations reported among students as a result of environmental and other personal factors, more pronounced vocabulary differences are often found between students with LD and struggling learners and their normal achieving peers. Research findings on the vocabularies of students with disabilities and struggling learners and students without disabilities reveal significant differences between the two populations, not only in the type of vocabulary used, but also in the trends of their vocabularies development. In the following section, I present findings supporting this notion.

Writing Vocabulary Differences Between Struggling Learners and Students With Disabilities and Students Without Disabilities

Poplin et al. (1980) compared the written expression of LD and non-LD students at three grade levels (3 to 4, 5 to 6, and 7 to 8 grades) as measured by several TOWL subtests. One of the writing components assessed was vocabulary. Results showed vocabulary differences between these two subgroups only at 7th-and 8th-grades, with LD students' scores being significantly lower than those of non-LD students. It was however, noted that students with learning disabilities performed

within a standard deviation (SD) of the mean at all grades in the vocabulary measure. Morris and Crump (1982) investigated the syntactic and vocabulary development in the written language of LD and non-LD at 4 age levels (9 – 10 ½ years of age, 10 ½ to 12 years of age, 12 to 13 ½ years of age, and 13 ½ to 15 years of age) as measured by the average T-unit length and the Syntactic Density Score and the CTTR and the VII, respectively. The researchers also explored the possible trend of vocabulary and syntactic development in written language. They introduced two films without narration to a group of 4-5 LD and 4-5 non-LD students per session and asked students to elicit written language samples pertained to the film. Results revealed: (a) no significant differences between groups or significant interactions for group and age; (b) greater Corrected Type Token Ratio (meaning greater variety in vocabulary employed in writing samples) for non-LD than for LD at each grade level, and (c) no significant differences for groups or age levels or for the interaction of two in the Vocabulary Intensity Index.

Barenbaum, Newcomer, and Nodine (1987) also failed to find a difference in the number of words with 7 letters or more used by students with and without disabilities. Finally, Houck and Billinsgley (1989) investigated written expression of students with and without LD in order to identify developmental differences across three grades (4, 8, and 11). Among the measures used in this study was vocabulary as measured by the number of words with 7 letters or more including repeated words. Results showed that LD students were deficient on the number of words, number of sentences, and number of words with 7 letters or more produced.

Simmons and Kame'enui (1987) used a hierarchy of task forms (i.e.,

production, then choice-response) to compare the vocabulary knowledge of 10- and 12-year-old students with LD to that of 10- and 12-year-old normal achieving students. Through this form of assessment, vocabulary knowledge was examined as a function of task requirements. Specifically, the researchers had two primary goals: (a) to assess the completeness of vocabulary knowledge of students with learning disabilities and of their normally achieving peers and (b) to examine the degree to which incomplete vocabulary knowledge on production tasks was influenced by the provision of an alternate choice-response task.

Subjects were presented 45 vocabulary items in a one-to-one context and were asked to demonstrate word knowledge on an unprompted situation and on a prompted choice-response situation. The researchers used three levels of vocabulary knowledge specificity to assess students' responses: (a) full concept knowledge; (b) partial concept knowledge, and (c) inadequate or inaccurate concept knowledge. Results showed a statistically significant difference between LD and their peers' performance at both chronological ages. In particular, intellectually average LD students were found to differ significantly in their ability to demonstrate vocabulary knowledge from their peers. They experienced a significant difficulty in constructing complete verbal responses to vocabulary terms. Twelve-year old students with learning disabilities showed similar ability with that of their same-age peers in utilizing prompted response options to demonstrate vocabulary knowledge but appeared deficient in demonstrating that knowledge at a younger age (10 years of age).

The vocabulary scores of LD students were generally significantly lower. Normally achieving students had more responses falling in the full concept

knowledge than LD students, whose responses were characteristic of the inadequate or inaccurate concept knowledge level. This finding reveals the difficulty that most LD students face during the unprompted response situation; for these students generating verbal definitions to vocabulary items is very challenging. It was also reported that LD students exhibit deficits in their ability to spontaneously produce responses, but that older LD students performed more like normal achieving students when tasks provided pictorial response options. Even though these results provide an insightful piece of information about the vocabulary areas where students with LD face difficulties, readers should interpret these results with caution given the fact that participants in this study were not assessed on their prior vocabulary knowledge and that the only classification criteria for students with and without LD were statistically significant differences among students' IQ scores, and their scores in reading measures.

In terms of developmental progress in vocabulary due to maturation and age, Moran (1981) reported lack of improvement across grades for students with learning disabilities in the level of vocabulary used. Similarly, Houck and Billinsgley (1989) found few significant differences in fluency between youngest and oldest students with LD.

Jitendra, Edwards, Sacks, and Jacobson (2004), in a review of 10 vocabulary studies (27 investigations) on LD vocabulary instruction identified three possible obstacles to vocabulary development for students with LD: (a) failure to engage in the volume of independent reading necessary to significantly improve vocabulary development; (b) less proficiency on strategies for contextual word learning, and (c)

as a result of the previous factor a fragmented and less complete knowledge of words along with a narrow understanding of particular word features. Based on the studies reviewed, mnemonic approaches, cognitive strategy instruction, direct instruction, activity-based method, and computer-assisted instruction appear to enhance vocabulary development for students with LD. Even though most interventions were effective for students in Grades 4 through 12 less clear benefits were observed for early elementary students with LD. It was also suggested that since students with LD often struggle to generalize newly acquired vocabulary to novel situations, it may be necessary to specifically teach generalization to novel situations and provide a deep original exposure of words that is reinforced over time. Lastly, it was reported that even though students were mostly instructed in groups the effect sizes for individual instruction (ES = 2.33, SD = 0.74, n = 6) and instruction in pairs (mean ES = 1.80, n = 1) were the largest.

Van der Wissel (1988), on the other hand, demonstrated that 1st-, 2nd-, and 3rd- grade students with learning problems are characterized by a hampered production (a variance common to speed-of-naming and productive vocabulary measures) of words rather than restricted vocabulary (a variance common to receptive and productive vocabulary measures). It was found that struggling learners experience difficulties with adequate and quick production of word labels and with adequate description of word meanings. The criterion variable in the design was group membership defined as students failing in reading, arithmetic, and spelling and referred for psychological examination. The four independent variables were size of vocabulary (measured by the receptive PPVT-like Vocabulary Test from the Language Test of Children of Van

Bon, 1983), two productive vocabulary measures (measured by the Productive

Vocabulary Test and the Dutch version of the WISC-R Vocabulary subtest which

requires paraphrasing of the word meanings), and speed of production (using a speed

of naming pictured objects test – SNO).

The correlations of the school failure criterion with three-word production

measures – the Productive Vocabulary Test, the Dutch version of the WISC-R

Vocabulary Subtest, and the SNO - were significant at the .01 level with the

correlations coefficients for these three measures being .50, .40, and .39 respectively.

The correlation with the fourth measure was not significant (.24). In an attempt to

determine the predictive power of the three vocabulary measures the researchers

found that vocabulary size is independent of group membership and that the

productive rather than the receptive aspect of the vocabulary causes the correlation

with school failure (Van der Wissel, 1988).

Fortner (1986) suggested that teachers view vocabulary as a written

expression component, equal to fluency, structure, and content, and focus more on

vocabulary development rather than excessive correction of mechanical aspects. Such

an attitude would promote the idea among students that what they write is equally or

even more important than how they write it. Biemiller (2001), on the other hand,

suggested that most students (90%) can learn vocabulary at normal rates, rates

necessary to reach grade level or near grade level vocabulary in middle elementary

school, if given adequate opportunities to use new words and adequate instruction in

word meanings. Furthermore, he emphasized the need for more planned and

contextualized introduction of vocabulary, especially to pre-reading years (before

grades three and four), the necessity of introducing a wider range of vocabulary in the early primary years through oral sources ensuring the coverage of 4,000 root words by the end of second grade, as well as the importance of adding 500 to 750 root words per year to students' vocabularies.

In conclusion, when compared to their normally achieving peers, students with LD are found to be deficient on the number of words, number of sentences, and number of words with seven letters or more they produce (Barenbaum et al., 1987), to employ less vocabulary variety in their writing (Morris & Crump, 1982), to hold a less accurate and adequate vocabulary knowledge (Simmons & Kame'enui, 1987), and to generally perform within one standard deviation of the mean in vocabulary measures (Poplin et al., 1980). In terms of developmental progress, Moran (1981) reported lack of improvement across grades for students with LD in opposition to students without LD and struggling learners.

In an attempt to identify reasons why students with LD are deficit in their acquisition and production of word knowledge, Jitendra et al. (2004) suggested the following factors: students' failure to engage in sufficient volume of independent reading, students possessing inefficient strategies for contextual word learning, as well as students' fragmented knowledge of words as a result of the previous two factors. On the other hand, Van Der Wiesel (1988) suggested that students with learning problems experience difficulties with the production of word meanings rather than the receptive aspect of the vocabulary. He further agreed with Biemiller (2001) and Fortner (1986) that all students can learn vocabulary at normal rates if teachers view vocabulary as a written expression component and promote a more

planned and contextualized introduction of vocabulary with an emphasis on deep and frequent exposures to words and instruction on knowledge generalization to novel situations.

Vocabulary Instruction

During the last two decades several researchers have proposed general guidelines for vocabulary instruction. Specifically, Irvin (1990) suggested active learning and multiple exposures to words. Similarly, Baumann and Kame'enui (1991) talked about three overall objectives for vocabulary instruction: independence, specific word learning, as well as appreciation and enjoyment. They emphasized the need to teach students how to learn words independently, highlighted the importance of teaching students the meanings of specific words, and focused their attention on helping students to develop an appreciation for words and to experience enjoyment and satisfaction in their use.

Blachowicz and Fisher (2000) summarized all the previous work done in this area and proposed four main principles in vocabulary instruction. First, the researchers suggested that students be active in developing their understanding of words and ways to learn those words. Second, they talked about the importance of personalizing word learning in terms of students selecting the words to be taught and students being instructed to use mnemonics to learn new word meanings. Third, students need to be immersed in words through listening and reading. Fourth, they emphasized the need to create word-rich environments, where students would be able to build knowledge of a particular word through repeated exposures and from multiple sources of information.

Blachowicz and Fisher (2000) emphasized the need for students' active engagement in relation to two aspects of vocabulary instruction: (a) making connections between and among words and concepts by using semantic mapping (a technique that graphically represents the relationship between words) and semantic feature analysis (a graphic display that focuses on the features that distinguish words in a particular category) and (b) learning strategies to become independent word learners by using context and word morphology cues. Guzzetti, Snyder, Glass, and Gamas (1993) also supported the active engagement of students in their learning, and argued that engaging students in some type of active learning/discussion could facilitate any attempts to identify, confront, and correct students' possible misconceptions.

Even though personalization through student self-selection of words for study has not been extensively investigated Fisher, Blachowicz, and Smith (1991) examined the effects of allowing fourth-grade students in literature circles to select their own words for study. The students did not only select words that were at or above their grade level, but also retained their knowledge of word meanings. A partial replication of this study at seventh grade (Blachowicz, Fisher, Costa, & Pozzi, 1993) found similar results, whereas in another study by Fisher and Danielsen (1998) fourth graders who were allowed to choose their own words for vocabulary and spelling instruction learned the words more effectively and remembered the meanings of the words they chose longer than the meanings of words chosen by the teacher.

The third principle of vocabulary instruction suggested by Blachowicz and Fisher (2000) was immersing students in words. This particular principle is based on

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the theory of incidental word learning through listening or reading. Even though the extent and nature of learning through this indirect approach to vocabulary instruction are debated, the fact that learning occurs is undisputed, as reported in the available literature (National Reading Panel, 2000) (for more details see section on *indirect vocabulary instruction*).

Blachowicz and Fisher's (2000) last principle of vocabulary instruction was learning through repeated exposures. Instruction that combines definitional information with other active processing, such as adding contextual information (Stahl, 1983), writing (Duin & Graves, 1986; 1987), or rich manipulation of words (Beck & McKeown, 1983) was consistently more effective than definitional instruction alone. Repeated exposures to a word were also found to be an important component of word learning (Ryder & Slater, 1988), where several researchers have also emphasized the importance of exposing a word in different contexts (Gipe, 1979; McKeown, 1985; Stanley & Ginther, 1991) (for more details see section on *direct vocabulary instruction*).

In a review of 50 studies on vocabulary instruction, experts from the National Reading Panel (2000) provided an overview of the principles that govern the process of vocabulary acquisition and identified effective instructional procedures for teaching vocabulary. These procedures were further classified into the following five categories:

a) Explicit instruction, where students were provided definitions or other attributes of the target words along with specific algorithms to determine meaning or external clues and be able to connect the words with their meanings; common

examples of this approach included pre-teaching vocabulary prior to reading a text and analysis of word roots or affixes;

b) Indirect (implicit) instruction, where students were exposed to words or provided opportunities to do a great deal of reading and then asked to infer definitions of words they did not know; example of this approach was any attempt to encourage students' wide reading;

c) Multimedia method, where vocabulary was taught using semantic mapping and graphic representations of word attributes; hypertext was an example for teaching vocabulary under this approach;

d) Capacity method, which allowed students to concentrate on the meaning of words rather than on their orthographic or oral representation; this particular approach was used to reduce students' cognitive capacity devoted to other reading activities by practicing words and making their meanings automatic;

e) Association method, where students were encouraged to draw connections between what they know and words they do not know; these associations could be semantic, contextual, or based on imagery.

Results from this review (National Reading Panel, 2000) showed that: (a) vocabulary words can be learned through incidental learning and indirect ways (Leung, 1992; Nicholson & Whyte, 1992; Robbins & Ehri, 1994; Senechal & Cornell, 1993) and that factors such as students' motivation, words' repetition, and richness of text may determine the effectiveness of such approach; (b) when teachers need to teach specific words, instruction should include both direct and indirect teaching, active engagement in learning tasks, repetition of vocabulary items in learning and in

many contexts, as well as multiple exposures to those vocabulary items; (c) the more connections between the unknown word and familiar words the better the acquisition of that word; (d) pre-instruction of vocabulary in reading lessons can have significant effects on learning outcomes; (e) dependence on a single vocabulary instructional method does not result in optimal learning methods, but approaches involving several techniques seem more effective than those involving only one, and (f) there is not a single "best" method of vocabulary instruction, but any instruction on vocabulary is better than no instruction at all.

Various ability levels and age differences were also found to significantly influence learning gains from vocabulary instructional methods (National Reading Panel, 2000). Specifically, Tomesen and Aarnoutse (1998) found that poor 4th-grade readers gained better scores in word meaning tests than average readers through reciprocal teaching and direct instruction. Storybook readings were also more beneficial for teaching meanings of unfamiliar words among students with larger rather than with lower vocabularies (Robbins & Ehri, 1994) and among high-achievers rather than average- and low-achievers (Nicholson & Whyte (1992).

Biemiller (1999a) found that children can acquire and retain two or three words a day through instruction involving contextualized information and explanation of new words, whereas direct approaches were found to work better for less verbally fluent or lower vocabulary children and adolescents than approaches involving word meaning inferences from context. Lastly, the keyword method was reported to be more beneficial for low ability rather than high and average ability students (McGivern & Levin, 1983).

In the following two subsections, I will provide results from studies on the two major approaches of vocabulary instruction, explicit/direct and implicit/indirect. Under the direct/explicit instruction I will review studies from four of the categories (explicit, multimedia, capacity, and association) identified by the National Reading Panel (2000).

Indirect Vocabulary Instruction

It has always been assumed that because of the rapid rate at which vocabulary is acquired much of a person's vocabulary is learned incidentally. One instantiation of this method is vocabulary learning in the context of storybook reading. Recent research in this area suggested that indirect learning can definitely occur and that vocabulary can be acquired through incidental exposure. Specifically, Leung (1992) found that the frequency of a target word in stories influenced the occurrence of the word in kindergarteners and 1st-graders' retellings and that read-aloud events seemed to help students learn new words by incidental learning. Senechal and Cornell (1993) reported that one single book reading was sufficient to significantly improve new expressive vocabulary of ten target words in stories among 4- and 5-year-old students.

Nicholson and Whyte (1992) demonstrated that stories read-aloud helped 8- to 10-year-old students learn the meanings of unfamiliar words. Two years later Robbins and Ehri (1994) reported similar results on a study with younger students. The nature of interaction during storybook readings, such as students' active participation and students-initiated talk, was also found to correlate positively with the extent to which

incidental learning occurs. Dickinson and Smith (1994) reported that the amount of child-initiated analytic talk during storybook readings was important for vocabulary gains among preschoolers. Furthermore, Senechal (1997) found that pre-kindergarten children learned more from answering questions during repeated readings than when simply listening to the narrative.

In two studies, attention was given to the characteristics of words that were more conducive to vocabulary acquisition. First, Schwanenflugel, Stahl, and McFalls (1997) reported that among 4th-grade samples, certain characteristics had a significant impact on vocabulary learned from reading stories. For example, non-noun words (verbs, adverbs, and adjectives) were learned better than nouns, whereas concrete words (high in imageability) were learned more readily than less easily imageable words. The authors concluded that the characteristics of vocabulary words were more important variables in the learning of vocabulary words from stories than text features (word repetitions, contextual support, etc.). In the second study, McFalls, Schwanenflugel, and Stahl (1996) showed that African American and low SES 2nd-graders read abstract words with less accuracy than concrete words on tasks of recognition and reading accuracy, and that the concreteness of the words determined whether children were able to remember those words and learn to read them more easily.

In addition to the storybook studies reviewed above, there have been listening studies (Brett, Rothlein, & Hurley, 1996; Senechal & Cornell, 1993), studies of family literacy (i.e., Beals & De Temple, 1993), studies of wide reading (Jenkins, Stein, & Wysocki, 1984; Krashen, 1989), as well as more focused studies of

incidental word learning from context (Nagy, Herman, & Anderson, 1985; Shu, Anderson, & Zhang, 1995) showing the importance of exposing students to rich language environments. For example, Gipe and Arnold (1979) compared the effectiveness of the category, association, dictionary, and context methods for 3rd- and 5th-graders and found the highest gains for the context method.

The indirect approach to vocabulary instruction has, however, had opponents. Biemiller (2001) supported the notion that children do not easily acquire words by inference, especially children younger than age 10. Bus, Van Ijzendoom, and Pellegrini (1995) in a review of the effects of reading to children reported that younger children profit less from simply being read to. Research by Beck, Perfetti, and McKeown (1982) as well as Feitelson, Goldstein, Iraqi, and Share (1991) also showed that children can acquire vocabulary when provided with a little explanation as novel words are encountered in context. Preliminary evidence from directly interviewing students about word acquisition suggested that as late as grade 5, about 80% of words are learned as a result of direct explanation either as a result of the child's request or as a result of instruction provided usually by a teacher (Biemiller, 1999b).

Direct Vocabulary Instruction

Several studies demonstrated that direct instruction in learning word meanings is helpful for vocabulary acquisition. White, Graves, and Slater (1990) reported that direct instruction in meaning and decoding might help minority and disadvantaged students in grades 1 to 4. Dana and Rodriguez (1992) studied the effects of the

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TOAST (test, organize, anchor, say, test) method of vocabulary learning as compared to various student-selected methods of vocabulary instruction among 6th-graders. It was found that students using the TOAST method scored higher than those using student-selected methods on measures of both immediate and delayed retention of words. Stump, Lovitt, Fister, Kemp Moore, and Schroeder (1992) assessed the effects of a precision teaching intervention for general and special education. Assessments of timed vocabulary quizzes supported the finding that the majority of students in the study scored higher on measures of accuracy and fluency.

Dole, Sloan, and Trathen (1995) worked with 10th-graders on an "alternative" vocabulary treatment condition: teaching students how to select relevant words, how to learn them on a deep level, and discuss them in multiple contexts. These students outscored students taught with the traditional conditions in which students did not learn to this criterion or discuss the words in context.

Multimedia Method/Computer

Even though the use of computer technology in reading is still in its infancy there are a few studies that support the use of computer as a powerful way of increasing vocabulary (Davidson, Elcock, & Noyes, 1996; Heller, Sturner, Funk, & Feezor, 1993; Reinking & Rickman, 1990). In some of these studies, the computer was used as an adjunct to direct vocabulary instruction where students were getting more practice with learning vocabulary, and in some other studies computer added a number of different modalities to the teaching of vocabulary through online access to vocabulary definitions.

Specific features of computer/assisted instruction (CAI) such as individualization and self-pacing, immediate feedback about performance, consistent correction procedures, patient repetition, carefully sequenced instruction, frequent student responding, and motivation have also been identified as advantageous for instruction with special education students (Johnson, Gersten, & Carnine, 1987). Johnson et al. (1987) compared two methods of computer-assisted instruction, the *Large Teaching Set* and the *Small Teaching Set*, for teaching 50 words (25 verbs and 25 adjectives) to students with learning disabilities in grades 9 to 12. The words were selected by teachers and were considered important and commonly covered in grades 7, 8, and 9. The time scheduled for each daily computer session was 20 minutes for a total of 11 sessions.

The distinctive instructional design features of the *Small Teaching Set* program included: (a) individualized lessons which provide teaching and practice only on words the student does not know; (b) a practice set which consists of no more than seven words at any time; (c) a specified mastery criterion which must be met two consecutive lessons before a word is considered learned, and (d) cumulative reviews on learned words to ensure retention. The *Small Teaching Set* provides daily review on words in the student's practice set and cumulative reviews after the student has mastered 10 words. In the *Large Teaching Set* program, words are taught in sets of 25 with no cumulative reviews. These words are not individualized; therefore, students might know the meanings of some of the words at the onset. The students may choose to see the words in any of the four types of formats: (a) the word, its definition, and one example sentence; (b) a multiple-choice quiz; (c) an exercise in which a

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definition is displayed and the student must spell in the correct missing word to complete a sentence, and (d) an arcade-type game in which the student matches words to their definitions. Word knowledge is assessed using a 50-item, multiple-choice test, through definition exercises for the 10 words taught, and through written responses to comprehension questions on passages containing 10 of the most frequently missed words. A maintenance test was administered two weeks after instruction ended.

Results showed that subjects taught with the *Small Teaching Set* program required less time to meet mastery criterion on the words, yet their posttest performance and retention was equal to that of subjects in the other treatment. Equivalent growth in word knowledge was observed for students in both programs (after seven 20-minute sessions each group's mean score increased from 50% to 80% correct). Maintenance scores showed positive effects, even though they were lower than those in the previous tests. Performance levels were low on the transfer measures (35% on the open-ended oral test of word meanings and 50% on the comprehension test), suggesting that computer-assisted vocabulary instruction be combined with teacher-directed instruction.

Several studies have also used computer-mediated texts to enhance readers' options for acquiring word meanings during independent reading. Some researchers have explored the option of providing context-specific meanings of difficult words in a text (Reinking, 1983), where others developed a computer-mediated text system (CTS) to encourage students to ask questions while reading texts (MacGregor, 1988). Reinking and Rickman (1990) investigated the effects of displaying texts on a computer screen that provided the meanings of difficult words on the vocabulary

learning and comprehension of 6th-graders. Participants in the study read two informational passages containing several target words (some were technical terms or low-frequency words) that had been identified (by four or more teachers) as difficult. Subjects were assigned to four treatment conditions. In two of the conditions, they had to read the passages on printed pages accompanied by either a standard dictionary or a glossary comprised of the target words. In the remaining two conditions, participants had to read the passages on a computer screen that provided either optional or mandatory assistance with the meanings of the target words.

The results indicated that subjects who read the passages with computer assistance scored significantly higher on a 32-item vocabulary test (using a modified cloze format consisting of sentences containing a blank space each followed by three words) that measured their knowledge of the target words. Also, those students who used mandatory computer assistance outperformed other subjects on a test measuring comprehension (10-item, multiple-choice test, where five items were text implicit and five were text explicit) of the experimental passages.

Semantic Mapping/Semantic Feature Analysis

Research from the 1980s (Pittelman, Levin, & Johnson, 1985; Schewel, 1989) is consistent in supporting the benefit of semantic mapping for vocabulary learning. Semantic mapping is a technique that graphically represents the relationship between words. Semantic mapping requires students to identify and understand the relationships between words, whereas semantic feature analysis is a graphic display that focuses on the features that distinguish words in a particular category, such as various types of homes (Blachowicz & Fisher, 2000).

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Finesilver (1994) found semantic mapping to be effective with junior high students in context of regular classroom instruction, whereas Margosein, Pascarella, and Pflaum (1982) reported significant effects for semantic mapping over context-rich or target-word treatment among junior high school students. Their work suggested that students should focus on words with similarities to other known words. One particular form of semantic relatedness instruction is a concept definition map (Schwartz & Raphael, 1985) in which categorical and semantic information of a word's definition is displayed along with examples. MacKinnon (1993) reported that the concept of definition was superior to other methods of instruction for students in 9th-grade.

Bos and Anders (1990) compared the effectiveness of three semantic relatedness techniques (mapping, semantic feature analysis, and semantic/syntactic feature analysis) to definitional instruction with junior-high students with learning disabilities. Intervention consisted of eight 50-minute sessions over a span of approximately seven weeks. Concept-related vocabulary from the reading passages served as the instructional focus for the four intervention conditions. First, students were given the prior-knowledge test and topic interest inventory. Two weeks later, students participated in three 50-minute practice sessions, followed approximately two weeks later by the three 50-minute experimental sessions. Finally, four weeks later an additional session was held to collect the follow-up measures.

Learning was measured using a 30-item multiple-choice test for the experimental passage and a similar test for the practice passage. Each test consisted of 15 vocabulary and 15 comprehension items. The vocabulary items measured

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students' knowledge of the context-related meanings of the vocabulary presented in the passage; the comprehension items, on the other hand, measured students' understanding of the passage or their ability to apply the concepts presented to novel situations. Students were also provided 20 minutes to complete written recalls by writing all they know about the topic of the passage including what they read, what they learned during instruction, and other information they knew about the topic. The written recalls were scored using a variety of procedures. First, they were analyzed for the vocabulary used; a list of text-related vocabulary was generated using the list of instructional vocabulary, their corresponding definitions, and the content words from the message. Thus, the researchers scored for the number of text-related vocabulary. Second, the conceptual units recalled were also analyzed and tallied. Conceptual units adapted from Frederiksen's (1975) propositional analysis were defined as ideas that convey meaning. Similar to the vocabulary scoring, conceptual units were scored as student-relevant, student-irrelevant, or student-inaccurate (when the information could be directly disproved by the text or instructional materials) (Bos & Anders, 1990).

Quality of written recalls was assessed by categorizing each of the conceptual units as including elaborate, restrictive, or specific scriptal knowledge. Based on the amount and type of scriptal knowledge integrated into the written recalls an overall quality rating from 0 to 3 was assigned with 3 representing the highest use of scriptal knowledge. Finally, a holistic rating was generated using a 6-point scale ranging from 0 to 6 (Irwin & Mitchell, 1983). Results from the multiple-choice tests showed that students participating in all three interactive techniques demonstrated greater

comprehension and vocabulary learning than students receiving the definitional instruction. Results of the written recalls indicated quantitatively and qualitatively greater recalls at long term for students in the semantic feature and the semantic/syntactic feature analysis conditions compared to the definitional condition (Bos & Anders, 1990).

Some studies that focused on grouping words for instruction provided evidence that it is not just the relatedness of the words that is important but activities requiring students to recognize that relatedness. Durso and Coggins (1991) found that although a semantic organization of words for vocabulary instruction for college freshmen improved performance on comprehension tasks over use of an unorganized list, students' expressive vocabulary benefited only when they articulated the common theme (i.e., students became more active in their learning). Stahl, Burdge, Machuga, and Stecyk, (1992) investigated the effects of teaching words in semantically connected groups to fourth-grade students and found no benefit for doing so. On the other hand, the researchers concluded that their results may have been due to the rich and varied instruction used with all the words with all the students. It was thus implied, that because the instruction involved active participation by students it was effective for all groups. Simply grouping words by semantic relatedness was not important in this context (Stahl et al., 1992).

Duin and Graves (1987), on the other hand, investigated the effects of instruction of a set of semantically-related words on essay writing. This instruction included teaching words using instances or examples that clarified meanings and linked them to students' experiences as well as the establishment of networks of

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meaning among the words. This instruction was used alone with one group of students, was paired with writing instruction for a second group of students, whereas a third group of students received traditional vocabulary instruction (worksheet/definition activities). Results as measured by a multiple-choice vocabulary knowledge test, an analysis of students' use of the target words in essays, and holistic analyses of the essays indicated that the vocabulary/writing group outperformed the other two groups and the vocabulary alone group outperformed the traditional instruction group.

Keyword Method

Mnemonic strategies have proven effective when students are engaged in learning new words for known concepts or when learning definitions. The keyword method has perhaps the strongest research support in this area. This strategy requires students to identify a keyword that is part of the target word and to link that keyword to the definition through the use of a visual image (Blachowicz & Fisher, 2000).

Some positive findings with the keyword method indicated that this method might significantly augment recall of words taught and be more helpful than many other vocabulary instructional methods. Specifically, Levin, McCormick, Miller, and Berry (1982) found that 4th-graders outperformed control students in vocabulary acquisition with the keyword method as compared to picture context, experimental context, and control conditions. A study by McGivern and Levin (1983) showed positive effects of the keyword method, especially among low ability students even though those students had more difficulty with certain components of the task. Levin and colleagues (1984) noted gains for 4th- and 5th-graders with the keyword method as

compared to the semantic and contextual analysis methods in the short term, but this advantage faded on a one-week-delayed test. Lastly, Levin, Levin, Glasman, and Nordwall (1992) reported strong effects for 3rd-, 4th-, 7th-, and 8th-graders when comparing the keyword method to free study and science context vocabulary methods.

Mnemonic strategies also have a rich research history that has been extended by more recent studies with students with disabilities at different grade levels. The majority of these studies show positive and very promising results for this particular student population (Condus, Marshall, & Miller, 1986; Mastropieri, Scruggs, & Mushinski Fulk, 1990; Mastropieri, Scruggs, Levin, Gaffney, & McLoone, 1985; Stahl & Fairbanks, 1986). For example, Mastropieri et al. (1985) conducted two experiments to study the effects of the keyword mnemonic strategy on students' ability to recall the definitions of 14 vocabulary words. Taken from McGivern and Levin's (1983) materials, the words, were described as low-frequency English vocabulary words. In Experiment 1, 32 students with learning disabilities were randomly assigned to one of two conditions – mnemonic picture or direct instruction. For the mnemonic picture condition, the vocabulary words, keywords, and definitions were written on cards. In the direct instruction condition, only vocabulary words and their definitions were provided on index cards. The students were asked to learn the vocabulary words during one single intervention session. Results showed that students in the mnemonic picture condition outperformed students in the direct instruction condition.

In Experiment 2, students were again instructed through the mnemonic picture

or the direct instructional condition, whereas this time the students were shown models of mnemonic interactive strategy pictures, but were left on their own to construct interactive pictures for the vocabulary words. The mnemonic imagery intervention was again more effective than the direct instruction procedures for learning and recalling vocabulary meanings.

Condus et al. (1986) examined the keyword mnemonic strategy as a means to improve vocabulary learning and retention for 60 students with learning disabilities. Participants in the study were divided into two groups, high and low receptive vocabulary abilities, based on their scores on the PPVT-R and randomly assigned to one of four conditions: keyword-image, picture context, sentence-experience context, and control. Students were taught 50 vocabulary words across five weeks in 20-minute vocabulary lessons three days a week. The words were selected from the sixth- and eight-grade Living Word Vocabulary (Dale & O'Rourke, 1981) curriculum and divided into five sets of 10 words. For the keyword-image instruction, vocabulary words were presented on index cards with the word on one side and the keyword and vocabulary contained in a sentence on the reverse side. Pictorial line drawings showed representations of the keywords interacting with the definitions. In the picture context condition, students received cards similar to the keyword-image condition except that the illustrations did not contain keywords. A noun that had no acoustical similarity to the vocabulary words was used instead of the keyword. Finally, for the sentence-experience context condition, students received three-sentence passages containing the vocabulary word.

Students' knowledge was assessed through a multiple-choice test conducted immediately after weekly instruction and the completion of weekly tests (post), two weeks after the post-measure (maintenance), and eight weeks after the maintenance testing (follow-up). Results showed that overall, students in the keyword-image condition outperformed students in the other conditions at both immediate and long-term intervals. Students with high receptive vocabularies had better scores across all conditions during immediate and weekly testing than students with low receptive vocabularies. At the eight-week follow-up testing, students with low receptive vocabulary abilities in the keyword-image condition outperformed students with low and high receptive vocabulary abilities in any of the two other conditions. Student performance in the two contextual and control groups also appeared to worsen over time (Condus et al., 1986).

In a third study, Mastropieri et al. (1990) examined the effects of the keyword method versus a rehearsal condition. The 25 middle school students participating in the study received one-on-one instruction in a 16-minute experimental session. The main difference between the two conditions was the presentation of the vocabulary words. In the keyword condition, vocabulary words, keywords, and definitions were presented on cards. The keywords were shown to interact with their definitions, whereas no pictorial representation was included in the rehearsal condition. The instructor focused on teaching procedures that included drill, practice, and corrective feedback. After a one-minute activity, students were given production recall (post-intervention) and comprehension (generalization) tests. Results showed that the keyword method facilitated recall and promoted generalization on a novel

task.

Jenkins and Beck Methods

The available literature on vocabulary instruction provides support for the effectiveness of two vocabulary instructional approaches developed and implemented by two groups of researchers. Both approaches encompass elements of the direct instruction identified above. First, Jenkins and colleagues developed a remedial technique to be used with disabled students that is based on word practice through repeated verbalizations of synonyms and sentences. In particular, the instructor teaches 8-10 words by providing synonyms and sentences for each of the words. Then, the students repeat the words and synonyms and practice varying use of definitions, synonyms, and sentences with the word. Results from studies that implemented this approach showed gains in vocabulary but not in reading comprehension (Pany & Jenkins, 1978; Pany, Jenkins, & Schreck, 1982).

Second, Beck and colleagues introduced a developmental or remedial approach targeting 8-10 new words on a 5-day cycle for a total of 2 ½ hours of instruction weekly. Instructional features include: (a) very structured procedure, where students know what they are doing every day and why; (b) emphasis on speed of access to meaning; (c) focus on a variety of practice activities; (d) presence of a motivational factor, Word Wizard Chart, where students earn points for looking for words they had been taught outside the class and bringing in an explanation of how each word was used, and (e) review cycles (in the 3rd, 5th, 7th, 9th, 11th, and 12th five-day cycles) that include 2 to 3 independently completed activities with the words

selected for maintenance purposes. Several studies by Beck and colleagues showed promising results for vocabulary learning on lexical access and reading comprehension among students at various chronological ages but indicated that those results were correlated with the frequency of exposure to those words.

Specifically, Beck, Perfetti, and McKeown (1982) taught 104 words to 4th-graders in 75 daily, 30-minute lessons, over a period of five months. The words were considered to be useful and interesting for students at this age and were selected from 4th-grade reading materials (Ginn Reading 720 series). Experimental procedures consisted of two frequency conditions: (a) the *some* condition where students were exposed 10 to 18 times to 8 to 10 words daily for 5 days and (b) the *many* condition were the words appeared 26 to 40 times in subsequent weeks through review cycles; there was also a *none* condition of similar in difficulty words, meaning, and length used as pre- and posttest.

Dependent measures included vocabulary knowledge assessed by the IOWA subtest and a 147-item multiple-choice vocabulary knowledge test and tasks aimed at tapping comprehension at the word (latency task), sentence (sentence verification/latency task), and discourse levels (a story recall task). Results showed that: (a) instructed subjects in both conditions (*many* and *some)* learned the meaning of the words better than control group, especially the students in the *many* condition, but that even with extensive instruction and many exposures the experimental group did not go up to 100%; (b) the experimental groups were able to respond more accurately and more quickly to instructed words in simple semantic tasks and also to understand and produce them in more complex tasks of story understanding and story

recall than the control group, and (c) the improvement in uninstructed words was more on accuracy than on speed.

McKeown et al. (1985) examined the effects of 3 types of vocabulary instruction on the acquisition of 24 words in 2 lessons among 4th-graders. First, the traditional instruction was based on basal readers and common teacher practice and consisted only of words, their definitions, and association activities between words and their antonyms/synonyms. Second, the rich instruction was based on elaboration and discussion about words, their meanings, and their uses; students explored various aspects of word meanings, and were asked to apply words to various contexts, identify relationships between words, and respond to words affectively and cognitively. Third, the rich and extended instruction included the same activities with those in the rich instruction condition with the addition of the motivational activity *Word Wizard*, which encouraged kids to use words outside the vocabulary class.

Results indicated that: (a) extended and rich condition produced more fluent lexical access than either rich or traditional condition with no differences between the low and high frequency words (4 vs. 12 times were encountered in a 7-day period) and (b) high frequency words produced more lexical access than low frequency words in the traditional and rich conditions. It was, however, noted that even though rich instruction was the best way to produce deep and thorough word knowledge that is needed in order to affect comprehension (Beck et al., 1982; McKeown et al., 1983; McKeown et al., 1985), teaching every word in a rich way might not be practical or necessary given the number of words that need to be taught and their role in the story. The researchers suggested that rich instruction is particularly important for words that

are necessary for comprehension, for words that turn up in a wide variety of contexts, or for words that are hard to get across with just a brief explanation. More narrow instruction, such as a simple definition, should be used for words that do not need to be well known, providing teachers with the opportunity to increase the number of words introduced to students.

Restructuring the Vocabulary-learning Task

One emergent trend in literature on vocabulary instruction is the restructuring of the task (materials and procedures) in various ways to facilitate vocabulary acquisition and comprehension. One way of doing this is to alter the passage by substituting easy for hard words. Anderson and Freebody (1979) pointed out the importance of unfamiliar vocabulary on text comprehension and suggested a line of research targeting the following two issues: (a) whether substitution of easier or more difficult words in a text makes the text easier or more difficult to comprehend, and (b) whether instruction of unfamiliar words in a text facilitates the comprehension of the particular text.

In an earlier study, Marks, Doctorow, and Wittrock (1974) found that by replacing merely 15% of the low frequency words with high frequency words, students' performance on comprehension questions was significantly better than that of students who read the text in which high frequency words were substituted for low frequency words. These findings replicated across three different reading ability levels and were attributed to differences in students' knowledge of unfamiliar (low frequency) and familiar (high frequency) vocabulary words.

Kame'enui et al. (1982) conducted two experiments with 4th- and 6th-graders to further investigate the issues explored by Anderson and Freebody (1979) and Marks et al. (1974). Results from both experiments revealed that substituting easy vocabulary words for difficult vocabulary words in a contrived passage made the text significantly easier to comprehend and that redundant information in a text contributed significantly to answering inferential comprehension questions. The lack of a significant effect in Experiment 1, however, indicates that the presence of redundant information in the passage should not be considered as such an important variable for text comprehension as the presence of low frequency words in a passage and the provision of training on the meanings of low frequency words. Finally, it was reported that among the students provided the difficult vocabulary passage, students receiving vocabulary training scored better than the students receiving no vocabulary training, whereas the integration-training group scored higher than the no integration-training group.

Wixson (1986) conducted a study with 5th-grade, average and above average students to explore the effectiveness of a dictionary (basal reader) approach and the concept method approach (it relied on discussion rather than independent activities) on four vocabulary and reading comprehension dependent variables (story recall, comprehension questions, word definition, and word examples). The researcher also investigated possible differences of pre-teaching words of central and non-central importance to comprehension of a text of central and non-central importance.

Wixson (1986) reported discrepant findings of vocabulary instruction effectiveness on reading comprehension and suggested that those results be explained

by: (a) the length of passage; (b) the degree of word difficulty; (c) the method of instruction, as well as (d) the proportion of words taught. Results showed that students instructed on central words learned more and understood more ideas related to central words than students instructed on non-central words. Similarly, students instructed on non-central words learned more and understood more ideas related to non-central words than those students instructed on central words. It was thus implied that pre-teaching vocabulary words enhances reading comprehension of words related to vocabulary regardless of the words' importance.

Gordon, Schumm, Coffland, and Doucette (1992) revised text versions to help define vocabulary words for 5th-graders. Using these revised texts helped students understand passages better. Lastly, Scott and Nagy (1997) evaluated the effect of altering the presentation of vocabulary definitions (traditional dictionary definition with or without a sample sentence and definitions that were specifically written to be easier to understand) on the learning of novel vocabulary words. In general, regardless of the type of definition given, both 4th- and 6th-graders scored poorly on the task of assessing whether vocabulary usage was consistent with the definition in sentence fragments. However, small but significant gains were found when students were given sample sentences along the definitions.

Another way of restructuring the task to facilitate vocabulary acquisition is to clarify the task of learning vocabulary definitions for students by teaching what components make a good definition or by selecting relevant words. Schwartz and Raphael (1985) clarified the task of defining a word for 4th- and 5th-graders by giving them the components of a definition; such an approach was reported to increase the

students' independent vocabulary acquisition. Moreover, group-assisted reading in student dyads yielded significant vocabulary gains over the comparison, unassisted group.

Similarly, Eldredge (1990) devised a group-assisted reading method for 3rd-graders. The vocabulary gains for students reading in dyads were greater than for the comparison group of unassisted students who did independent reading. Malone and McLaughlin (1997) compared reciprocal peer tutoring with a traditional vocabulary program. The 7th- and 8th-grade students in the reciprocal peer-tutoring program had significantly higher scores on weekly vocabulary quizzes than those who did not participate in that program.

Lastly, restructuring the vocabulary-learning task might also occur by modifying the type of vocabulary learning activities provided (productive activities such as cloze exercises and writing tasks versus receptive activities such as dictionary definitions and matching activities) based on the type (productive versus receptive) and amount of target vocabulary. Specifically, Webb (2005) conducted two experiments to investigate the effects of receptive and productive vocabulary learning tasks on word knowledge of Japanese students studying English as a foreign language. The researcher argued that since the majority of vocabulary learning tasks in the classroom are receptive (reading tasks) requiring students to look up a word's definition in a dictionary, match words with their meanings or definitions, guess from context, and learn from word pairs, students are likely to gain significantly more receptive knowledge and thus have larger receptive vocabulary than productive.

Similarly, Webb (2005) claimed that productive activities, such as cloze exercises and writing tasks, are less popular in the classroom because they are more difficult to design, grade, and complete, but that those activities would probably lead to larger gains in productive knowledge. Researchers investigating learning from word pairs provided evidence that the type of learning – receptive or productive – affects the type and amount of knowledge gained (Griffin & Harley, 1996; Waring, 1997). Actually, Stoddard (1929) showed that reading tasks promoted larger gains in receptive knowledge and writing tasks promoted larger gains in productive knowledge.

Webb (2005), attempted to move a step further from the research on learning from word pairs and to assess the efficacy of learning from three glossed sentences (Treatment 1) and sentence production (Treatment 2) on receptive and productive knowledge of orthography, syntax, grammatical functions, association, and meaning and form. In Experiment 1, the investigator taught 10 Japanese and their nonsense-paired English words using one of the two treatments to two groups of students. In Experiment 2, the investigator taught 20 Japanese and their nonsense-paired English words to one group of students using one treatment for the first 10 words and the other treatment for the remaining 10 words.

In both experiments, participants were asked to complete the following 10 tests: (a) productive knowledge of orthography, where participants heard each target nonsense word twice and then were asked to write those words correctly within 10 seconds; (b) receptive knowledge of orthography, where participants had to identify and circle the correctly spelled target words among their three distracters; (c)

productive knowledge of meaning and form, where participants were provided a

Japanese word and were asked to write its nonsense-paired English word; (d)

productive knowledge of grammatical functions, where participants were cued with a

target word and had to write this word in a sentence; (e) productive knowledge of

syntax, where participants were asked to produce syntagmatic associates in English

beside the target words; (f) productive knowledge of association, where participants

were presented with the target words and asked to write an associative (i.e., synonym,

antonym) beside each item; (g) receptive knowledge of grammatical functions;

where participants were asked to choose the sentences among a total of three that

used each target word correctly; (h) receptive knowledge of syntax, where

participants had to circle the responses that were most likely to appear in context with

the target word; (i) receptive knowledge of association, where participants had to

circle the responses that were paradigmatic associates of the target words, and (j)

receptive knowledge of meaning and form, where participants were asked to write the

Japanese translation beside the target nonsense-paired English word.

    In the receptive tests (i.e., multiple choice, translation, and matching), learners

had to produce the meanings of target words or distracters to recognize the correct

response, whereas in productive tests (i.e., cued recall and translation) learners had to

recognize the prompt to recall the target word. All productive tests were completed

before the receptive tests to avoid a learning effect. Results from Experiment 1

showed that learners who completed the reading task outperformed the writing group

on all 10 dependent measures, whereas results from Experiment 2 showed that

learners gained significantly more knowledge on all 10 dependent measures from the

sentence production task than from the reading task. It can be argued that the productive tasks were more effective on the receptive measures because the learners were more likely to have spent more time on the productive task than on the receptive task. Results from Experiment 1 also showed that no significant differences would have been found between the groups if only a receptive measure of meaning had been used, because there were differences on four of the five productive tests and on one of the receptive tests. These findings indicate that using only receptive or productive tests to measure learning might provide misleading results, and that instead researchers should use receptive and productive tests to measure an aspect of knowledge and include testing on multiple aspects of vocabulary in order to get a much more accurate assessment of the degree and type of learning that has occurred (Webb, 2005).

Instruction on Prefixes

Stahl and Shiel (1992) suggested that in order for poor readers to fill the gap between their meaning vocabularies and those of the good readers, educators should consider adopting productive approaches to teaching word meanings; approaches that involve teaching a set of target words in a way that generates knowledge of a larger set of words. Instruction based on productive approaches can include teaching the meanings of word parts (prefixes, suffixes, and roots)(Erickson, Stahl, & Rinehart, 1985).

Nagy and Anderson (1984) estimated that 60% of the unfamiliar words a reader encounters in text have meanings that can be predicted on the basis of their component morphemes. Furthermore, the authors agued that a reader with a better

grasp of word-formation processes will be better able to infer the meanings of these words and remember their meanings. A number of studies provided evidence that many students even at the high school level do not realize which words they do not know, are unaware that decomposing words in their parts can help with their meanings, and often do not know the meanings of common word parts. Thus, less able readers might benefit from instruction in this area. Many of these students have difficulty isolating the root word, where knowledge of which letter patterns are suffixes may help them identify the root. The length of words often overwhelms children, but giving them a word part reduces the size of the word and allows them to focus on relevant information within the word (Adams, 1990).

More recently, Graves (2004) proposed a comprehensive vocabulary instructional plan that included: (a) strategies for learning words independently; (b) frequent, extensive, and varied language experiences; (c) instruction on individual words; (d) word consciousness, and (e) instruction on word prefixes. Graves (2004) identified three primary benefits of teaching prefixes. First, he argued that there are a relatively small number of prefixes and that these prefixes are used in a large number of words. According to the findings of White, Power, and White (1989), the 20 most frequent prefixes are used in a total of 2,959 words, whereas the three more frequent ones (*un-, re-, and in-*) account for 51% of this total (based on Carroll, Davies, & Richman's *American Heritage Word Frequency Book*, 1971). Second, prefixes are relatively easy for students to identify because they are spelled consistently and occur at the beginning of words, and third, prefixes have a clear lexical meaning that is attached to the base word in a straightforward way.

There has been a limited body of studies on teaching prefixes, starting as early as 1955 (Otterman, 1955) and extending to 2002 (Baumann, Edwards, Font, Tereshinski, Kame'enui, & Olejnik, 2002). Instruction was provided to third graders (White, Sowell, & Yanagihara, 1989), to fifth graders (Baumann et al., 2002), to seventh graders (Ess, 1978; Otterman, 1955), 4th-, 5th-, and 6th-graders (Nicol, Graves, & Slater, 1984), as well as to college students (Thompson, 1958). In most of these studies, prefix instruction was found to be effective in identifying the meanings of prefixes, the meanings of pre-fixed words, as well as the meaning of transfer words. Less positive results were however, presented in a study by Baumann et al. (2002), where prefix instruction did not reveal any effects on comprehension and students were just as effective at inferring word meanings when both prefix and context instruction were provided as when only one of these instructional approaches was provided.

Suffixes, on the other hand, such as –*ful* and –*less* are meaningful components of words, contributing to words' meanings in much the same way as prefixes. Words like *interdependent* and *readable,* which contain regular English words as roots, can also be treated as compound words. Poor readers can be taught to analyze words for structural elements, prefixes, suffixes, and familiar English roots, and to combine these within-word cues with information in the context. Reading educators are divided as to whether they should teach root words or not because the modern meanings of words do not necessarily reflect the meanings of their historical roots, and because some Greek and Latin roots may not be part of children's vocabulary

(Nagy & Anderson, 1984). On the other hand, teaching roots may make the words more memorable, by adding a story to the word's definition (Pressley, 1988).

Anderson and Nagy (1991) claimed that knowing a word could not have been identified with knowing a definition. Word knowledge, especially for non-technical vocabulary, was considered primarily procedural rather than declarative, a matter of *knowing how to* rather than *knowing that.* According to Anderson and Nagy (1991) knowing a word means being able to do things with it, such as recognize it in connected speech or in print, access its meaning, and pronounce it, use it in novel contexts, use word knowledge with other types of knowledge to construct meaning of a text, while also being able to do all these things in a fraction of a second. In most cases, knowing a word is more like knowing how to use a tool than stating a fact. Word knowledge is applied knowledge (Nagy & Scott, 2000).

Based on the research findings presented above, existing literature does not support a specific vocabulary development method or program to address the discrepancies in word knowledge between students with rich and poor vocabularies (Baker, Simmons, & Kameenui, 1998; National Research Council, 1998). Vocabulary gains have been possible through incidental learning, read-aloud, and independent reading, with such an approach being more effective for younger students, high-achievers, and students who engage regularly in a vast amount of reading. Several methods of direct vocabulary instruction, such as computer-assisted instruction, mnemonics, and instruction on word prefixes have also been found to enhance the vocabulary knowledge of struggling learners as well as students with LD (see Table 3 for a list of approaches for teaching vocabulary).

For the purpose of this study, the vocabulary instructional approach selected was direct/explicit instruction with the addition of review exercises, practice with writing, and an activity designed to facilitate students' motivation, as suggested by Beck and colleagues (Beck et al., 1980; Beck et al., 2002; Beck et al., 1987; Beck et al., 1982) and Duin and Graves (1986, 1987). This approach includes explicit instruction on target words, ample opportunities to practice and experience those words in multiple contexts, and a variety of activities such as association, matching, sentence completion, and sentence/text writing tasks, with the primary purpose to actively engage students in their learning and promote a deep processing of the words to be taught.

The reason for adapting the particular vocabulary instructional approach rests with the results obtained from recent literature. Specifically, features of the so-called "Beckized" approach such as direct/explicit instruction, and multiple exposures to words were reported as crucial in any successful vocabulary instructional program (Anderson & Nagy, 1991; Nagy & Scott, 2000), especially when dealing with students with writing difficulties. In addition, this study is considered a replication and extension of previous studies by Duin (1983), and Duin and Graves (1986, 1987), who used direct instruction in theme-related words following the method suggested by Beck and colleagues with positive results for students' knowledge of the words taught, students' use of the words taught in their written products, and quality of students' written products. Therefore it was reasonable to adapt the main instructional features included in Duin and Graves' studies (1986, 1987) and adapt them accordingly to meet the scope and objectives of the particular study.

Table 3

<u>Vocabulary Instructional Approaches</u>

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Indirect   Vocabulary is learned incidentally through storybook reading (Dickinson &

Vocabulary   Smith, 1994; Leung, 1992; McFalls et al., 1996; Nicholson & Whyte, 1992;

Instruction   Robbins & Ehri, 1994; Schwanenflugel et al., 1997; Senechal, 1997;

                Senechal & Cornell, 1993), listening (Brett et al., 1996; Senechal &

                Cornell, 1993), family literacy (Beals, & De Temple, 1993), wide reading

                (Jenkins et al., 1984; Krashen, 1989), and from context (Nagy et al., 1985;

                Shu et al., 1995).

Direct   Direct instruction in word meaning and decoding (Stump et al, 1992; White

Vocabulary   et al., 1990)

Instruction   TOAST method (Dana & Rodriguez, 1992)

                "Alternative" vocabulary treatment condition where students select words

                to learn, learn them on a deep level, and discuss them in multiple contexts

                (Dole et al., 1995).

                Multimedia method/computer where computer are used to provide more

                practice, immediate feedback, cumulative reviews, online access to

                vocabulary definitions, computer-mediated text, or different modalities to

                the teaching of vocabulary (Davidson et al., 1996; Heller et al., 1993;

                Johnson et al., 1987; MacGregor, 1988; Reinking, 1983; Reinking &

                Rickman, 1990;).

                Semantic mapping is a graphic representation of the relationship between

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words (Bos & Anders, 1990; Finesilver, 1994; Margosein et al., 1982; Pittelman et al., 1985; Schewel, 1989; Schwartz & Raphael, 1985) / semantic feature analysis is a graphic display of word features that distinguish words in a particular category (Bos & Anders, 1990) / semantic organization of words (Duin & Graves, 1987; Durso & Coggins, 1991; Stahl et al., 1992).

Keyword method is based on creating a relationship between a keyword that is part of the target word and the word definition through the use of a visual image (Blachowicz & Fisher, 2000; Levin et al., 1982; 1992;   McGivern & Levin, 1983) / Keyword Mnemonic Strategies (Condus et al., 1986; Mastropieri et al., 1985; 1990; Stahl & Fairbanks, 1986).

Jenkins method is a remedial technique to be used with students with disabilities and is based on direct instruction of 8-10 words by providing word practice through repeated verbalizations of synonyms and sentences (Pany & Jenkins, 1978; Pany et al., 1982).

Beck method is a remedial or developmental very structured approach targeting 8-10 words on a 5-day cycle for a total of 2 ½ hours of instruction weekly. It emphasizes the importance of speed access of meaning, variety of practice activities, students' motivation, and frequent review sessions (Beck et al., 1982; Duin, 1983; Duin & Graves, 1986; 1987; McKeown et al. 1983; 1985).

Restructuring the vocabulary-learning task by substituting easy for hard words (Anderson & Freebody, 1979; Marks et al., 1974; Kame'enui et al.,

1982), by pre-teaching words of central importance for text comprehension

(Wixon, 1986), by altering the presentation of word definitions (Scott &

Nagy, 1997), by teaching what components make a good definition

(Schwartz & Raphael, 1985), by using group-assisted reading method

(Eldredge, 1990), by using reciprocal peer-tutoring programs (Malorie &

McLaughlin, 1997), and by modifying the type of vocabulary learning

activities provided (productive activities such as cloze exercises and writing

tasks versus receptive activities such as dictionary definitions and matching

activities) based on the type (productive versus receptive) and amount of

target vocabulary (Griffin & Harley, 1996; Stoddard, 1929; Waring, 1997;

Webb, 2005;

Productive vocabulary instruction approaches that involve teaching a set of

target words in a way that generates knowledge of a larger set of words, the

words' parts such as prefixes, suffixes, and roots / instruction on prefixes

(Baumann et al., 2002; Ess, 1978; Nicol et al., 1984; Otterman, 1955;

Thompson, 1958; White et al., 1989) / instruction on root words (Nagy &

Anderson, 1984; Pressley, 1988).

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How to select which words to teach is a very controversial and complex issue. "There are too many words to teach," is the major argument for the proponents of the *learning words from-context* approach. Beck et al. (2002), however, reported that not all words call for attention, for if all words in the language required instruction equally, clearly there would be too many words to cover in school. It was thus, suggested that a mature literate individual's vocabulary comprises three tiers and that vocabulary instruction should target only words from one of the tiers.

Specifically, Beck and McKeown (1985) differentiated between the most basic words (Tier One words) that rarely require instruction in school, words of low frequency that are often limited to specific domains (Tier Three words) and are best learned when a specific need arises, and words of high frequency (Tier Two words) that are found across a variety of domains and rich knowledge of which can have a powerful impact on verbal functioning. Therefore, instruction directed towards those Tier Two words can be most productive.

Beck et al. (2002), however, cautioned that even within Tier Two words some words will be more easily familiar and some will be more useful than others and provided a list of criteria for identifying Tier Two words to teach. Those criteria are outlined below: (a) importance and utility, meaning that the words selected should appear frequently across a variety of domains; (b) instructional potential, meaning that the words selected can be worked with in a variety of ways so that students can build rich representations of them and of their connections to other words and concepts, and (c) conceptual understanding, meaning that the words selected are such

that students understand the general concept but provide precision and specificity in describing the concept.

Nagy (1988) in an earlier work also talked about selecting words for intensive instruction. He claimed that intensive instruction is most appropriate for words that are conceptually difficult and represent complex concepts that are not part of everyday experiences for students. He also reported that such instruction is most worthwhile when the words to be covered are important to the understanding of a selection or important because of their general utility and focuses on a group of words with related meanings (or all words related to a single topic). Only under those circumstances will the students be able to incorporate those words into their writing or speaking vocabularies. Finally, Nagy (1988) argued that the greater the proportion of the unfamiliar words in a text the more intensive instruction is required in order to improve comprehension.

There seems however a lack of a validated formula for selecting age-appropriate vocabulary words despite lists that identify *fifth-grade words* or *seventh-grade words*. There are no principles that determine which words students should be learning at different grade levels. There are only two things that make a word inappropriate for a certain level:(a) being unable to define it in terms known to the students at that grade level and (b) considering the word less useful and interesting for the students at that grade level. Words can be chosen from school material based on their importance for comprehending the text selection or their crucial role in appreciating good writing (enhance the impact of effective language use). Classroom

and community events, new stories, television programs, and commercials are also good sources for target words.

In conclusion, there is an ongoing controversy regarding the criteria for selecting which words to teach. According to Beck and colleagues (2002), vocabulary instruction should target Tier Two words that meet the criteria of importance and utility, instructional potential, and conceptual understanding. Nagy (1988) also suggested that the type of instructional words (conceptually difficult words) and the proportion of unfamiliar words in a text should determine the type of vocabulary instructional approach adapted. The criteria set for selecting the instructional words for the particular study are presented in Chapter 3 (see section on *Word Selection*).

Chapter 3: Method

This chapter outlines the methodology that was used in the current study and is divided into five sections. In the first section, I present the procedures and data obtained from a pilot study that was conducted prior to the specific study in order to test the instructional and assessment materials. Any changes made to the initial materials and procedures are also explained and documented in the same section. In section two, I provide basic information about the main study. I describe the setting, the participants and the specific criteria for their selection. In the third section, I summarize the general instructional procedures for both the experimental and the control conditions and present in more details the tasks and materials. Decisions about the theme, the number and type of theme-related words, as well as their selection method are also discussed in the same section. In section four, I describe fidelity of treatment measures. Finally, in section five, I describe all measures used in the study and provide reliability and validity data for those measures.

Pilot Study

In spring 2006 (beginning of May through middle of June), I conducted a pilot study in an attempt to establish the reliability and content validity of all instructional and assessment materials/procedures to be used in the main study. By implementing this pilot study I was also hoping to reduce the number of possible treatment errors in the main study due to unforeseen problems and get helpful feedback from the research subjects that could lead to important improvements in the main study (Isaac & Michael, 1997).

This pilot study was conducted in one of the schools where the main study was later implemented (School 2) with 3rd-grade students who had similar characteristics to the students who participated in the main study. In the following sections, I describe the participants, setting, and instructional procedures of the pilot study. I also report some preliminary results obtained from the pilot study. Lastly, I present changes that had to be made in the main study based on the findings from the pilot study and explain the reasons why.

Participants and Setting

Participants in this pilot study were selected through a screening process from all 3rd-grade students in the school (see section on screening below). Prior to the beginning of the study, both 3rd-grade classroom teachers administered the TOWL-3 (Hammil & Larsen, 1996) Story Construction subtest (Form B) to all their students. In order for students to be eligible for the study they had to be native English speakers, write at least three connected sentences on the TOWL-3 Story Construction Subtest (Form B), attend school regularly (students did not miss school more than one or two days a week), and be identified as below average writers (struggling writers) by scoring at or below the 25th percentile on the TOWL-3 Story Construction subtest. After scoring the TOWL-3 Story Construction subtest and consulting with the classroom teachers, parental permission forms were sent home to all students who met these criteria. Due to limited participation rate (at least two experimental and one control groups were needed), additional parental permission forms were sent home to students who had scored at the 37th percentile. Only nine forms total were signed and returned.

Initially, there were nine third-grade students, seven boys and two girls, participating in this study, from two separate classrooms in the school. Prior to the beginning of the second week of instruction however, I had to drop one of the students because of serious health issues and extended absences. Therefore, data presented in this section are obtained from eight students (six boys and two girls). Seven of these students were White and one was African American. None of these students was receiving any special education services, had English as a second language, or was eligible for free/reduced lunch.

Participants in the pilot study were randomly assigned to two conditions: a vocabulary instruction, experimental condition, and a minimal-treatment, control condition. Students in the experimental condition were randomly assigned to two groups (one group had two children, whereas the other group had three children). There was only one student assigned to the control condition, because a larger number of students in the control condition was not deemed necessary for the purpose of this pilot study. The researcher and another graduate-level student from the School of Education delivered instruction and administered all assessment measures. The graduate-level student was assigned to one experimental group, whereas the researcher was responsible for implementing the instructional and assessment parts of the study to the other three groups (two experimental and one control). Several training sessions were provided to the graduate-level student prior to the beginning of the study until he was successful 100% of the time at implementing the instructional and assessment procedures. In order to ensure students' voluntarily participation in this study, the instructors read student assent scripts to all students prior to the

beginning of the study to inform them about the instructional and assessment procedures.

Initially, instruction in the experimental condition was to be implemented three times a week in 30-minute sessions, however due to time limitations and end of school year constraints, both instructors had to visit the school almost daily in order to complete instruction and post-testing. Similarly, the weekly meetings with the control students had to be scheduled more frequently than once per week. The study was conducted in two separate locations in the school building: a small office and the school's cafeteria before and after lunch. The study lasted approximately 6 weeks.

Instructional Procedures

During the first two weeks of the study, five students in the experimental condition were randomly selected to receive instruction on "mystery words" and the remaining two students on "adventure words." This arrangement was switched during the second two weeks of instruction in order to control for any possible order effects in the instruction of the two theme-related sets of words. The student in the control condition was first introduced to the concept of adventure and then to the concept of mystery. This decision was arbitrary. Introduction to a theme consisted of a brief discussion about the definition of the theme and its main elements, and reading of passages related to the theme.

Students in the experimental condition were initially pre-tested on their knowledge about one of the themes and the target theme-related words as well as on their story writing about the theme. Next, they were provided vocabulary instruction on the theme-related words, and then they were post-tested on the same three

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measures. The same procedure was followed for the second theme. Students were not provided any instruction on how to write a story except for what was normally provided in their classrooms. Similarly, the single student in the control condition was pre-tested on one theme and the target theme-related words as well as on story writing about the theme. Next, this student was introduced to the first theme but he was not provided any vocabulary instruction on the theme-related words. Lastly, the student was post-tested on the same three measures. At the same time, no additional instruction on how to write a story was provided to the student in the control condition except for what was normally provided in his classroom. All assessments were individually administered except for the TOWL-3 Story Construction subtest (Form B).

Students in the experimental groups were provided two weeks of instruction on 10 adventure words (five words per week) and two weeks instruction on 10 mystery words (five words per week). The word selection procedure was the same with that followed for the main study (see section *word selection* below). The 10 instructional words selected for the theme of mystery were: *alibi, clues, detectives, distractions, evidence, motive, plot, suspects, suspense,* and *witnesses.* The 10 instructional words selected for the theme of adventure were: *accomplish, anticipate, challenge, confront, courage, determination, frustrations, inspire, obstacles,* and *survivors.*

Instruction on the theme-related words for students in the experimental condition included activities such as reading a story about the theme, vocabulary card games, and true/false, fill-in-the-blank, sentence generation, and review activities.

Towards the end of the pilot study (the last week of instruction on the second theme), a writing activity about the theme was added in the lesson plan of Day 3 in order to explore differences in students' use of the theme-related words taught in their stories, following prompting. After the completion of the pilot study, promising data obtained from this writing activity resulted in including this activity later in the lesson plans designed for the main study. The same activities and in the same order were implemented for teaching both sets of theme-related words.

The student assigned to the control condition met with the instructor four times throughout the duration of the study to learn about the two themes (two sessions were devoted to adventure and two to mystery). These sessions consisted of reading stories about the themes and a brief discussion about the stories. In addition, the student was provided with a basic definition of adventure and mystery and the main elements of any story about the two themes (see Table 4 for a brief description of all instructional activities).

Instructional Changes

The instruction provided to students in the experimental condition during the pilot study was basically the same with that provided to students during the main study (see section on *vocabulary instruction condition* below) with three exceptions. First, a writing activity was added at the end of the lesson plans for Week 1 Day 3 and Week 2 Day 3 for both themes. It was hypothesized that by prompting students to use the words taught in their stories and providing them with practice using these words during instruction, students would be able to make the generalization to story writing on their own easier when asked to write a story on the theme later on during

Table 4

Description of Activities Implemented in the Vocabulary Instruction Condition

Activity	Description
Theme Introduction	The instructor introduced students to the theme by providing its definition, an example, and the basic elements of the theme. This activity was included only in lesson plans for Day 1.
Story Read-aloud	The instructor read the first part of a story about the theme. Students followed along and attempted to identify the meaning of two predetermined words that were highlighted on the page. The remaining part of the story was read on the following instructional day. This activity was included only in lesson plans for Days 1 and 2.
Word Introduction	The instructor facilitated a brief discussion among students about the meaning of the word(s) taught that day. Next, she provided the meaning of the word(s) and asked students to read out loud and write in their logbooks the word(s) and their definition(s). This activity was included in all lesson plans.
Sentence Generation	The instructor modeled how the word(s) taught that day can be used in a sentence. She provided a maximum of

three sentences for each word. Then, students were

asked to generate sentences for the word(s) taught that

day. The instructor provided scaffolding and positive

feedback as needed. This activity was included in all

lesson plans.

Worksheet   Students were provided with worksheets and asked to

complete fill-in-the-blank and true/false activities. In

the fill-in-the-blank activity, students were asked to

complete a sentence with the words taught that day or

previous days. Words were provided in a word bank.

This activity was included in all lesson plans. In the

true/false activity (part of the review activity), students

were asked to choose the correct answer from two

possible options to a question that included the target

words. This activity was included only in lesson plans

for Day 3.

Word Family   Students were asked to participate in a vocabulary card

game. In this activity, students had to match blue cards

with the word(s) taught that day written on them with

yellow cards that had words/phrases with similar

meaning with the word(s) on the blue cards written on

them. When finding the correct yellow cards and

creating the word families students could earn colored

	stars in their folders that could further redeem with
	stickers in their progress chart. The student with the
	most stickers at the end of each week would get a secret
	prize. This activity was included in all lesson plans.
Payload Activity	Students were asked to draw a little piece of a paper
	from a hat with one of the words taught that day written
	on it. Students read the word out loud and set a goal, to
	come prepared to share a sentence with the word they
	picked next time the group would meet. This was a
	homework activity for which students could earn
	stickers in their progress charts. This activity was
	included in lesson plans for Days 1 and 2.
Review Activity	Part of this review activity included students recalling
	the words taught that week along with their definitions
	with the help of the blue cards used in the Word Family
	activity. The second part of this activity included the
	completion of a true/false worksheet activity (see
	above). This activity was included only in lesson plans
	for Day 3.
Writing Activity	Students were provided with a sheet of paper with all
	five words taught that week and an introductory phrase,
	and were asked to write a story about the theme using
	as many of the words provided as possible within 10

minutes. When the time was up students were asked to

read their stories to the group if time permitted. This

activity was included only in lesson plans for Day 3.

Note. Instructional activities are reported in the order at which they were

implemented in Days 1, 2, and 3.

testing.

Second, during the Word Family activity, students in the pilot study were asked to work as a group to identify the yellow cards that go with each of the two blue cards one at the time. In the main study, students were asked to work independently and be ready to share their responses for both blue cards at the same time. There were three main incentives for making this decision: (a) to provide all students equal opportunity to think and select a response on their own and subsequently take the credit or blame for their decision; this way students were also introduced to some type of self-assessment that could work as a positive reinforcer; (b) to enable the instructor to better assess students' knowledge of the words, and (c) to make the activity more challenging and time- efficient since some of the students during the pilot study reported that the game was too easy.

The third major change in the instruction between the pilot and main study was the substitution of some of the instructional words for both themes. Students' scores on the vocabulary multiple-choice pretest revealed that some of the words selected for instruction were familiar to the students, therefore the researcher had to substitute these words with less familiar ones and modify all lesson plans, reading passages, and assessment materials accordingly. For the theme of adventure the following five words: *accomplish*, *challenge*, *courage*, *obstacles,* and *survivors,* had to be replaced with the words *enterprise*, *endure*, *encounter, fulfill,* and *peril.* For the theme of mystery the following four words: *detectives, distractions, evidence,* and *witnesses* had to be replaced with the words *conceal*, *conspire*, *investigate,* and *sleuth*.

Other minor procedures made to the lessons in an attempt to increase the

lessons' flow included: (a) the addition of explicit students' correction and appraisal procedures; (b) the addition of a couple of transitional phrases, and (c) italicizing the part of the text that would help students figure out the meaning of a word. For students in the control condition, the only thing that was basically added from the pilot to the main study lesson plans was the writing activity implemented at the end of all four sessions for each group.

Assessment Changes

Students' in both conditions who participated in this pilot study were assessed on their knowledge about the two themes, their knowledge of the two sets of theme-related words, and their writing performance using the same assessment measures with those used with the students who participated in the main study (see section *dependent measures overview* below). Students in the experimental condition were also asked to complete the same social acceptability measure with that used with students in the main study. These measures are discussed in more details in the later sections. However, certain changes in the assessments used in the main study were deemed necessary as a result of observation notes taken during the pilot study. These changes ranged from minor revisions in the format and style of students' response forms to changes in the actual assessment materials and more substantial changes in the number of tests administered. These changes affected the vocabulary multiple-choice test, the story-writing test, and the social acceptability measure (social acceptability inventory).

Specifically, changes in the vocabulary test included: (a) substituting word stems as a result of changes in the instructional words and rearranging them randomly

instead of alphabetically across the test; (b) reordering some of the alternative options within and across test items to minimize the possibility of providing cues to the students for the correct response; (c) creating three different forms of the same test to be used at different testing points by reordering word stems and response options within each test item; (d) adding a second practice item to be administered prior to the actual test in case students respond incorrectly to the first practice item, and (e) reducing the number of test items from 30 to 28 and the testing times from four to three in order to minimize possible confounding variables such as tiredness among students.

The only change in the story-writing test was a minor revision on the format of students' response forms: the directions for administering the test were removed from the students' response forms and provided to the test administrators in a separate sheet of paper. Finally, in the social acceptability measure the changes made from the pilot to the main study were limited to the format of the question items; specifically, students were asked to mark their response to each question item without identifying the reason behind their specific response.

Other Changes

Another major difference between the pilot and the main study was the selection criteria for students' participation. In the pilot study, instruction was mainly targeting struggling writers, students who scored at or below the 25th percentile at the TOWL-3 Story Construction subtest, Form B. In the main study, the researcher decided to increase the pool of students who were eligible to participate in the study by including struggling writers (students who scored at or below the 25th percentile at

TOWL-3 Story Construction subtest – Form B) as well as average writers (students who scored at or below the 50th percentile at the TOWL-3 Story Construction subtest - Form B). The preliminary results obtained from the pilot study, showed that students who scored higher on the TOWL-3 Story Construction subtest (37th percentile) had benefited from vocabulary instruction the same and in some instances even more than students who scored at a lower percentile in the same test. It was therefore, hypothesized that the vocabulary instruction implemented as part of this study would be beneficiary to the average writers as well.

Main Study

In the next sections, I provide information about the main study. Specifically, I report district and school demographics and describe the characteristics of all participants in the study (students and teachers). Then, I present information about the instructional and assessment materials and procedures. Finally, I provide information on treatment integrity.

District Demographics

Students participating in this study were enrolled in two school systems, four classrooms, in the Washington Metropolitan Area. School 1 (two classrooms) was a public charter school in an urban school district and School 2 (two classrooms) was a Catholic private school in a rural school district. The two schools were very different in terms of the number and types of students they served. Students at the catholic private school (K-8th grade) were mainly White/Non Hispanic and did not qualify for free/reduced lunch. Based on the county's demographics (one school system) for the

academic year 2006-2007, 93.1% of the students attending school were White/Non Hispanic, 3.2% African American, 1.99% Hispanic, 1.44% Asian/Pacific Islander, and 0.29% American Indian/Alaska Native. Students at the public charter school (Pre-K – 8th grade) were 75% African American and 25% Hispanic, relatively similar to the district's school demographics (4.6% of the students attending school were White/Non Hispanic, 84.4% African American, 9.4% Hispanic, 1.6% Asian American, and 0.5% other), and were all qualified for free/reduced lunch.

Instructional Setting

Students participating in this study came from four classrooms in two schools. Prior to the beginning of the study, all four teachers (one from each classroom) were asked to sign a teacher consent form in order to ensure their voluntarily participation in the study and to inform them about their responsibilities and rights as participants in this research study. Additionally, teachers were asked to complete a questionnaire adapted from Agate (2005). The questionnaire was originally created by Graham et al. (2003) to ascertain the types of accommodations teachers make for struggling writers. Even though most of the items were taken directly from the survey, a few questions about vocabulary instruction and assessment were added by the researcher to better address the scope and purposes of the particular study. More information about the initial survey along with a copy of the modified survey (items with an asterisk indicate the questions added to the initial survey) is provided in Appendix A. Data obtained from the survey are used in the following section to describe the similarities and differences in the writing and vocabulary instruction the students received.

Approximately in the middle of the study, two students (one from the experimental condition and one from the control condition) from School 1 were removed from their regular classrooms and placed into a smaller class (eight students total) with a new teacher. This change was deemed necessary based on the students' behavioral issues in the classroom. The new teacher was informed immediately about the scope, objectives, and procedures of the study and agreed to participate. She was provided with a copy of the teachers' questionnaire, but has never completed it. Therefore, information about the vocabulary and writing procedures presented in this section comes only from the four initial classrooms.

All four classroom teachers had a Master's degree and more than 17 years of teaching experience (M = 22.25, SD = 4.57). All four of them also believed that vocabulary is very important in writing and that their students' vocabulary level was at least adequate. The five most popular ways to teach vocabulary among these four teachers were: (a) to provide definitions ($N = 4$); (b) to do pre-reading activities ($N = 4$); (c) to use new words in context ($N = 3$); (d) to use context to draw meaning ($N = 3$), and (e) to do matching activities ($N = 3$). Provide synonyms/antonyms, paraphrase sentences that contain new words, and sentence completion were used by only two teachers, whereas proof reading to correct spelling words and writing were used by only one teacher. All four teachers reported that students were allowed to select their own writing topics half of the time, whereas only three of the teachers allowed students to complete writing assignments at their own pace. Students were also encouraged to monitor their own writing progress, use writing in other content areas, use reading to support writing, and writing to support reading at least several times a

week. In three of the four classrooms, students never worked at writing centers or used dictation to write their compositions.

Specifically, in terms of their writing and vocabulary instructional approaches, teachers in School 1 reported that during an average week they spent 20 to 30 minutes teaching handwriting, 20-30 minutes teaching spelling, 30-60 minutes teaching revising strategies, 15-40 teaching grammar and usage, 15-30 teaching planning strategies, and 15-35 teaching vocabulary. They also reported that 100% to 80% of their instructional time involved students' learning and practicing new vocabulary words, whereas students use these vocabulary words in their writing weekly to daily. Vocabulary was assessed weekly to daily using three particular methods: context clues, using words in sentences, and selecting the correct word meaning. In School 1, teachers used commercial vocabulary programs to teach words in combination with more traditional approaches such as: picture cards, audio CDs, vocabulary support books, assessment-reading words- testing drill, lesson planning support, and Houghton Miffin Reading Series.

Both teachers in the urban school reported that they taught revising, sentence construction, and capitalization skills, conferenced with students, and modeled writing strategies and enjoyment of writing every day. Their students also conferenced with their peers, engaged in planning before writing, revised their writing with or without their peers, helped their peers with writing, and used computers during their writing period at a daily basis. Less frequently (daily to several times a month) students were also directed to publish their writing. Writing skills such as handwriting, spelling, punctuation, grammar, planning, and

organization were reported to be taught even more frequently (several times a day) by one of the two teachers. During an average week students in School 1 spent approximately 40 minutes writing.

Teachers in School 2 reported that during an average week they spent more time teaching vocabulary and all five of the most popular writing strategies (handwriting, spelling, grammar and usage, and revising and planning strategies) than teachers in School 1. Specifically, they spent 75 minutes teaching handwriting, 100-20 minutes teaching spelling, 45 minutes teaching revising strategies, two hours teaching grammar and usage, 45 minutes teaching planning strategies, and one to two hours teaching vocabulary. Teachers in this school did not, however, provide specific information as to how much of their instructional time involved students learning and practicing new vocabulary words, how often students used vocabulary words in their writing or how often students' vocabulary knowledge was assessed. In School 2, teachers reported that they just started using a new commercial program for teaching vocabulary, from McMillan McGraw Hill. They indicated that this program was successful for the upper elementary and middle school grades.

As far as their writing instruction concerns, teachers in this rural school taught ways of organizing text, planning, revising, handwriting, punctuation, and capitalization from weekly to several times a week. Modeling of writing strategies and enjoyment of writing occurred weekly, whereas instruction on grammar and spelling skills was implemented daily. Sentence construction skills were taught less frequently, at least several times a month. Students in School 2 were not allowed to use computers during their writing period, and spent several times a month

conferencing with their teacher and peers, planning before writing, and revising their writing. Students were also directed to share their writing, publish their writing, and help their classmates with writing at least monthly. Finally, students in School 2 spent approximately two hours writing during an average week.

In conclusion, teachers in School 1 and School 2 appeared to not differ much in their instructional approaches for teaching writing. Even though in School 1 teachers reported they used the majority of the writing adaptations included in the questionnaire more often than teachers in School 2, all four teachers at some point reported making accommodations for their students who struggle with writing. Some of the adaptations used more often by teachers in School 1 included: (a) conferencing with students; (b) teaching sentence construction, punctuation, and capitalization skills; (c) encouraging invented spelling; (d) allowing students' to conference with their peers, share their responses and help each other; (e) allowing students to complete assignments at own pace, and (f) providing opportunities for students to plan, revise, and publish their written products. In School 2, on the other hand, teachers reported using more time to teach vocabulary and all but one writing skills (revising) than teachers in School 1, whereas students in both classrooms in School 2 were not allowed to use computers at all during writing period.

When it comes to teachers' perceptions on vocabulary, vocabulary instructional approaches, and assessment tools, small deviations were reported among the four teachers. Teachers' responses were in accordance, for the most part, with self-reported data from observational studies and interviews as reported by Watts (1995). According to Watts (1995), teachers verified the importance of vocabulary

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instruction, but relied heavily on commercially prepared instructional materials in order to teach vocabulary. Teachers were also found to mainly rely on traditional vocabulary instructional approaches for learning the definition and contextual information of an individual abstract word using the new word in context and paraphrasing sentences, but adapting no semantic organization for the word. They were providing little or no multiple exposures to the target word, no opportunities for activation of prior knowledge, no strategies for independent word learning, and were using teacher-directed, primary pre-reading activities to teach the word.

In this particular dissertation study, both teachers in School 2 reported they did not paraphrase sentences that contain the new words, and did not use activities such as antonyms/synonyms, sentence completion, and writing in order to teach new words. On the other hand, only one of the teachers in School 1 reported not using matching and writing activities, as well as words in context when teaching new words. The second teacher in School 1 appeared to use all vocabulary instructional activities included in the questionnaire. The only two common instructional activities among all four teachers for teaching new vocabulary words were providing definitions and pre-reading activities.

All four teachers also considered vocabulary to be very important in students' writing and reported using a commercial program for teaching vocabulary. No information was available about how often teachers in School 2 assessed students' vocabulary knowledge, how often students used new vocabulary words in their writing, and the percentage of instructional time that students in School 2 spent learning and practicing new words. On the contrary, teachers in School 1 reported

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assessing students' vocabulary knowledge at least weekly and students' using new vocabulary words in their writing weekly. The amount of instructional time devoted to students for practicing and learning new vocabulary words was reported to be between 80% and 100%. Finally, with the exception of one teacher who reported having students with exceptional vocabulary level, the rest of the teachers reported having students with adequate vocabulary level.

It should be noted, however, that regardless of the differences delineated above between the four teachers' writing and vocabulary routines no statistically significant differences were found among students in the two schools on the dependent variables. It might therefore be the case that teachers' deviations in vocabulary and writing routines were based on students' different needs among schools and that the vocabulary instruction implemented as part of this study was not affected by the relatively different writing and vocabulary instruction these students received in their classrooms. Teachers' responses to the questionnaire are included in Appendix B.

Participants

In this section, I present the number of students included in the study and the rationale for their selection. Additional information is also provided about the students' selection criteria and screening measures. A summary of students' characteristics by school and condition is also presented in Tables 5a and 5b.

Number of Students

Table 5a

Summary of Students' Characteristics by School (Means and Percentages)

	Schools	
Measure	Rural Catholic	Urban Charter
Male	$N = 9$ (64.3%)	$N = 9$ (52.94%)
Female	$N = 5$ (35.7%)	$N = 8$ (47.06%)
White/Non Hispanic	$N = 14$ (100%)	$N = 0$
African American	$N = 0$	$N = 13$ (76.47%)
Hispanic	$N = 0$	$N = 4$ (23.53%)
Age	M = 98.14	M = 99.47
	(SD = 3.80)	(SD = 5.61)
ESL	$N = 0$	$N = 3$ (17.65%)
Free/reduced lunch	$N = 0$	$N = 17$ (100%)
Special Education	$N = 0$	$N = 3$ (17.65%)
EVT standardized score	M = 98.14	M = 89
	(SD = 8.91)	(SD = 11.31)
TOWL-3 standardized score	M = 7.14	M = 7.71
	(SD = 1.46)	(SD = 1.49)

Note. ESL = English as a second language; EVT = Expressive Vocabulary Test; M = mean; SD = standard deviation; TOWL-3 = Test of Written Language-3. The possible

maximum standardized score for the TOWL-3 Story Construction subtest and the

EVT was 20 and 160, respectively.

Table 5b

Summary of Students' Characteristics by Condition (Means and Percentages)

| | Conditions | |
Measure	Experimental	Control
Male	N= 9 (60%)	$N = 9$ (56.25%)
Female	$N = 6$ (40%)	$N = 7$ (43.75%)
White/Non Hispanic	$N = 7$ (46.67%)	$N = 7$ (43.75%)
African American	$N = 6$ (40%)	$N = 7$ (43.75%)
Hispanic	$N = 2$ (13.33%)	$N = 2$ (12.5%)
Age	M = 98.47	M = 99.25
	(SD = 3.64)	(SD = 5.86)
ESL	$N = 2$ (13.33%)	$N = 1$ (6.25%)
Free/reduced lunch	$N = 8$ (53.33%)	$N = 9$ (56.25%)
Special Education	$N = 1$ (6.67%)	$N = 2$ (12.5%)
EVT standardized score	M = 95.8	M = 90.63
	(SD = 11.40)	(SD = 10.63)
TOWL-3 standardized score	M = 7.33	M = 7.56
	(SD = 1.59)	(SD = 1.41)

Note. ESL = English as a second language; EVT = Expressive Vocabulary Test; M =

mean; SD = standard deviation; TOWL-3 = Test of Written Language-3. The possible

maximum standardized score for the TOWL-3 Story Construction subtest and the

EVT was 20 and 160, respectively.

Participants in this study were 31, 3rd grade students, identified as average or

below average (struggling) writers. There were 18 boys and 13 girls between the ages

of 7 years and 8 months and 9 years and 8 months. Additional demographic

information about the students who participated in the study such as gender, race,

socioeconomic status (measured by students' participation in a free- or reduced-price

meals program), chronological age (in months), EVT (Williams, 1997) standardized

scores, TOWL-3 standardized scores in the Story Construction subtest (Form B), and

absence or presence of any type of disabilities is presented by school in Table 5a and

condition in Table 5b.

Screening

Recent literature in the fields of education and special education shows the

need for a more rigorous research database where results are based on previously

operationally defined dependent and independent variables (Gersten, Fuchs,

Compton, Coyne, Greenwood, & Innocenti, 2005; Gresham, MacMillan, Beebe-

Frankenberger, & Bocian, 2000; Horner, Carr, Halle, McGee, Odom, & Wolery 2005;

Odom, Brantlinger, Gersten, Horner, Thompson, & Harris, 2005). Initially, for

inclusion in this study, students had to meet four selection criteria: (a) score at the

50th percentile or below on the TOWL-3 Story Construction subtest (Form B); (b) be

be able to write at least three connected sentences on the TOWL-3 Story Construction

subtest (Form B); (c) have English as their first language, and (d) attend school

regularly (students would not miss school more than one to two days a week).

However, prior to the beginning of the study I revised the above criteria and

included three ESL students (English as a second language). This decision was based

on classroom teachers' comments and verified by instructors' observations (including my own). Specifically, the teachers reassured the researcher that these students' English were sufficiently developed so that they would be able to benefit from the instruction provided during the study. In addition, all of the instructors (including myself) observed that this was the case during assessment and instruction.

These average and below average writers were selected through a screening process in all four classrooms. Classroom teachers administered the TOWL-3 Story Construction subtest (Form B) from the TOWL-3 test to all of their students and marked each of students' written composition with an identifying number. Forty-six students in School 1 and 52 students in School 2 had performed at or below the 50th percentile on the Story Construction subtest of TOWL-3. The researcher consulted with each individual teacher to ensure that these students were attending school regularly. Three of the students who participated in the study had special education individualized educational plans (IEPs) and were receiving special education services. Finally, students participating in this study were able to write at least three connected sentences on the TOWL-3 Story Construction subtest (Form B).

Parental permission letters were sent to the parents of all students who were eligible to participate in the study based on the four criteria described earlier. Twenty affirmative responses were received from School 1 and 14 from School 2. This corresponded to a 35% response rate.

The original sample size was 34 third grade students. However, data from only 31 students were analyzed and reported in this study because one student from School 1 moved to a different school prior to the conclusion of the study and two

other students from the same school were inadvertently included in the study; one of the two students had an above average TOWL-3 score (63rd percentile) and thus did not meet the criterion set prior to the beginning of the study that participating students had to be average or below average writers. The second student had a score that was more than two standard deviations below the mean on the EVT (Williams, 1997) indicating that she had a fairly low vocabulary at the onset of the study. Since she was also an ESL student the researcher had concerns that her English might not have been sufficient enough for her to benefit from the instruction provided. Therefore scores from both of these students were excluded from the analysis because they could influence the results of this study.

Prior to instruction and after the student assent scripts were read and signed by the students, participants in this study were also assessed on their vocabulary knowledge using the EVT. The EVT was administrated and scored by the researcher (six of the EVT tests were administered by another instructor due to time limitations; these were equally divided among experimental and control students). For more information about the EVT see the *dependent measures overview* section below. One-way analysis of variance (ANOVA) revealed no statistically significant differences among students in the two treatment conditions (control, minimal-treatment and experimental, vocabulary instruction) on characteristics such as chronological age as well as their performance on several vocabulary and writing tests. Tables 6a and 6b show the means and standard deviations for students on all relevant variables at the time of pre-testing by condition and school respectively.

These variables include: (a) students' standardized scores on EVT and

Table 6a

Means and Standard Deviations of Students' Scores in all Relevant Variables at

Pretest by Condition

| | Conditions | |
Variables	Experimental	Control
EVT	95.80	90.63
	(11.40)	(10.63)
TOWL-3	7.33	7.56
	(1.59)	(1.41)
Adventure Vocabulary	1.60	1.50
	(1.06)	(1.21)
Mystery Vocabulary	1.87	1.75
	(1.06)	(1.13)
Adventure Story Quality	3.17	3.09
	(0.75)	(1.28)
Mystery Story Quality	2.83	2.56
	(0.75)	(0.96)
Number of target words/synonyms	1.67	1.19
in adventure stories	(3.27)	(1.87)
Number of target words/synonyms	0.87	0.44
in mystery stories	(0.83)	(0.73)

Time needed to complete adventure story writing	518.53 (236.98)	676.81 (496.34)
Time needed to complete mystery story writing	400.27 (134.26)	637.75 (663.78)
Number of on-topic units in adventure knowledge telling	4.07 (2.46)	5.25 (4.43
Number of on-topic units in mystery knowledge telling	3.73 (3.86)	4.31 (6.41)

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Note. Standard deviations are presented in parentheses. The possible maximum standardized score for the TOWL-3 Story Construction subtest and the EVT was 20 and 160, respectively. The possible maximum score for each of the two vocabulary tests (adventure and mystery) was 10, whereas the possible maximum score for the quality of adventure and mystery stories was 7. There were no time limitations as to how long students were allowed to write their adventure and mystery stories, whereas there was an infinite number of on-topic units of knowledge that students could include in their adventure and mystery knowledge telling. As far as the possible maximum number of adventure and mystery target words and their synonyms that students could include in their adventure and mystery stories that number varied between 35 for the theme of mystery and 58 for the theme of adventure.

Table 6b

Means and Standard Deviations of Students' Scores in all Relevant Variables at

Pretest by School

| | Schools | |
Variables	Rural Catholic	Urban Charter
EVT standardized score	98.14	89.00
	(8.91)	(11.31)
TOWL-3 standardized score	7.14	7.71
	(1.46)	(1.49)
Adventure Vocabulary	1.86	1.29
	(1.17)	(1.05)
Mystery Vocabulary	1.86	1.76
	(0.95)	(1.20)
Adventure Story Quality	3.43	2.88
	(0.98)	(1.05)
Mystery Story Quality	2.82	2.59
	(0.99)	(0.75)
Number of target words/synonyms	0.79	1.94
in adventure stories	(1.25)	(3.29)
Number of target words/synonyms	0.50	0.76
in mystery stories	(0.76)	(0.83)

Time needed to complete	632.57	573.59
adventure story writing	(434.67)	(370.19)
Time needed to complete	452.64	580.65
mystery story writing	(238.97)	(633.93)
Number of on-topic units in	3.93	5.29
adventure knowledge telling	(1.90)	(4.54)
Number of on-topic units in	3.36	4.59
mystery knowledge telling	(2.47)	(6.78)

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Note. Standard deviations are presented in parentheses. The possible maximum standardized score for the TOWL-3 Story Construction subtest and the EVT was 20 and 160, respectively. The possible maximum score for each of the two vocabulary tests (adventure and mystery) was 10, whereas the possible maximum score for the quality of adventure and mystery stories was 7. There were no time limitations as to how long students were allowed to write their adventure and mystery stories, whereas there was an infinite number of on-topic units of knowledge that students could include in their adventure and mystery knowledge telling. As far as the possible maximum number of adventure and mystery target words and their synonyms that students could include in their adventure and mystery stories that number varied between 35 for the theme of mystery and 58 for the theme of adventure.

TOWL-3 Story Construction subtest; (b) students' pretest scores on adventure and mystery multiple-choice vocabulary test; (c) students' pretest scores on adventure and mystery story quality; (d) number of words/synonyms used in students' pretest adventure and mystery stories; (e) number of on-topic units of knowledge in pretest adventure and mystery knowledge telling, and (f) number of seconds students were writing during pretest adventure and mystery story writing. Table 7 presents the results from the one-way ANOVA on the same variables as well as on students' age in months. This analysis was based on students' scores by condition.

Instructional Procedures

The 31 participating students were randomly assigned to two conditions: the experimental, vocabulary-instruction condition ($n = 15$) and the control, minimal-treatment condition ($n = 16$). During the first two weeks of the study, students were randomly assigned to groups of three to five students. Students in School 1 were assigned to groups of five students, whereas students in School 2 were assigned to groups of three or four students. There were four experimental and four control groups of students in both schools (total of eight groups). For the formation of groups in both conditions, consultation with the classroom teachers was deemed necessary to address compatibility between students and issues of scheduling. In particular, one group of experimental students and one group of control students in School 2 had to stay after school hours in order to participate in this study. Additional permission letters were written and sent to the parents of these students for signature by their classroom teacher. All seven parents of these students signed and returned these

Table 7

Analysis of Variance for Students' Characteristics and Pretest Scores

Source	df	MSe	F	p
Age in months	1,29	24.16	0.197	.66
EVT	1,29	121.18	1.71	.20
TOWL-3	1,29	2.25	0.18	.67
Adventure multiple-choice test	1,29	1.297	0.06	.81
Mystery multiple-choice test	1,29	1.198	0.09	.77
Quality adventure stories	1,29	1.12	0.04	.85
Quality mystery stories	1,29	0.75	0.76	.40
Words in adventure stories	1,29	6.96	0.26	.62
Words in mystery stories	1,29	0.61	2.34	.14
On-topic ideas in adventure knowledge telling	1,29	13.10	0.83	.37
On-topic ideas in mystery knowledge telling	1,29	28.43	0.09	.77
Time students wrote an adventure story	1,29	154536.489	1.26	.27
Time students wrote a mystery story	1,29	236599.998	1.85	.19

letters prior to the beginning of the study.

On the first day of pre-testing, the instructors read student assent scripts to all participants in order to ensure their voluntary participation and their familiarity with the purpose and procedures of the study. Students in the experimental condition were told that during a four-week period they would read adventure and mystery stories, learn the meanings of new adventure and mystery words, and participate in several activities such as True/False, multiple-choice, fill-in-the-blank, writing, and vocabulary card games. Students in the control condition were told that during a four-week period they would read adventure and mystery stories and participate in several multiple-choice and writing activities.

During the first two weeks of instruction, one half of the experimental students was randomly selected to receive two weeks of instruction on "mystery" words, whereas the other half of the experimental students was selected to receive two weeks of instruction on "adventure" words. This arrangement was switched during the second two weeks of instruction in order to control for any possible order effects in the instruction of the two theme-related sets of words. Instruction was provided three times a week in 30- to 40-minute sessions. Following instruction on the first set of theme-related words, students were post-tested on their knowledge about the theme as well as their knowledge about the theme-related words taught and their story writing about the theme. After completion of the posttest students were pre-tested on their knowledge about the second theme and the second set of theme-related words as well as their story writing about the second theme. Next students were provided two weeks of instruction on the second set of theme-related words.

The final one to two testing sessions involved administering posttest for the knowledge of the second theme, the knowledge of the theme-related words, and story writing about the theme. Experimental students did not receive any additional instruction on how to write a story except for what was normally provided in their classrooms.

Throughout the duration of study, control students did not receive any instruction on theme-related words or on how to write a story except for what was normally provided in their classrooms. They did, however, participate in four 30-minute sessions (once a week). During these instructional sessions control students were introduced to the concepts of adventure and mystery through reading and writing activities. During the first two weeks, half of the control students were introduced to the concept of adventure, whereas the other half of the control students was introduced to the concept of mystery. Similarly to the experimental condition, this arrangement was switched during the second two weeks of the study.

When introduction to the first theme was completed, students were post-tested on their knowledge about the theme and the first set of theme-related words as well as their story writing. After completion of the posttest, students were assessed on their knowledge about the second theme, the second set of theme-related words and their story writing about the second theme. Following pre-testing, students met with the instructors two times to read and discuss the second theme. The final one to two testing sessions involved administering posttest on the second theme, the second set of theme-related words, and story writing about the theme.

Instruction in the experimental groups was delivered in groups of three to five students, three times a week in 30-40 minute sessions. In some cases, instructional sessions lasted up to 50 minutes because of the large group sizes and behavioral issues among students. Control students met with the instructors in groups of three to five students, once every week, in 30- to 35-minute sessions. Instruction was delivered outside the students' classrooms in a relatively quite location. For School 1, it was in the vice principal's office and for School 2, it was in the teachers' lounge. Assessments (pre- and post-testing) were administered individually in 30-minute sessions in the same locations. The duration of the study was approximately two months.

Theme Selection

For the purpose of this study, all instructional words were related to two themes: mystery and adventure. These two themes were selected based on a thorough search of children's literature. Both themes were popular, interesting, and age-appropriate for third-grade students as measured by the number of children's books on these or similar topics and the presence of theme-related stories in basal readers and reading series for students at the primary and upper elementary school levels (e.g., Jamestown's Signature Reading, Read Naturally). Both themes are also typically included in state language arts standards (see for example California, Texas, and Florida standards) and they are common staples of basal language arts programs.

Additionally, both themes contained vocabulary that should be unfamiliar to children at this age-level. Thus, instruction in words related to these themes was perceived as important and interesting for students of this particular age. It was

therefore, anticipated that instruction on theme-related words in these areas would enrich students' vocabulary as well as knowledge about the themes and subsequently the quality of students' writing about both themes.

At this point, however, it is important to make a distinction between theme knowledge that is basically content knowledge and genre knowledge that is knowledge on how to write about a genre. Since adventure stories and mystery stories are considered writing genres through vocabulary instruction in words typically used in genre-writing and by providing models of good adventures and mysteries students were not only provided content information about adventure and mystery but they were also incidentally provided information on genre writing. So, in this study it was expected that by providing instruction in theme-related words typically used in adventure and mystery stories, and knowledge about the broader context in which these words are used students would enhance their genre writing even though no direct instruction on genre writing was provided. For the purpose of this study however, the phrases "theme-" and "genre-" writing are used interchangeable.

Prior to the beginning of the study and after consultation with all four classroom teachers, the researcher made sure that neither of the themes had been previously covered in students' classrooms and that students had not been provided any type of intensive instruction on the target adventure and mystery words during third grade. Upon the completion of the study, teachers did once more assure the researcher that they had not provided any information about the themes during the conduction of the study.

Word Selection

Decisions about selecting theme-related words to be studied were based on the work of Beck et al. (2002). In an attempt to decide which words to teach directly, Beck and colleagues (2002) divided words into three Tiers: (a) Tier One words consisted of the most basic words that rarely require instruction in school; (b) Tier Three words consisted of low-frequency, domain-specific words, which are probably best learned when needed in content area; and (c) Tier Two words included high-frequency words that could be productively taught to an individual. All instructional words selected for this study met the three criteria for identifying Tier Two words: (a) importance and utility (Criterion 1); (b) instructional potential (Criterion 2), and (c) conceptual understanding (Criterion 3). Moreover, instructional words selected for this study were limited to nouns and verbs (Criterion 4). This decision was based on the importance of the particular two basic parts of speech in sentence construction and subsequently in students' writing performance. Each of the theme-related words was also perceived to enhance students' knowledge about the theme (Criterion 5). Lastly, even though each target word was related to one of the two themes, it was not unique to the theme, but it could be used in a variety of writing genres (Criterion 6).

Particularly, the target words were selected through five stages. First, I identified words that would enhance students' knowledge of both themes and might facilitate students' ability to write about both themes (Criteria 1, 3, 4, and 5). Second, I conjointly tried to identify words that were unlikely to be known, and thus were not frequently encountered by students at this age when working on literacy activities (Criterion 2). Third, I eliminated any words that were not nouns or verbs, because

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these parts of speech constitute fundamental building blocks for writing sentences (Criterion 4).

Fourth, in my attempt to select words that were relatively difficult and less frequently used, but also likely to be useful in writing across content areas (Criteria 1, 2, 3, and 6), I consulted a word frequency list by Zeno, Ivens, Millard, and Duvvuri (1995): *The Educator's Word Frequency Guide* (WFG). Based on that list, I set a guideline to eliminate any words that occur frequently and to select words that have a Standard Frequency Index (SFI) between 40 and 55. The SFI is derived directly from U (the estimated frequency-per-million different words), and it is a simple way of indicating word probabilities. For example, a word type with an SFI value of 90 would be expected to occur once in every 10 different words whereas a word with an SFI value of 40 would occur once in a million different words. Each unit of SFI represents an increase of about 25.9% in probability or frequency. There were two reasons behind this decision. First, 20% to 5% of the words in the fourth grade WFG corpus were at or above the SFI (Standard Frequency Index) values (between 40 and 55) that most of the words in this study had (60 percent of all words are at or above an SFI value of 31.6, whereas 5 percent of all words are at or above an SFI value of 54.0). Second, based on the WFG corpus, words with SFI values of 30, 35, 45, and 55 are expected to occur 0.10, 0.30, 3.00, and 30.00 times per million words, respectively.

For seventh-grade, average achieving students, Duin and Graves (1987) decided to teach words (nouns, verbs, and adjectives) that fell within the frequency block of 10 to 50 thousand occurrences in the *American Heritage Word Frequency*

Book. In this study, most words selected for instruction with younger students (3-graders) occur approximately 1 to 30 times per million words as reported on *The Educator's Word Frequency Guide*. For more information on WFG see Appendix C. Based on the WFG, three words from the theme of mystery did not fall within this frequency range (i.e., these words had SFI that was lower than 40); these words were *alibi* (SFI = 35.5), *conspire* (SFI = 32.4), and *sleuth* (SFI = 39.5). In addition, most words selected for instruction were reported to appear five or less times in the 3rd-grade-level corpus (F), with the only exceptions being the words *clues* (F = 25) and *twist* (F = 6). [For some of the words, frequencies by grade level were not provided; this is indicated by a dash (-) in the third column of Tables 8 and 9]. Despite their relatively low or high frequency of occurrence, the above five exceptional words (alibi, clues, conspire, sleuth, and twist) were selected for instruction because they were perceived to play an important role in acquiring knowledge about the particular theme.

The last step for selecting the instructional words included the administration of a multiple-choice, vocabulary knowledge test prior to the beginning of the study (pretest). In order for a word to be selected for instruction, it must have been missed by 60% or more of the students participating in the study (Criterion 2). The 60% criterion was used to compensate for the possibility of 20% of the students identifying correctly a word meaning simply by guessing when provided five options for each target word. Students were pre-tested on fourteen adventure and fourteen mystery words (Tables 8 and 9 accordingly). The word definitions and SFI values are provided separately for each theme in Tables 8 and 9. The word definitions used in

Table 8

Word Frequencies and Definitions in the Adventure Theme

	Total Corpus	3rd-Grade-Level Corpus	Word Definitions
Words	SFI	F	
Anticipate	45.8	-	To expect that something is going to happen
Confront	44.0	0	To come up against
Determination	50.5	2	Firm decision to do a difficult job
Encounter	51.0	0	To come face to face with danger
Endure	48.2	1	To keep doing a job that is unpleasant
Enterprise	51.9	0	Large and risky job
Fulfill	46.9	0	To make an idea come true
* Frustrations	43.0	-	Feelings of disappointment when a job is not completed
* Inspire	42.3	0	To encourage a person to do something
Peril	43.8	0	Immediate danger
Prevail	43.9	-	To overcome difficulties
Pursue	49.1	1	To try to accomplish a job
* Quest	47.3	0	Difficult search
* Strive	46.1	0	To work towards a goal

Note. SFI (Standard Frequency Index) is a logarithmic transformation of U (the estimated frequency-per-million different words). F indicates the frequency of a word

in the WFG's 3rd-grade-level corpus and the dash indicates that for the specific word, frequency by 3rd-grade-level corpus was not provided. Words with an asterisk were included in the multiple-choice vocabulary test but because of their familiarity to the students were not selected for instruction. Words' SFI and F values are obtained from *The Educator's Word Frequency Guide*, by S. M. Zeno, S. H., Ivens, R. T. Millard, and R. Duvvuri, 1995, Touchstone Applied Science Associates (TASA) Inc. Copyright 1995 by the Touchstone Applied Science Associates (TASA) Inc. Words' definitions are obtained from the *Merriam-Webster's Collegiate Dictionary, Tenth Edition*, 1998, Merriam-Webster Inc.

Table 9

Word Frequencies and Definitions in the Mystery Theme

Words	Total Corpus SFI	3rd-Grade-Level Corpus F	Word Definitions
Alibi	35.5	-	Excuse used to avoid blame for doing wrong
Clues	54.5	25	Directions that help people solve a puzzle
Conceal	47.2	1	To keep something a secret
Conspire	32.4	-	To plan secretly with others to do wrong
* Hostage	40.4	-	Person who is captured and not let go
* Investigate	50.9	4	To study something closely
Motive	46.8	0	Reason why a person acts in a certain way
* Plot	52.9	8	Secret plan to do something
Ransom	44.4	1	Paid to free a captured person
Sleuth	39.5	-	Person who solves a puzzle
* Suspects	43.7	2	People who may have done wrong
Suspense	44.8	1	Feeling of excitement about what will happen next
Testimony	45.5	0	Describes what happens
Twist	50.0	6	Unexpected change

Note. SFI (Standard Frequency Index) is a logarithmic transformation of U (the

estimated frequency-per-million different words). F indicates the frequency of a word

in the WFG's 3rd-grade-level corpus and the dash indicates that for the specific word,

frequency by 3rd-grade-level corpus was not provided. Words with an asterisk were included in the multiple-choice vocabulary test but because of their familiarity to the students were not selected for instruction. Words' SFI and F values are obtained from *The Educator's Word Frequency Guide*, by S. M. Zeno, S. H., Ivens, R. T. Millard, and R. Duvvuri, 1995, Touchstone Applied Science Associates (TASA) Inc. Copyright 1995 by the Touchstone Applied Science Associates (TASA) Inc. Words' definitions are obtained from the *Merriam-Webster's Collegiate Dictionary, Tenth Edition,* 1998, Merriam-Webster Inc.

the study were obtained from the Merriam-Webster Online Dictionary (for students), which is based on the print version of Merriam-Webster's Collegiate Dictionary, Tenth Edition (1998). Some of the definitions were modified in order to make them more understandable for young children. Even though some target words had more than one meaning, only the most frequently encountered meaning was taught as part of this study.

Following a preliminary analysis of the pretest results based on the criterion set above, 10 adventure and 10 mystery words were selected for instruction. These words are identified with an asterisk in Tables 8 and 9. The 10 instructional words selected for the theme of mystery were: *alibi, clues, conceal, conspire, motive, ransom, sleuth, suspense, testimony,* and *twist.* The 10 instructional words selected for the theme of adventure were*: anticipate, confront, determination, encounter, endure, enterprise, fulfill, peril, prevail,* and *pursue.*

According to the students' pre-test responses, none of the children knew more than four of the target adventure words. Two of the 31 students (6%) knew four target adventure words, nine of the 31 students (29%) knew three target adventure words, eight of the 31 students (26%) knew two target adventure words, and nine of the 31 students (29%) knew only one of the target adventure words. Approximately 84% of the students knew fewer than four of the target adventure words, whereas three (10%) students did not know any of the target adventure words. The target mystery words were generally less familiar to the students than the target adventure words.

Specifically, none of the students knew four words, only five students (16%) knew three target mystery words, and 11 students (36%) knew two and one target

mystery words. Finally, three students (10%) did not know any of the target mystery words. Tables 10 and 11 show the percentages of students who had each of the target adventure and mystery words correct and incorrect during pre-testing. Table 12 shows the means and standard deviations for the adventure and mystery target words at the time of pre-testing by condition/treatment group.

Duin and Graves (1987) taught 13 words to 7th graders over six days. I decided to reduce the number of words taught (10 words for each theme) and stretch the instruction over a longer period of time (six instructional sessions over a two-week period for each theme-related set of words). I chose to deviate from the original study by Duin and Graves (1987) because the participants in my study were younger and all of them scored at or below the 50th percentile on a written test (TOWL-3, Story Construction Subtest), whereas participants in the Duin and Graves' study (1987) were older students with scores from the verbal component of the Cognitive Abilities Test (Cog AT, 1984) ranging from the 8th to the 99th percentile.

Specific Instructional Procedures

Participating students in this study were randomly assigned to two conditions: experimental, vocabulary instructional condition and control, minimal-treatment condition. Students in the vocabulary instruction condition were taught 10 words related to the theme of adventure and 10 words related to the theme of mystery in 12 sessions (six sessions for adventure and six sessions for mystery words) during a four-week period (two weeks for each theme, three sessions per week). Instruction on each set of words was implemented in two consecutive weeks. Decisions about the types of activities selected for vocabulary instruction were based on the intervention

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Table 10

Students' Responses at Pretest for Adventure Words

Adventure Words	% Correct	% Incorrect
Anticipate	23% ($n = 7$)	77% ($n = 24$)
Confront	26% ($n = 8$)	74% ($n = 23$)
Determination	23% ($n = 7$)	77% ($n = 24$)
Encounter	13% ($n = 4$)	87% ($n = 27$)
Endure	16% ($n = 5$)	84% ($n = 26$)
Enterprise	6% ($n = 2$)	94% ($n = 29$)
Fulfill	29% ($n = 9$)	71% ($n = 22$)
Peril	35% ($n = 11$)	65% ($n = 20$)
Prevail	6% ($n = 2$)	94% ($n = 29$)
Pursue	19% ($n = 6$)	81% ($n = 25$)

Note. The number of students having each adventure word correct and incorrect is presented in parentheses.

Table 11

Students' Responses at Pretest for Mystery Words

Mystery Words	% Correct	% Incorrect
Alibi	0% (*n* = 0)	100% (*n* = 31)
Clues	58% (*n* = 18)	42% (*n* = 13)
Conceal	16% (*n* = 5)	84% (*n* = 26)
Conspire	6% (*n* = 2)	94% (*n* = 29)
Motive	13% (*n* = 4)	87% (*n* = 27)
Ransom	10% (*n* = 3)	90% (*n* = 28)
Sleuth	10% (*n* = 3)	90% (*n* = 28)
Suspense	13% (*n* = 4)	87% (*n* = 27)
Testimony	16% (*n* = 5)	84% (*n* = 26)
Twist	16% (*n* = 5)	84% (*n* = 26)

Note. The number of students having each mystery word correct and incorrect is

presented in parentheses.

Table 12

Means and Standard Deviations by Treatment Group

	Adventure words	Mystery words
Experimental groups	1.60	1.87
	(1.06)	(1.06)
Control groups	1.50	1.75
	(1.21)	(1.13)

Note. Standard deviations are presented in parentheses.

implemented by Duin and Graves (1986, 1987) and suggestions provided by Beck, McKeown, and Kucan (2002) for teaching vocabulary.

During the same four-week period, students in the control condition met with the instructors four times (once every week) in order to discuss and learn about adventures and mysteries. Students were introduced to the concepts of adventure and mystery by completing reading and writing activities about each theme for two consecutive weeks. In the sections below, I describe the activities completed by students in the control condition as well as the activities implemented during vocabulary instruction for students in the experimental condition.

Vocabulary Instruction Condition

During the first two weeks of the intervention, approximately half of the students in the experimental condition ($n = 7$) were randomly selected to receive instruction on the 10 target "mystery" words (Groups 2 and 4) and the other half of the students ($n = 8$) on the 10 target "adventure" words (Groups 1 and 3). This arrangement was switched during the second two weeks of instruction. Instruction on each of the two sets of theme-related words consisted of two independent units and was completed in two consecutive weeks (five words per week/unit). Instruction was delivered three times a week in 30- to 40-minute sessions; Tuesday, Thursday, Friday in School 1, and Monday, Wednesday, Friday in School 2 (in order to make up for testing and field trips instructors had to occasionally come on a different day after consultation with the classroom teachers).

Instructional activities included sentence generation, matching, fill-in-the-blank, vocabulary cards, and writing activities. A considerable amount of time in two

out of the three instructional sessions every week was devoted to reviewing the words previously taught. In addition, one third of the last instructional session every week consisted of a writing activity. The type of instructional activities and the amount of time devoted to each of these activities remained the same for both sets of theme-related words throughout the study.

In the section below, I provide a thorough description of the activities implemented to teach five target words during Week 1/Unit 1. The exact same procedures and activities were repeated with the remaining 15 target words in the rest of the instructional sessions of this study (lesson plans for the experimental group for the themes of mystery and adventure are included in Appendices D and E accordingly).

Day 1. The first instructional session of each theme included the following nine steps: (a) instructor's introduction and establishment of the purpose of the six sessions about the theme; (b) presentation of the theme by the instructor; (c) reading of the first part of a story related to the theme and introduction of the first two target words; (d) providing the words' definitions, and generating initially by the instructor and later by students examples of how to use these words in sentences; (e) introduction of the students' logbooks where students write both words and definitions; (f) completion by students of worksheets with fill-in-the-blank activities; (g) a vocabulary card game with the two new words; (h) assignment of homework for the next instructional session and introduction of the theme progress chart where students can monitor their progress and earn stickers to be redeemed for a secret prize at the end of the week, and (i) preview of the next session.

The session began with the instructor introducing herself and providing students with the purpose of their meetings for the following two weeks: to learn words about the theme (adventure or mystery). The instructor introduced students to the concept of the theme by providing the definition, an example, and the basic elements of the theme. Then, the instructor distributed to each of the students the first page of a story about the theme. Students were introduced to the first two target words that were highlighted on the page and were instructed to follow along and attempt to figure out the meaning of these words while the instructor was reading the first page of the story.

Following reading, the instructor pointed to the first target word and read the word out loud along with the part of the story that could help students figure out the meaning of the word. Next, the instructor facilitated a brief discussion among students about the meaning of the word. Then, the instructor gave the word definition and wrote both the word and definition on a whiteboard. Students were instructed to read back the word and its definition. The same procedure was followed for the second target word that was highlighted on the page. Then, the instructor introduced the students' logbooks and asked students to repeat out loud and write both words and definitions on their logbooks.

In the next activity, the instructor modeled how each of the target words separately could be used in a sentence. Then, she asked students to do the same thing. If students had difficulties coming up with a sentence, the instructor was ready to provide another example. The instructor provided a total of three example sentences for each of the target word. Following this sentence generation activity, students were

asked to complete a worksheet with fill-in-the-blank activities using the two target words taught that day. First, instructor and students went over a practice sentence together and then the instructor read each sentence separately and waited until students marked their responses before she moved on to the next sentence. There were two sentences for each target word so that students had the opportunity to encounter the words in two different contexts. Both words were provided in a word bank. After completion of the entire worksheet, students were directed to share their responses with peers and instructor and revise their worksheets accordingly (students' worksheets for the themes of adventure and mystery are included in Appendices F and G respectively).

After the worksheet activity, students were directed to participate in a vocabulary card game called Word Family. The purpose of this activity was for students to enrich their vocabulary by learning synonyms and/or other words related to the words taught that day. First, students were asked to briefly review the two words and their definitions. In an attempt to facilitate students' recall of the words and definitions, the instructor used two blue cards. On one side of the card was the word taught and on the other side was the word's definition. Following review of both words, the instructor put one blue card on the table and presented three yellow cards with one word/phrase written on each of them. The instructor stated that, "Two of these yellow cards go with the word on the blue card because they mean the same thing or something like it. One of the yellow cards does not go with the word on the blue card because it means something different." Next, the instructor modeled the thought process of selecting the correct yellow cards to go with the blue card and

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explained the reason why. Next, she put the second blue card and a different set of three yellow cards on the table and instructed the students to think independently for a couple of seconds and come up with the two yellow cards that go with the blue card.

In order to motivate students to actively participate in this game, the instructor provided a positive reinforcer. She mentioned that each time a student responds correctly in the Word Family activity, they would earn a colored star in their folders and redeem three stars with a sticker in their progress chart. When both word families were created, the instructor moved to the last activity for the day (the words for the Word Family activity for both themes are included in Appendix H).

The last task in Day 1 included another motivational/homework activity called Payload. With Payload, each of the students had to draw from a hat a piece of paper with one of the words taught that day written on it. Students' goal was to use the word they picked from the hat correctly in an oral sentence next time they met with the instructor. When that happened, students could earn a sticker on their progress chart. The student(s) with the most stickers at the end of the week became the winner of the winner and was eligible to get a secret prize, such as mechanical pencils, little softballs, stamps, and bracelets.

At the end of each session, students were directed to pack up their folders and give them to their instructor. Students were also provided with a preview of the following session where the instructor was simply stating that in the next session students would learn new theme-related words.

Day 2. The second session paralleled the format of the first session with a couple of differences. First, in the beginning of the session, students briefly reviewed

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the words learned in the prior lesson along with their definitions. Second, students were asked to give the oral sentences they prepared for homework. Each student who came prepared to share an oral sentence with the group earned a sticker on their progress chart. The instructor's role in this activity was to revise students' sentences as needed so they accurately reflected the word's definition and to scaffold students who were not prepared to come up with an oral sentence to share.

Next, the instructor provided each student with a hardcopy of the second half of the story that was read during Day 1 and asked students to briefly state what was the story about. Then, the instructor introduced two of the three new highlighted words on the page and asked students to try to figure out the meaning of these two words while she was reading the end of the story (the third highlighted word on the page would be taught on Day 3). After reading, the same procedures used during Day 1 were followed to teach the new target words: word definitions, sentence generation, worksheet, Word Family, and Payload. Since students were familiar with the structure of the activity, however, the instructor did not have to include any practice sentences prior to worksheet completion by the students.

A third instructional difference between Day 1 and Day 2 occurred during the Word Family activity. In Day 2, the instructor did not model the thought process for creating the first word family by putting the two yellow cards with the correct blue card. Students were instead asked to think independently for a couple of seconds and come up with both word families at once. The instructor was directed to call on students as soon as all students were ready to share their responses. The instructor tried to ensure that each student had equal opportunities to participate in all activities

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implemented and thus earn stickers and/or stars. After disseminating the colored stars for the Word Family activity, the lesson concluded with the Payload, pack-up folders, and preview stages that were identical to those in Day 1 (for Payload students had to prepare an oral sentence for one of the words taught that day).

Day 3. The third session was introduced in the same manner as Day 2. There were, however, three main differences from the instruction delivered in Days 1 and 2. The first main difference was that on Day 3 the instructor did not read any story. Instead, she simply introduced the last highlighted word on page 2 of Story 1 (the last word of the week/unit) and repeated the part of the second half of the story that was read on Day 2 in order to help students figure out the meaning of the word. The same protocol used to teach the previous four target words on Days 1 and 2 was used to teach the last word of the first unit: word definition, sentence generation, worksheet and word family activities. In Day 3, though, the worksheet was slightly different than the worksheets used in Days 1 and 2. Since only one new target word was introduced on Day 3, two of the four fill-in-the-blank sentences were designed to include the two words taught during Day 2. Similarly, in the Word Family activity students had to match only one blue card with the corresponding two yellow cards.

As soon as instruction on the fifth word of the unit was completed, the instructor used the blue cards from the Word Family activity to briefly review all five theme-related words taught so far along with their definitions. This was the second main instructional difference between Day 3 and Days 1 and 2. Part of the review process consisted of a worksheet activity that students had to complete independently. This worksheet included five questions each related to one of the five target words.

After listening to each of the questions separately students had to pick one of the two sentences that best answered the question. It was assumed that if students had acquired a deeper knowledge of the words taught, they would be able to identify the correct use of each of the five words given two possible options. Students were afterwards asked to share their responses with peers and the instructor.

The last activity for Day 3 was a writing activity. The writing activity was the third main instructional difference between Day 3 and Days 1 and 2. Students were provided a sheet of paper with all five theme-related words taught in Week 1/Unit 1 and an introductory phrase, and were asked to write a story within 10 minutes. The writing prompt was related to the theme. Students were told that the five theme-related words taught over the week would help them write better stories and were furthermore encouraged to use as many of these words or deviations of these words as they could to write their stories. Instructors were directed to not provide any type of assistance to students during their writing, except for help with spelling as needed.

When the 10 minutes were up students were asked to stop writing and share their stories if time permitted. Students who finished their writing sooner were instructed to draw a picture to go with their stories until the rest of the students in the group were done. The time used for students to write their stories was recorded on their papers. For students who were not able to finish their stories within the time framework set aside for this activity their papers were marked as not completed. The instructions for administering this activity as well as students response forms by instructional week and theme are included in Appendix I.

During *Week 2*, the instructor used a different passage about the theme but the

same types of activities previously described for Days 1, 2, and 3 to teach the remaining five target words in Week 2 /Unit 2. In Day 1, the instructor briefly reviewed the definition of the theme and moved immediately to the introduction of the second reading passage. All activities were strictly related to the new set of target words except for the writing activity on Day 3. In the writing activity, students were encouraged to use the five words taught that week, but were allowed to use any of the 10 theme-related words taught so far. Students had to write a story about the theme in response to a different writing introductory phrase from that used on Day 3, Unit 1. The last session about the theme concluded with the instructor previewing that next time she would be meeting with the students, they would be asked to complete some activities about the theme (post-testing).

Instruction on the second theme-related set of words was again delivered in two units/weeks and was completed following the same protocol described above. Instruction consisted of the same types of activities and in the same sequence as those used to teach the first theme-related set of words. The amount of time allotted for each of the activities was also similar to that devoted to teach the first five words as described above. The only difference was that the stories and activities used throughout these two weeks were related to the second theme. On Day 3, in both weeks/units, students were asked to write a story about the theme in response to two different writing introductory phrases related to the theme. The instructor followed the same protocol during the writing activity as described above. The five adventure and mystery words taught in each unit are presented in Table 13.

The researcher composed all four stories used to teach the 20 instructional

Table 13

Instructional Words by Theme and Unit

_____

Adventure Words   Mystery Words

Unit 1   Unit 2   Unit 1   Unit 2

_____

Anticipate   Determination   Alibi   Conceal

Confront   Encounter   Clues   Conspire

Enterprise   Endure   Ransom   Motive

Fulfill   Peril   Sleuth   Suspense

Pursue   Prevail   Testimony   Twist

_____

words. Ideas were obtained from 3rd-, 4th-, and 5th- grade basal readers and word

frequency measures and were revised accordingly to include the target theme-related

words and to meet the developmental needs of the students participating in this study.

Examples of basal readers and word frequency measures accordingly include

Jamestown's Signature Readings and *Dibels*. The four stories are included in

Appendix J.

Minimal-treatment, Control Condition

During the first two weeks of the intervention, approximately half of the

students in the control condition ($n = 9$) were randomly selected to learn about

mystery (Groups 1 and 4) and the other half of the students ($n = 7$) to learn about

adventure (Groups 2 and 3). This arrangement was switched during the second two

weeks of instruction. Students in the control condition were not provided any type of

vocabulary instruction; they were, however, introduced to both of the themes

separately through reading and writing activities. The students listened to the same

adventure and mystery stories read to the students in the experimental condition.

Students in the control condition were also asked to write adventure and mystery

stories in response to the same writing introductory phrases as those used with the

experimental students. Introduction to each theme consisted of two 30-minute

sessions once per week; Tuesday or Thursday in School 1 and Monday in School 2

(in order to make up for testing and field trips, instructors had to occasionally

substitute some of these days after consultation with the classrooms teachers). In the

section below, I describe the activities implemented during both sessions for one

theme.

Day 1. In the first session, the instructor introduced herself and established the purpose of the two sessions for the theme. Next, students were provided with the definition, an example, and the basic elements of the theme using the same procedures as those used during instruction with the experimental groups. Then, the instructor read the same story about the theme as that read to the experimental students on Days 1 and 2, of Week 1/Unit 1. After reading, the students were directed to say if they liked the story and why, and what did they like most. The last activity of the session consisted of a 10-minute story writing about the theme in response to the same writing introductory phrase as that used with the experimental students at Day 1, Week 1/Unit 1. The instructor followed the same protocol as that described in Day 1, Week 1/Unit 1 session for the experimental students with the only exception that students in the control condition were not encouraged to use any of the instructional words when writing.

The instructor did not provide any type of assistance to the students during their writing except for help with spelling as needed. After 10 minutes, students were asked to stop writing and share their stories if time permitted. Students who finished their writing sooner were instructed to draw a picture to go with their stories until the rest of the students in the group were done. The time used for students to write their stories was recorded on their papers. For students who were not able to finish their stories within the time framework set aside for this activity their papers were marked as not completed. The session concluded with students packing-up their folders and the instructor giving a preview of the next session. The preview consisted of the

instructor saying that, "Next time we meet we will read another adventure/mystery story."

Day 2. The second session began with a brief review of the theme's concept Then, the instructor introduced the second story about the theme (the same story with that read to the experimental students on Days 1 and 2, Week 2). After reading the story students were again asked to give their opinions about the story and compare the two stories read. Finally, students were directed to complete within 10 minutes a second writing activity about the theme in response to a different writing introductory phrase from that used during Day 1 (the same with that used with the experimental students on Day 3, Week 2). The instructor followed the same protocol with that used on Day 1. Students were not provided any help from the instructor except for information about the correct spelling of words. Students were also not encouraged to use any of the instructional words when writing. After 10 minutes, students were asked to share their responses. The last session about the theme concluded with the instructor indicating that the next time she met with the group students would be asked to complete some activities about the theme. The same procedure was used for the introduction of the second theme. All lesson plans for the control group for the themes of mystery and adventure are provided on Appendices K and L respectively.

General Procedures

In this section, I provide information about the personnel who were involved in the implementation of this study and describe the training sessions provided to

them prior to the beginning of the study. Treatment integrity along with related issues raised throughout the duration of the study are also discussed in this section.

Personnel

At the beginning of the study, two graduate-level students from the School of Education were hired to administer assessment and instruction in School 1. Each of the two instructors was assigned one experimental and one control group (Instructor 2 had 10 students and Instructor 3 had seven students). The researcher (Instructor 1) was responsible for providing instruction and assessment to all four groups (two experimental and two control) in School 2 ($n = 14$), while at the same time assisting the other two instructors with testing throughout the duration of the study. After completion of instruction and posttest on the first theme, Instructor 3 left the study, because there were concerns regarding her ability to deliver instruction as intended. Instruction and assessment for her two groups of students was continued by the researcher.

The hypothesis of Instructor's 3 ability to deliver instruction as intended was further explored upon completion of the study. Specifically, means and standard deviations for all relevant variables at the time of post-testing for all students (3 experimental and 4 control) who had been initially instructed by Instructor 3 and later by Instructor 1 were reported and compared. As shown in Table 14, when Instructor 1 delivered instruction, experimental students knew on average more of the theme-related words taught and used more of the theme-related words taught and their synonyms in their stories than when they were instructed by Instructor 3. However, the same students used on average more on-topic units of knowledge in their

Table 14

Means and Standard Deviations for Students with Instructors 1 and 3 at Posttest

Variables	Experimental	Control
Instr 1 Mystery test		1.75 (0.50)
Instr 3 Adventure test		1.75 (0.96)
Instr 1 Adventure test	9.67 (0.58)	
Instr 3 Mystery test	8.67 (0.58)	
Instr 1 Quality mysteries		2.00 (0.58)
Instr 3 Quality adventures		1.88 (0.48)
Instr 1 Quality adventures	2.83 (0.76)	
Instr 3 Quality mysteries	2.83 (0.58)	
Instr 1 Words in mysteries		0.50 (0.58)
Instr 3 Words in adventures		0.25 (0.50)
Instr 1 Words in adventures	1.67 (0.58)	
Instr 3 Words in mysteries	1.33 (1.15)	
Instr 1 On-topic ideas in mystery knowledge telling		5.50 (5.45)
Instr 3 On-topic ideas in adventure knowledge telling		6.50 (6.95)
Instr 1 On-topic ideas in adventure knowledge telling	3.00 (0.00)	

Instr 3 On-topic ideas in mystery knowledge telling	4.33 (1.53)	
Instr 1 Time students wrote mystery story		283.75 (161.86)
Instr 3 Time students wrote an adventure story		459.50 (266.32)
Instr 1 Time students wrote an adventure story	359.67 (102.16)	
Instr 3 Time students wrote a mystery story	415.00 (69.66)	

Note. Raw scores reported. Standard deviations are reported in parentheses. Instr 1 = Instructor 1 = is the researcher, who continued instruction and assessment with Instructor's 3 students. Instr 3 = Instructor 3 = is the instructor who left the study after the completion of instruction in Theme 1.

knowledge telling and spent more time writing their stories when they were instructed by Instructor 3 than when they were instructed by Instructor 1. No differences were reported in students' scores for story quality when Instructor 3 was substituted by Instructor 1.

Similar but smaller differences were also reported for students in the control condition with some of the data favoring the instruction delivered by Instructor 1 and some data favoring the instruction delivered by Instructor 3. Even though these scores are based on students' performance on tests for different themes it is not likely that the substitution of Instructor 3 had much of an impact at the outcome of this study. Before the start of the study, both graduate-level students were individually trained on how to implement the instructional and assessment procedures with 100% accuracy. Training for each instructor was completed in two separate sessions. In the first session, the researcher introduced the assessments to be used in the study and modeled step-by-step the procedures for administering each of them. Instructor 2 was trained on all assessments, whereas Instructor 3 was trained in the administration of all but the EVT test. In the second session, instructors were trained on the instructional procedures for both treatment conditions (control and experimental).

Training on the instructional procedures began with an initial introduction of two notebooks containing the activities to be used in the instructional sessions for both themes, in the order to be implemented, and with detailed directions for implementing each of them (lesson plans). The training included role-playing sessions between the instructors and the researcher. Initially, the researcher covered the instructional steps for teaching the words from one of the themes and then asked

the graduate-level students to repeat the same steps to teach words from the other theme. In order to ensure accurate and appropriate implementation of the procedures, all instructors received the two notebooks (checklists) with all lesson plans for both themes (see Appendices D and E for the experimental group and Appendices K and L for the control group) and were directed to accurately and appropriately check off instructional steps as they were completed. All instructional materials for the two themes were printed on different colored paper (orange for mystery and green for adventure) to ensure that instructors did not confuse the lesson plans for each theme.

Fidelity of Treatment Implementation

In recent years, validity of instructional implementation has become a major concern (Gersten et al., 2005; Gresham et al., 2000; Horner et al., 2005; Odom et al., 2005). According to Peterson, Homer, and Wonderlich (1982), an accurate description and adequate assessment of the independent variable (vocabulary instruction) are necessary in order to demonstrate the existence of a functional relationship between the independent variable (vocabulary instruction in theme-relaters words) and the dependent variables (knowledge of theme-related words, knowledge about the theme, and writing performance). In this study, attention was devoted to ascertain that all assessment and instructional procedures were implemented as intended.

In order to ensure that instruction in this study was delivered as planned, the following safeguards were implemented. First, both graduate-level students attended two training sessions where instruction and assessment procedures were thoroughly

explained and modeled by the researcher until both instructors were 100% successful. Second, instructors were directed to use checklists to document that each step in the instructional procedure for both conditions was completed, and to make daily notes regarding students' individual status (see Appendices D and E for the experimental group and Appendices K and L for the control group).

Following the completion of the study, a thorough examination of all checklists showed that Instructor 1 had completed 99% of all steps across themes, Instructor 2 had completed 89% of all steps across themes, whereas Instructor 3 had completed a little more than half of the steps included on the checklist across themes. According to the checklists, it was also found that Instructors 1 and 2 had completed in general fewer steps during instruction on mystery words than during instruction on adventure words (99% and 81% steps completed for mystery and 100% and 98% steps completed for adventure respectively). The same result was also reflected when I looked across all three instructors and across both themes (adventure and mystery); 97% of all steps were completed during instruction on adventure words compared to 88% of all steps completed during instruction on mystery words. When Instructors 2 and 3 were asked whether they had completed all steps included in the checklist they reported that they had. Therefore, it might have been the case that both instructors did actually implement the instruction as intended, but forgot to check the missing steps in the checklist.

Third, both graduate-level students were asked to inform the researcher daily in the beginning of the study and weekly later about possible issues during implementation. There were a number of occasions where individual meetings with

both instructors were deemed necessary to discuss reported glitches/deviations from the instructional plans.

Tape-recorded Sessions

Instructors were provided tape recorders and audiotapes to record a predetermined number of sessions (1/3 of the whole intervention). There were 24 tape-recorded sessions in total (18 for the experimental condition and six for the control condition). The sessions selected included Days 1 and 3 from Week 1/Unit 1 for the first theme that instruction was implemented to an experimental group and Day 2 from Week 1/Unit 1 and Day 1 from Week 2/Unit 2 for the second theme that instruction was implemented to the experimental group (i.e., for Group 1, the instructor taped Unit 1 Days 1 and 3 for the theme of adventure during the first two weeks of intervention and Unit 1 Day 2 and Unit 2 Day 1 for the theme of mystery during the second two weeks of intervention). For the control condition, the sessions were selected so that for each control group there was one Week 1 Day 1 and one Week 2 Day 1 sessions recorded for both themes (i.e., for Group 1 the instructor taped Week 1 Day 1 for the theme of adventure during the first two weeks of intervention and Week 2 Day 1 for the theme of mystery during the second two weeks of intervention).

Each session was reviewed immediately after recording by an independent rater unfamiliar with the scope and objectives of the study to determine if each step was carried out as intended. This person was provided hardcopies of the instructional checklists (lesson plans) given to the instructors along with a "Fidelity of treatment" checklist to mark the steps as implemented (see Appendix M). The scorer was also

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directed to attend one training session along with one of the instructors and the

researcher in order to become familiar with the instructional procedures. A review of

the tape-recorded instructional sessions showed that fidelity of treatment was 100%

for each individual instructor, across all three instructors, and across both themes for

the steps that were included on tapes (in some cases a tape ended before the session

did). Across all tape-recorded sessions, only the last two instructional steps were

missing; pack-up folders was missing five times and giving out the award/secret prize

was missing one time. From a total of 312 steps there were only 6 steps missing from

the tape (98% of all steps was included on the tape). All tape-recorded sessions were

also reviewed by the researcher independently to establish reliability. There was a

100% agreement between the two raters.

Issues

Even though most of the instructional steps were included on the tapes, other

issues were raised by the tape reviewer that are worth mentioning. One of the issues

relates to the order of steps implementation. For example, one of the instructors

reviewed the meaning of the words previously taught after students' homework,

asked the students to write the words in their logbooks after she gave examples of the

words used in sentences, whereas on a third occasion, she asked the students to do

first the review activity on their worksheets and then continue with the review of the

words. Another instructor completed the Word Family activity prior to the students

completing their worksheets.

A different issue was related to the instructors not completing an instructional

step in its entirety. For example, in some cases instructors did not ask students to read

their stories during the Writing Activity; instructors also forgot to review a word and its meaning; they forgot to discuss and provide the reinforcement (social praise and/or stickers/stars) to the students, or they didn't follow the predetermined correction procedures during the worksheet activities and sentence creation. Finally, in some other cases instructors failed to provide clear and explicit directions about the activity. This was especially important at the beginning of the study when all activities and instructional procedures were new to the students. The researcher had to ask both instructors to tape-record all instructional sessions so that she could review them immediately and address any possible deviations from each lesson plan. As a result, there were several debriefing sessions and modeling of one session for each of the instructors with their groups (one session with the experimental procedures for each instructor) in order to minimize the issues mentioned above. However, some of the issues still occurred occasionally throughout the study.

Both instructors reported two main reasons for their inability to follow the instructional procedures as intended: lack of time/scheduling and behavior issues among students. Behavior issues among students were indeed the major drawback in the implementation of the instructional procedures for all four groups of students in School 1, especially for the two experimental groups. These behavior issues were evident only during instructional sessions and not during assessment sessions, probably because instruction was implemented in groups of five whereas assessment was administered individually. Lack of time/scheduling was a problem because both instructors were visiting the school the same days of the week and had to work in the same room. Even though the principal had initially assigned an additional room to the

instructors, the room was unavailable for most part of study. Therefore the instructor who was visiting the school first had to finish instruction before the second instructor arrived. Thus, the combination of behavior issues and time pressure was the main cause for instructors' inability to follow the scripted lessons exactly as intended at all times.

At the beginning of the study, attempts were made to find a solution to these situations. However, lack of additional instructors at the onset of the study as well as the school's inability to accommodate an additional instructor in the building during the same time framework prohibited the creation of an additional group of students that would have minimized the number of students in each group in School 1, possibly alleviating the behavior issues.

The classroom teachers in the school as well as the researcher suggested to the instructors several behavior management procedures such as group contingency and additional positive reinforcers with minimum effect, however. As the tape reviewer mentioned in a brief, exit interview to the researcher, Instructor 2 had more of a teacher personality and was able to control any misbehaviors better than Instructor 3, but was following the protocol less strictly than the latter one. The above-mentioned behavior issues became less of a problem when Instructor 3 left the study and instruction for both of her groups resumed with the researcher. It was thus hypothesized that the students' misbehavior was related to the personality and teaching mode of Instructor 3.

Instructor 3 was experiencing behavior issues mainly with two students in her experimental group: Nick and Melanie, and one student in her control group, George

(all names are pseudonyms). According to the classroom teacher, Melanie lived alone with her mom and did not have any friends. It was therefore possible that she was distractive and talkative in the group in an attempt to gain attention. George was another student who needed one-on-one attention; his classroom teacher had experienced similar misbehavior in the past and had to report this to his mother.

Finally, Nick was a student who came from a separated family and brought a lot of anger to school from home. Before the study began, he had to leave his mother and stay with his father and stepmother. This event caused him a lot of stress because his stepmother had been stricter with him than his mother. A couple of weeks into the research study, Nick and George were removed from their regular classroom and put into a smaller classroom with only eight students and a new teacher. This change became necessary due to these students' behavior issues and low performance. The new teacher reported that Nick was mad and that the only way he knew to release stress and anger was through tantrums. The new teacher was working at that time on a new behavior management system that would enable the students in her class to gain control over their emotions/problems.

Instructor 2 was experiencing behavior issues mainly with John, Mary, and Derek in her experimental group, and Tom in her control group (all names are pseudonyms). According to their classroom teacher, Derek and Tom had special education individualized educational plans and were not on grade level. They usually misbehaved when there were involved with a difficult task. Both, John and Mary had psychological and emotional problems, according to their classroom teacher. The first student was smart, but did not always make good decisions. The classroom teacher

had experienced misbehavior by both students in the past and was constantly reminding these students about their behavior. There were no major behavior issues among students in all four groups in School 2, where Instructor 1 was responsible for implementing instruction and assessment.

Dependent Measures Overview

Students' progress on their vocabulary, theme knowledge, and writing performance from pretest to posttest was analyzed using three measures. First, all students completed a multiple-choice vocabulary test at pre- and posttest for both themes. Second, all students wrote a story about each of the themes at pre- and posttest for both themes. Third, all students completed a knowledge telling test at pre- and posttest for both themes. All three tests were developed by the researcher.

Finally, students in the experimental condition only completed a Social Acceptability Inventory to ascertain the effectiveness, helpfulness, and importance of the vocabulary instruction they received. This inventory was basically administered to assess the intervention's acceptability, as students perceived it, separately for each theme. Specifically, students were asked to give their opinion about each individual activity implemented during instruction for each theme separately.

All tests (except for TOWL-3 Story Construction subtest that was used for screening) were individually administered to the students. The rationale for each measure, the procedures for administering it, and the scoring analysis for each assessment are summarized in the following sections. A preview of the dependent measures and the timeframe for their administration is presented in Table 15.

Information about TOWL-3 and the Story Construction Subtest

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Table 15

Summary of Dependent Measures and Timeframe for Administration

Measure	Pre Pre-test	Pretest	Post
EVT		X	
Knowledge Telling Test		X	X
Total number of units of knowledge			
Number of on-topic units of knowledge			
Number of off-topic units of knowledge			
Social Acceptability Inventory			X
Story Writing		X	X
Amount of time used by			
students to write			
Number of instructed words and synonyms			
Holistic Story Quality			
TOWL-3 Story Construction subtest		X	
Vocabulary Multiple-choice Test	X	X	X

Note. EVT = Expressive Vocabulary Test; TOWL-3 = Test of Written Language–3.

TOWL-3 is a published standardized, norm-referenced test that can be administered individually or in groups. The test was normed on a sample of 2,217 persons in 25 states, including male and female students from Grades 2 to 12 (7 to 17 years old), from urban and rural geographic areas in the Northeast, North Central, South, and West regions of the country, from diverse family income (under 15,000 - 75,000 and over), varied educational attainment of parents (less than bachelor's degree – doctoral degrees), diverse ethnicity (Native American, Hispanic, Asian, African American, Other) and race (White, Black, Other) as well as disability status (no disability, learning disabilities, speech-language disorder, mental retardation, and other handicapped). TOWL-3 has been reported to have high reliability and demonstrated validity in all subtests, and is used widely in studies of writing disabilities in school-aged students.

For the purpose of this study, all participants' writing performance was assessed using the TOWL-3 Story Construction Subtest (Form B). This subtest assesses a student's ability to write a complete and interesting story by examining specific thematic elements in the story. The subtest's internal consistency coefficient alphas for 8-year-old students, African American students, and students with learning disabilities were .89, .92, and .91 respectively (Form B). The test-retest reliability for the same subtest (Story Construction subtest, Form B) and for second grade students was .83, whereas the interscorer reliability was .86. The Story Construction subtest was reported to differentiate between students based on age and group. The subtest (Form B) was also moderately related (.34) to age from 7.0 to 13.0 years of age, and was able to discriminate average achieving students from students with learning

disabilities and students with speech impairments. Finally, in terms of criterion-related validity, moderate correlations (.34) were found between the Story Construction subtest (Form B) and the Comprehensive Scales of Student Abilities (CSSA; Hammill & Hresko, 1994).

The researcher scored all compositions for this subtest. Twenty five percent of the compositions were randomly selected and re-scored by a graduate student unfamiliar with the design and purpose of the study. Prior to the beginning of the study, the rater participated in a training session for scoring the TOWL-3 Story Construction subtest. During this session, the researcher introduced the scoring criteria and practiced scoring with the rater tests written by students in School 2 during the pilot study. The training session concluded when there was at least a 70% agreement between the two scorers. Then, the rater was directed to score the actual tests. The Pearson Product Moment correlation coefficient calculated between the rater and I was .87 for School 1 and .91 for School 2 (see Table 16).

Information about EVT

The Expressive Vocabulary Test is an individually administered, norm-referenced assessment of expressive vocabulary and word retrieval for individuals between the ages of 2 ½ and 90 years. There are no alternate forms. The test was developed in stages over a 4-year period that included two pilot studies. The standardization was completed in 1996 to develop the final item order, administration rules, and norms. The EVT was co-normed with the Peabody Picture Vocabulary Test – Third Edition (PPVT-III; Dunn & Dunn, 1997) at 240 sites in the United States, on a nationwide standardization sample of 2,725 examinees stratified to match the most

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Table 16

Interrater Reliability Results from Pearson Product Moment Correlation Analysis

Measure	Coefficient
EVT	.999
Quality of adventure stories	.72
Quality of mystery stories	.82
Social Acceptability Inventory	1.00
TOWL-3 School 1	.87
TOWL-3 School 2	.91
Use of adventure words in stories	.86
Use of mystery words in stories	.89
Vocabulary test on adventure words	.997
Vocabulary test on mystery words	.996

Note. EVT = Expressive Vocabulary Test; TOWL-3 = Test of Written Language-3.

recent U.S. Census data on gender, race/ethnicity, region, and education level. EVT was normed on individuals whose primary language is English.

The test measures expressive vocabulary knowledge with two types of items: labeling and synonym. Word retrieval is evaluated by comparing expressive and receptive vocabulary skills using standard score differences between EVT and PPVT-III. Words were selected from published frequency word lists, which included *Word Frequencies of Spoken American English* (Dahl, 1979), *The American Heritage Word Frequency Book* (Carroll, Davies, & Richman, 1971), and *The Reading Teacher's Book of Lists-Third Edition* (Fry, Kress, & Fountoukidis, 1993). The *Merriam-Webster's Collegiate Thesaurus* (1988) was also used for developing the synonym items (Williams, 1997).

EVT is an un-timed and easy to administer test that can be completed in about 15 minutes based on the age of the examinees. It contains 190 items and four examples. The first 38 items are labeling items where the examiner points to a picture or a part of the body and asks a question ("What do you see?"). The remaining 152 items are synonym items where the examiner presents a picture and a stimulus word or words within a carrier phrase ("Light. Tell me another word [name of student] for light."). The examinee responds to each item with a one-word answer that is a noun, verb, or adjective. Two un-scored examples are presented before the labeling items and two before the synonym items. All stimulus pictures are in full color and were balanced for racial and gender representations. Examinees are administered only items that approximate their ability level through the use of age-appropriate Start Items and basal (five consecutive correct items) and ceiling (five consecutive

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incorrect items) rules. The EVT does not require the examinee to read or give a lengthy oral response (Williams, 1997).

EVT results can be reported as standard scores (with a mean of 100 and a standard deviation of 15) that range from 40 to 160. EVT results can also be reported as percentiles, normal curve equivalents, stanines, and test-age equivalents. Internal reliability for EVT was computed using the Rasch model and coefficient alpha and split-half methods. The alpha reliabilities for all age groups were in the .90s (for the ages of 8 and 9 they were .95), whereas the split-half corrected reliabilities were between .83 and .97 (for the ages of 8 and 9 they were .88 and .91 respectively). Test-retest corrected reliability coefficients for four age groups (between 2 ½ and 58 year old) ranged from .77 to .90, with .84 being the coefficient for the age group of 6- to 11-year-old (Williams, 1997).

Suitable item development and selection along with pilot studies and classical Rasch item analysis lend some assurance that the EVT has demonstrated acceptable content and construct validity. The two main constructs, vocabulary knowledge and word retrieval are defined and clearly distinguished. Clear evidence of age differentiation is provided in the data presented in the manual, and median correlations of .79 and .77 with the PPVT-III Forms III-A and III-B, respectively, give evidence of both discriminant and convergent validity; the same correlation coefficients for 8- and 9-year-old students were .68 and .77 for PPVT-III Form III-A and .68 and .78 for PPVT-III Form III-B (Williams, 1997).

It was also reported that there is almost 60 percent shared variance between EVT and PPVT-III scores, supporting the interpretation that both tests are measuring

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vocabulary knowledge, and that EVT is also measuring something beyond the PPVT-III (Williams, 1997). The mean EVT score differences of over 50 points between students with learning disabilities and matched control students who did not have disabilities, suggested that EVT might be a very useful instrument for use in elementary school settings and particularly useful in identifying students with reading difficulties and learning disabilities of various kinds. Concurrent validation studies found that EVT scores are more highly correlated with Verbal than Performance IQ on the Wechsler Intelligence Scale for Children—Third Edition (WISC-III; Wechsler, 1991), and with the Oral Expression Scale than the Listening Comprehension Scale of the Oral and Written Language Scales (OWLS; Carrow-Woolfolk, 1995).

For the purpose of this study, students' vocabulary was assessed using the EVT. The researcher scored all students' EVT tests. Thirty three percent of the tests were randomly selected for re-scoring by a graduate student unfamiliar with the purpose of the study. Prior to the beginning of the study, the rater participated in a brief training session for scoring the EVT tests. During this session, the researcher introduced the scoring criteria and practiced scoring a couple of tests. Following a 100% agreement between the researcher and the rater, the rater was directed to score the actual tests. The interrater reliability (Pearson Product Moment correlation coefficient) on raw scores between the rater and I was .999 (see Table 16).

Vocabulary Multiple-choice Test

In order to assess students' knowledge of the instructed words before and after vocabulary instruction on each theme (pre- and posttest), students were asked to complete a 28-item, multiple-choice test. This test included 14 items containing

words related to the theme of adventure (10 of which were selected for instruction) and 14 items containing words related to the theme of mystery (10 of which were selected for instruction). Each of the items consisted of the word tested as the stem and five possible options from which students had to choose the correct definition of the stem word. There was also a sixth option marked with the phrase "I don't know," that was always placed in the sixth position. There were three forms of the same test: Form A, Form B, and Form C. All three forms of the test contained the same 28 stem words and the same possible options for students to choose. The only difference between the three forms was that the stem words and response options were randomly rearranged to minimize the possibility that students memorize the correct definitions of the stem words (option six, "I don't know" was always placed in the sixth position).

The vocabulary multiple-choice test was administered three times throughout the duration of the study: prior to instruction (Time 1), after completion of instruction on the first theme (Time 2), and after completion of instruction on the second theme (Time 3). Results of the test at Time 1 were used to assess students' pretest knowledge of the theme-related words to be taught during the first two weeks of instruction and students' pre-pretest knowledge of the theme-related words to be taught during the second two weeks of instruction. This information was used to ensure that all target words met criteria (missed by 60% of students before the start of instruction) and served as the pretest for words taught during the first two weeks.

Results of the test at Time 2 were used to assess students' posttest knowledge of the theme-related words taught during the first two weeks of instruction and

students' pretest knowledge of the theme-related words to be taught during the second two weeks of instruction. Finally, results of the test at Time 3 were used to assess students' posttest knowledge of the theme-related words taught during the second two weeks of instruction. Each form of the test was randomly assigned to a theme and a testing period for each student participating in this study so that each student was tested using all three forms of the test at some point during the study. All three forms of the test along with the two practice items and the directions for administering the test are included in Appendix N.

Vocabulary Test Development

In this study, students' vocabulary knowledge was assessed using a single-best-response-items multiple-choice test based on the classification suggested by Vacc, Loesch, and Lubik (2001). In this type of test, responders are required to select the correct definition of the word provided in the stem from a number of response choices. In order to offset the results of guessing, one of the limitations of multiple-choice items in comparison to essays and short-answer formats (Oosterhof, 1999), and to subsequently increase the reliability of test results, the researcher included a relatively large number of items ($N = 28$) and alternative responses for each item ($N = 5$). The following technical assumptions for test items and editorial/style guidelines were adapted for the development of the particular multiple-choice vocabulary knowledge test.

To address some of the content, formatting, and style concerns reported in recent literature, the researcher kept the content of each item independent from the content of other items in the test (Haladyna, Downing, & Rodriguez, 2002). I also

tried to keep the vocabulary simple (Haladyna et al., 2002) to the extent possible

considering the accuracy of the words' definitions and the relatively young age of the

students being tested. The format of the test items was vertical instead of horizontal

as supported by recent literature (Haladyna et al., 2002), whereas the test was free of

spelling, capitalization, punctuation, and grammar errors.

In terms of developing the stem and alternative responses every efforts were

made to avoid negatively-stated items that could confuse students (Conderman &

Koroghlanian, 2002; Haladyna et al., 2002; Oosterhof, 1999; Osterlind, 1998; Vacc et

al., 2001). However, four of the items (for the words "endure," "hostage,"

"testimony," and "twist") did include a negative phrase. In the construction of all

alternative responses, attention was paid to the use simple language, sentences, and

grammatical constructions, keeping the reading level as low as possible (Vacc et al.,

2001). Following the recommendations of experts in the field, I did not include any

"all of the above" or "none of the above" alternative options, because the first one is

usually missed by students who do not read all alternative options (Conderman &

Koroghlanian, 2002; Haladyna et al., 2002; Oosterhof, 1999), whereas the second one

is mainly used with older students who can handle more difficult questions (Haladyna

et al., 2002; Oosterhof, 1999; Popham, 1999).

Moreover, considerable attention was provided to keep all responses

approximately the same length or at least include two responses of equal length for

each stem item (Haladyna et al., 2002; Oosterhof, 1999; Osterlind, 1998). All

responses were parallel in type of content (e.g., degrees Fahrenheit, degrees Kelvin,

or degrees Celsius), were grammatically consistent with the stem words (Oosterhof, 1999; Vacc et al., 2001), and were independent of one another (Osterlind, 1998).

All necessary precaution steps were taken to eliminate possible unintentional clues that could lead students to the correct answer. There were no grammatical cues such as the use of articles of any kind (i.e., a, an, the) or gender-specific pronouns, no word cues such as the same or similar word being used in one of the responses, and no clues from other stem items on the test (Conderman & Koroghlanian, 2002; Haladyna et al., 2002; Vacc et al., 2001). All response options represented definitions of real words to ensure that legitimate, possible meanings were used (Nagy, Anderson, & Herman, 1987). All definitions were obtained from the Merriam-Webster's Collegiate Dictionary (1998), Yahooligans (based on the American Heritage Dictionary), and the Wordsmyth Children's Dictionary websites and were edited as necessary to create simple and concise definitions that were matched in terms of length and sentence structure. All response options were framed in the third person (Osterlind, 1998) and were randomly assigned so that there was an equal number of correct responses placed in a, b, c, d, and e positions (Haladyna et al., 2002; Oosterhof, 1999).

The alternative responses for each stem word included the same word definition as the one taught during instruction (which was the correct response), an "I don't know" option, and four other distractors. These distractors were the same part of speech with the stem word and were furthermore carefully selected to include words/phrases that were not closely related to the stem word (they were not synonyms of the stem word) and to each other. This decision was made to avoid

possible students' confusion in their attempt to identify the correct response between two or more alternative responses with similar meaning.

I initially developed a pilot multiple-choice vocabulary test and asked four graduate-level students from the School of Education to proofread it and provide feedback (Conderman & Koroghlanian, 2002). This pilot test consisted of the same stem words with those used in the actual test, but included eight alternative responses (not including the option "I don't know") for each of the stem word. After collecting the feedback provided by the four adults, the researcher revised the conflicting items and selected the best four alternative responses that were suggested by four adults. Eight 3rd-grade students in School 2 also reviewed the test items for clarity and simplicity as suggested by Vacc et al. (2001). These eight students did not take part in the actual study but had similar characteristics to the students who participated in the study. The researcher revised and substituted some of the alternative options based on students' responses during the pilot study (see section above on assessment changes).

Vocabulary Test Administration

In all three testing sessions (Time 1, 2, and 3), the instructor first read the directions to the student and asked if there were any questions. Then, the instructor directed the student to do a practice item. Following student's correct response to the practice item, the instructor continued with the administration of the rest of the test. If the student responded incorrectly to the first practice item, the instructor provided the correct response item and went over a second practice item with the student.

Following student's correct response to the second practice item, the instructor continued with the rest of the test. Both practice items were relatively easy

and the possibility for students' incorrect response was minimal. During test administration, the instructor read the first stem word along with the six available options and waited until the student made a selection; then, the instructor moved to the second stem word. The same procedure was followed for all 28 stem words. The multiple-choice vocabulary test was always administered following the story writing and knowledge telling test to avoid students including words from the multiple-choice test in their writings/dictations. Given the relatively large number of items in the test, the instructors were advised to not administer the whole vocabulary test with a student in a single session, when possible. The test was untimed.

Vocabulary Test Scoring Procedures

All multiple-choice vocabulary tests were scored by the researcher. One third of all tests ($n = 31$) were randomly selected for re-scoring independently by another individual blind to the scope of the study. There was an equal number of vocabulary tests selected from each of the three testing times (Time 1, 2, and 3). The rater was provided with a copy of the multiple-choice test with all correct responses marked. Except for a brief explanation of what needed to be done, no further training was deemed necessary for scoring the vocabulary tests. Students' identifiable information was removed from all tests prior to scoring and substituted with a number. Scoring of all tests was done at the end of the study. The Pearson Product Moment correlation coefficient calculated between the rater and I was .997 for adventure and .996 for mystery words (see Table 16).

Story Writing Test

Writing an adventure and mystery story at pre-and posttest was the second activity used to assess students' vocabulary and writing performance on both themes. Story writing was selected over expository writing, because the latter is more challenging for younger students (MacArthur et al., 1991). Younger students and weaker writers are more familiar with story structure than with the structure of expository texts. The purpose of this test was twofold; first, to assess students' ability to generalize the knowledge about the theme as well as the vocabulary knowledge they gained through instruction to their story writing about the theme. The second reason for administering this test was to assess any differences in students' writing performance from pre- to posttest, in terms of overall quality, as a result of participating in the instructional sessions. It was expected that by providing instruction in words typically used in these two writing genres (adventure and mystery writing) as well as knowledge of the broader context in which these words are used (theme knowledge) students would be able to generalize all this information to genre writing even without direct instruction on genre writing was not provided.

Throughout the duration of the study, students in both conditions (experimental and control) were asked to write two adventure stories (one prior and one after adventure vocabulary instruction) and two mystery stories (one prior and one after mystery vocabulary instruction) in response to four different writing prompts. There were two writing prompts for adventure (Prompts 5 and 6) and two writing prompts for mystery (Prompts 2 and 3). Adventure writing prompts 5 and 6 and mystery writing prompts 2 and 3 were selected by two third-grade teachers from

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a total of seven adventure and seven mystery writing prompts as the most appropriate for students at this age (see section on test development below). The writing prompts for each theme were counterbalanced between pre- and post-testing. The writing prompts consisted of a picture related to the theme attached to a blank sheet of paper where students were asked to write their stories.

Story Writing Test Development

The four writing prompts used in this study were part of an initial pool of 14 (seven mystery and seven adventure writing prompts) that were evaluated by two 3rd-grade teachers in School 2. These 14 pictures were obtained from the Microsoft Clip Art using keywords related to the two themes (i.e., adventure, mystery, detectives, survive, etc.). Prior to the beginning of the study, each 3rd-grade teacher voted on the four pictures that they thought were appropriate and suitable for students in their classrooms.

Specifically, the teachers were asked to identify the four adventure and four mystery writing prompts that students in 3rd grade would be able to write a story about and the four adventure and four mystery writing prompts that students in 3rd grade would enjoy writing a story about. Next, teachers were asked to order these four prompts within each category separately for each theme and starting with the most preferable (1) to the least preferable (4). The two mystery writing prompts and two adventure writing prompts that were at the top three in teachers' preferences in both categories were selected for this study. The four writing prompts along with the teachers' evaluation form and the directions for administering the story-writing test are included in Appendix O.

Story Writing Test Administration

Prior to test administration, the instructor read the directions to the students and then asked them to write their responses. The instructor did not make any specific reference to the instructional words at any point during testing. Students were simply asked to use everything they knew to write a story to go with the particular picture. Students were not provided any assistance while writing except for help with word spelling as needed. When students stopped writing the instructor encouraged them to write more. If students continued writing, the instructor placed a dash next to the word they wrote last and allowed students to keep writing for as long as they needed to complete their stories. When students indicated that they were finished, the instructor collected the paper. Following the completion of the writing task, students were asked to read their stories back to the instructor to ensure that the latter was able to read and type with accuracy the students' stories. Instructors were advised to not administer two story-writing tests to the same student in a single session. The test was timed.

Story Writing Test Scoring Procedures

All stories for both themes were scored independently by two raters blind to the scope of the study for overall quality and by the researcher and one of the raters for use of the instructional words and their synonyms. Prior to scoring the raters were trained to assess all measures. Training was conducted separately for each measure and theme and concluded when the percent of agreement between the two raters was above 70%. Training sessions for each measure consisted of a brief discussion about the scoring criteria and practice scoring five tests. All pre- and posttest stories for

both themes were typed and all identifying information removed before stories were handed to the raters for scoring. Students' names were substituted with a number. Spelling, punctuation, and capitalization errors were also corrected to minimize bias that might occur when examiners score papers. Graham (1999) reported that the appearance of text or surface level features, such as handwriting, legibility, and spelling errors, influences judgments about writing quality. Scoring of all tests was performed upon completion of the study.

The adventure and mystery stories written at pre- and posttest were scored using the following measures: (a) use of the instructional words and predetermined synonyms of the instructional words; (b) overall quality of students' story writing, and (c) time students were writing. The three measures are summarized below.

Use of Instructional Words and Their Synonyms

Students' pre- and post-test stories were assessed separately for each theme on the number of theme-related words taught and their synonyms that were included in students' stories. It was hypothesized that the number of adventure words and their synonyms used in students' adventure stories would be greater at posttest than at pretest for students in the experimental condition. The same hypothesis was also made for the mystery words in students' mystery stories.

For the analysis of both themes, the number of words taught and the number of synonyms of the words taught were combined into a single measure (word count). No distinction was made between the number of times each word was used correctly and incorrectly (based on the words' definitions provided during instruction), since I

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saw no instances of incorrect use of a word taught in students' stories in both of the themes.

The researcher and a second individual, unfamiliar with the scope of the study, independently counted the number of instructional words and their synonyms for each theme. The scoring was based on two rubrics (one for adventure and one for mystery words) that were developed by the researcher. For the development of these rubrics   the researcher searched online in two websites, the Webster's Dictionary and the Wordsmyth to find synonyms of the instructional words, separately for each theme. The instructional words were placed first on the rubric, in alphabetical order, followed by their predetermined synonyms.

The scorer was trained to use the rubrics separately for each theme. First, the rubric was introduced and explained to the scorer. Then, the researcher and the rater independently scored five practice stories for one of the themes. Following a comparison and a brief discussion about the two scorings, the agreement between the researcher and the rater was found to be above 70%, and the raters continued independently with scoring 22 actual stories on the theme. The same procedure was used to train the rater on scoring the stories for the other theme and for scoring the actual stories on the second theme.

The Pearson Product Moment correlation coefficient between the rater and I was .86 for adventure words and .89 for mystery words (see Table 16). The revised rubrics along with the directions for scoring the test are included in Appendix P.

Overall Quality of Students' Story Writing

The holistic quality of all pre- and posttest stories for both themes was measured using a 7-point holistic scale. Two individuals blind to the design and purpose of the study, a teacher and a college professor, were trained to independently score all stories separately by theme, starting with the theme of adventure and continuing to the theme of mystery. Prior to scoring, both individuals were introduced to the 7-point Likert scale; next, they were provided anchor points for stories with a score of 2, 4 and 6, and discussed the distinguishing features of each anchor point. They were then trained on how to use the scale and corresponding anchor points.

During training, discussion focused on how each story differed qualitatively in comparison to the anchor stories. Then, the raters practiced scoring 20 adventure stories. These stories had been written by 3rd-grade students in School 1, at the end of the previous academic year (May-June 2006). These students wrote an adventure story in response to Adventure Writing Prompt #5 used in the study. After scoring the practice stories, the assessments were compared and discussed to reduce any deviations and to increase interrater reliability. Training on scoring adventure stories was completed when the percent of agreement was above 70%. Then, the raters were provided with the actual adventure stories to score.

The same procedure was followed during training for scoring holistic quality in mystery stories. The stories used to practice scoring overall quality in mystery stories were written in response to Mystery Writing Prompt #2 used in the study by the same 3rd-grade students in School 1 with those who wrote the adventure practice stories. No second scoring cycle was required since the interrater reliability was deemed sufficient enough. The Pearson Product Moment correlation coefficients

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between the two raters were .72 for adventure stories and .82 for mystery stories (Table 16). More information about the scale and the development of the anchor points along with the actual anchor points for stories 2, 4, and 6 is provided in Appendix Q. Examples of students' adventure and mystery stories are included in Appendix R.

Time of Story Writing

The last measure for scoring students' written stories was the time used by students to compose their stories. Before the onset of the study, instructors were trained to use a stopwatch. They were directed to start the stopwatch after the test directions were provided and push the stop button when the students stopped writing. Immediately after collecting the students' stories the instructors were directed to record on students' papers the time used by students to compose their stories. Following the completion of all tests, the researcher used a calculator to convert into seconds the time initially recorded by the instructors in minutes and seconds.

Knowledge Telling Test

The knowledge telling test was used to assess how much theme-related knowledge students possessed. It was hypothesized that experimental students would gain more theme-related knowledge than students in the control condition, as a result of vocabulary instruction.

Knowledge Telling Test Administration

The test was administered prior and upon instruction on the theme for both themes. Prior to test administration, the instructor first read the directions to the students and asked them to tell everything they knew about the theme to the instructor while the instructor wrote verbatim everything the students were saying. All sessions were tape-recorded so that the instructor could go back and review what the students said after the test administration. It was suggested that instructors transcribe the tests as soon as possible after the test administration so that they could more easily remember what the student was saying in case the tape was difficult to hear/understand.

The instructor did not make any specific reference to the instructional words at any point during testing. When students stopped talking the instructor encouraged them to say more. If students continued talking, the instructor placed a dash next to the word they said last and allowed students to keep talking for as long as they needed to complete the task. When students said they were finished, the session was ended. Students were also encouraged to elaborate on anything that was confusing or needed further explanation. The instructor could for example ask the student: "What do you mean by that?" or "Can you tell me a little more about that?" Instructors were advised to not administer two knowledge telling tests to the same student in a single session. The test was timed. The knowledge telling test for both themes along with the directions for administering the test are included in Appendix S.

Reliability on Knowledge Telling Test

Ninety seven percent of all tape-recorded tests were transcribed by the researcher. Three of the tests (two pretest adventure and one pretest mystery) were

initially transcribed by one of the instructors and then the tape was misplaced.

Therefore, I was not able to listen to these three tests and transcribe them. Another

graduate student assessed reliability of tape transcriptions. He listened to twenty two

percent of all tape-recorded tests.

Deviations between the two transcriptions included substitutions of

words/phrases, deletions of words/phrases, or additions of words/phrases that were

perceived to change the meaning of students' dictations. Some examples of deviations

are: (a) "They should *know what* adventures *do"* versus "They should know *about*

adventures;" (b) "He *went to the clouds and* the mountains" versus "He *wanted to*

climb to the mountains;" (c) "When you go somewhere *that's* real, real" versus

"When you go somewhere real, real," and (d) "When you just pet them and *they don't*

like to pet them, they can bite you" versus "When you just pet them and *then you* like

to pet them, they can bite you." Repetitions of the same word(s), differences in verb

tense and number (singular/plural) as well as other types of differences that did not

affect meaning, were not counted as disagreements. Percent of agreement between the

two transcriptions was 91%.

Knowledge Telling Test Scoring Procedures

All knowledge telling tests were scored by the researcher. One third of the

tests for each of the themes were randomly selected for re-scoring independently by

another individual blind to the scope of the study. Prior to scoring the rater was

trained to assess all measures. Training was conducted separately for each measure

and theme and concluded when the percent of agreement between the two raters was

above 70%. Training sessions for each measure consisted of a brief discussion about

the scoring criteria and practice scoring five tests. Students' identifiable information was removed from all tests prior to scoring and substituted with a number. Scoring of all tests was done at the completion of the study.

The adventure and mystery knowledge telling tests at pre- and posttest were scored using the following measures: (a) total number of theme-related units of knowledge and (b) number of on-topic and off-topic units of knowledge. The two measures are summarized together in the section below.

Number of Theme-related Units of Knowledge

The amount of theme-related knowledge that students had gained as a result of instruction on the theme was assessed by counting the number of different units of knowledge on the theme. For the purpose of this study, a unit of knowledge was defined as a new and unique idea dictated by the student and could consist of one or more than one sentences/phrases. First, the researcher read all knowledge telling tests separately for each of the themes and defined eight categories that captured all students' ideas/units of knowledge related to the theme. The eight categories were: (a) 1st Category: Definition of adventure/mystery; (b) 2nd Category: Facts about adventure/mystery; (c) 3rd Category: Aptitudes of adventure/mystery; (d) 4th Category: General comments about adventure/mystery; (e) 5th Category: Reiteration of the adventure/mystery stories read (units of knowledge in this category were restricted to posttest knowledge telling dictations for both themes); (f) 6th Category: Connection to mystery/adventure; (g) 7th Category: Creation of an adventure/mystery story, and (h) 8th Category: Wrong definitions of adventure/mystery. Then, the researcher placed each unit of knowledge into one of the categories. Finally, the

researcher put all ideas/units of knowledge that were not related to the theme of adventure or mystery into a ninth category called "Off-topic ideas." Each category consisted of at least two units of knowledge. There were no units of knowledge in Category 5 for the theme of mystery.

The researcher scored all knowledge telling tests on units of knowledge using two similar rubrics, one for adventure and one for mystery. Both rubrics are included in Appendix T. One third of all knowledge telling tests for each of the themes was re-scored on units of knowledge by another individual blind to the scope of the study. Prior to scoring, the rater was trained by the researcher to use the rubrics separately for each theme. The rater was trained on identifying units of knowledge as well as on classifying existing units of knowledge into one of the nine categories.

During the first training session, the two raters discussed the distinguishing characteristics of each category, and scored independently five practice knowledge telling tests. After both raters had put all units of knowledge into a category, they compared their scorings. The same procedure was followed to train the scorer for assessing units of knowledge for both themes. Following training and when the agreement between the rater and the researcher was above 70%, the rater was asked to put already defined units of knowledge into the nine categories described above. The percent of agreement between the two raters was 88% for mystery units of knowledge and 79% for adventure units of knowledge.

During the second training session, the rater was asked to practice identifying ideas/units of knowledge in five knowledge telling tests for each theme. When the agreement between the raters was above 70%, the raters independently scored 22

adventure and 22 mystery knowledge telling tests. The percent of agreement between the rater and the researcher was 85% for the theme of mystery and 84% for the theme of adventure.

Social Acceptability

Upon completion of instruction for each of the themes, students in the experimental condition were asked to respond to a social acceptability inventory, adapted from Duin and Graves (1987). Students were interviewed individually by the instructors regarding the perceived usefulness, effectiveness, and future applicability of the intervention they received for their writing and vocabulary performance. Particularly, students were asked to provide their opinions about the vocabulary lessons they received and were asked whether they thought each of the activities should be used in a future similar study with 3rd-grade students.

Administration of Social Acceptability Inventory

There were two forms of the social acceptability inventory, one for each theme. The inventory consisted of three parts. In the first part, students were asked to state whether each of the activities used during instruction had helped them learn the theme-related words and whether learning these new words had helped them write better stories on the theme. Students were prompted to circle one of three possible responses "Yes," "No," or "I am not sure."

In the second part of the inventory, students were asked whether the activities used during instruction were fun, if they enjoyed learning new theme-related words, and whether they would like to learn new words in this way again. Students were

again prompted to respond with "Yes," "No," or "I am not sure." The last part of the inventory included three open-ended questions to which students were prompted to respond orally while the administrator was taking notes. The three open-ended questions were: (a) Tell me three things that you liked most about these lessons; (b) Tell me three things that you liked least about these lessons, and (c) Would you like to tell me anything else about these lessons. The administrator read each question and the available response options and allowed students to mark their responses on the form before moving to the next question. Both forms of the social acceptability inventory are provided in Appendix U.

Social Acceptability Inventory Scoring Procedures

All social acceptability inventories were scored by the researcher, whereas one third of them ($n = 6$) were re-scored by a second rater blind to the design and purpose of the study. A Pearson Product Moment correlation coefficient (1.00) was calculated for all students' responses to questions for Parts 1 and 2 of the social acceptability measure (see Table 16). Students' responses to the open-ended questions were classified into 11 categories. The percent of agreement between the two raters classifying students' responses on these open-ended questions into categories was 94%.

Reliability

All EVT tests and TOWL-3 Story Construction subtests were scored by the researcher. One third of all EVT ($n = 11$) tests and one fourth of all TOWL-3 Story Construction subtests ($n = 29$) were re-scored by a second rater blind to the purpose

of the study. Pearson Product Moment correlation coefficients on students' raw scores

for both tests were calculated. Similarly, one third of all vocabulary tests (*n* = 33),

social acceptability inventories (*n* = 6), and knowledge telling tests (*n* = 22 for

mystery and *n* = 22 for adventure) were also re-scored by a second rater on the

measures mentioned above. For story writing quality two independent raters scored

all stories for both themes, whereas for the number of words/synonyms/phrases

included in students' stories an independent rater scored one third of all stories for

both themes (*n* = 22 for adventure and *n* = 22 for mystery). All Pearson Product

Moment correlation coefficients between scores exceeded .70 (see Table 16).

Power Analysis

Prior to the beginning of the study a power analysis was conducted to

determine the appropriate sample size required by treatment group. The level of

significance (*a*) was set at .05 (no Bonferroni adjustment) and the power of a two-

sample, independent t-test by sample was set at .90. The effect size of any group

differences to be detected was predetermined to be between 1.0 and 1.25, given the

fact that the effect sizes reported in the Duin and Graves study (1987) for vocabulary

knowledge and writing quality were 1.5 and 2.2, respectively. According to Cohen

(1988), an effect size of 0.20 is viewed as small, whereas effect sizes of 0.50 and 0.80

are considered to be medium and large, respectively. The sample size required by

treatment group to attain power of .90 was between 14 and 22 students per treatment

group.

Especially for the area of writing, effect sizes in the range of 1.00 to 2.00 are

considered large. For example, in the most recent meta-analysis investigating

instructional practices that improve the quality of adolescent students' writing,

Graham and Perrin (2007) reviewed 123 documents and reported 154 effect sizes for

a total of 11 treatments. All effect sizes were calculated as Cohen's *d* or the

standardized mean difference and ranged from a mean weighted effect size of 1.14 for

the Self-Regulated Strategy Development model (Harris & Graham, 1996), and 0.25

for providing adolescents with good models for each type of writing that is the focus

of instruction, to -0.32 for teaching grammar. When it comes to individual studies the

strategy instruction implemented by Wong, Butler, Ficzere, and Kuperis (1996) and

by Welch (1992) showed the larger effect sizes (3.50 and 2.26, respectively), whereas

grammar instruction implemented by Anderson (1997) showed the smaller effect

sizes (-1.40). Therefore, the effect sizes to be detected in this study (between 1.00 and

1.25) were anticipated to be reasonable and possibly fairly large.

Chapter 4: Data Analysis and Results

In this chapter, I summarize the experimental design and describe the procedures used to analyze the data obtained from this research study. I also provide the rationale for the statistical methods employed. Finally, I report the results of each analysis conducted.

Experimental Design

A pretest/posttest, control-group design (Gay & Airasian, 1992) was used to investigate possible differences in vocabulary and writing performance between students in the vocabulary instruction condition (experimental group) and students in the minimal-treatment condition (control group). The pretest/posttest, control-group design is perceived to test for all threats to internal validity except for subjects' mortality. Throughout the duration of the study, only one student was lost, and this was during the last two instructional sessions for instruction in the second theme. By that time, with the majority of the study completed and the winter holidays approaching, the insertion of a new student would not have resulted in a meaningful addition to this study. All attempts made to follow this student to her new school and complete the study were unsuccessful.

The researcher also attempted to minimize the possibility of any reactive arrangements (Gay & Airasian, 1992). Specifically, in order to test for possible order effects in instruction of the two themes, half of the experimental students were randomly assigned to receive instruction on the first theme and the other half on the second theme during the first two weeks of instruction. This arrangement was

switched during the second two weeks of the study. Possible John Henry effects were minimized to the extent possible by having control students meet with the instructors once every week to read the same passages and complete the same writing activities as those used with experimental students. Finally, the researcher tried to minimize the possibility of other extraneous environmental variables by randomly assigning participants to treatment groups and by using statistical methods (i.e., analysis of covariance) to equate randomly formed groups on one or more variables (i.e., pretest scores).

Variables

There was one independent and five dependent variables in this study. The independent variable was group membership (i.e., experimental, vocabulary instruction group versus minimal-treatment, control group). The dependent variables were: (a) quality of students' story writing for adventure and mystery (separately by theme); (b) students' knowledge of the instructional theme-related words (separately by theme); (c) number of instructional theme-related words and their synonyms used in students' writing (separately by theme); (d) students' knowledge about the themes obtained by counting the number of on-topic units of knowledge included in interviews with students (separately by theme), and (e) experimental students' perceived social acceptability level of the vocabulary instruction implemented during the study.

Data Analysis Method and Rationale Overview

The statistical technique selected to test the research questions in this study was Analysis of Covariance (ANCOVA). Generally, the reason for using the

particular inferential tool is that it allows comparisons of between-groups mean variations in the treatment groups (i.e., vocabulary instruction, experimental group versus minimal-treatment, control group), while controlling for any pretest differences between the groups in terms of the outcome variable of interest (Huck, 2004). Specifically, in this study the sample size was relatively small and although no statistically significant differences were reported at the time of pre-testing among groups, some mean differences were big enough to be concerned about. Some variables also had relatively large standard deviations. Therefore, using ANCOVA was deemed necessary in order to control for any possible differences among conditions at the start of the study and level the plain field upfront.

The assumption of homogeneity of regression was met for all but one of the variables (vocabulary scores on adventure words at the time of post-testing). Additional analysis using a non-parametric test (Man-Whitney U-Test) revealed the exact same results with those obtained using the parametric test; therefore no additional testing was deemed necessary.

Analysis of Covariance has two advantages in comparison to ANOVA: (a) it reduces the probability of a Type II error because all of the data from the covariate can be used to explain the portion of within-groups variability, maximizing the power of the statistical tool to detect systematic treatment effects, and (b) it controls for the influence of extraneous variables (Huck, 2004). According to Isaac and Michael (1997), ANCOVA adjusts for initial differences between groups on pretest criteria and permits the comparison of groups on one variable, dependent variable, when information is available on another variable, covariate, which is correlated with the

dependent variable. By adjusting the mean scores on the dependent variable, ANCOVA provides the best estimates of how the comparison groups would have performed if they had all possessed identical means on the covaried variables (Huck, 2004).

Three of the drawbacks for using an ANCOVA relate to the number and quality of the covariate used. Specifically, although it might seem tempting to use more than one covariate for each of the analysis, a degree of freedom is lost for each covariate used (reducing power). Second, in order for ANCOVA to provide increased power (over a comparable ANOVA) and to control for extraneous variables, the covariate must be conceptually relevant within a given study, and thus related to the study's dependent variable. The correlation between the two variables must be at least .20 to make up for the degrees of freedom lost from the within-groups source of variance. Finally, even if the covariate selected by the researcher is sensible, it must be measured using a sound assessment tool, providing measurement data that are be both reliable and valid (Houck, 2004).

Even though the instruction was provided in groups, the researcher decided to use individual scores as the unit of analysis instead of group scores. This decision was based on three factors: (a) all testing was administered individually and the possibility that a student's score was influenced by the assessment of any other student was minimized; (b) the number of groups and students within each group was small, and (c) this was an exploratory study and therefore I adapted liberal criteria in terms of the statistical analysis. For the same reasons, I did not make a Bonferroni adjustment and set the p value (level of significance) at .05 in all tests being conducted.

Effect Size Calculations

Effect sizes were calculated whenever an analysis produced statistically significant results. A partial eta squared – a strength-of-association index - along with the statistically significant results are reported in relevant tables. Positive effect sizes generally indicate that the intervention resulted in a positive difference; the larger the effect size the more powerful the intervention. In the behavioral and social sciences, the range of effects sizes for partial eta squared are 0.01 for small, 0.06 for medium, and 0.15 for large effects (Cohen, 1988). However, in the area of writing, in a recent meta-analysis the mean weighted effect sizes (Cohen's *d*) reported by Graham and Perrin (2007) ranged from 1.14 for the Self-Regulated Strategy Development model (Harris & Graham, 1996) to -0.32 for teaching grammar. Therefore, it is reasonable to consider effect sizes for partial eta squared above 0.50 to be large, below 0.50 to be medium, and below 0.20 to be small.

Data Analyses Procedures

In this section, I provide a summary of the data analysis procedures used for each dependent measure. Within-subject factors, covariates, and partial eta squared are reported separately for each analysis and theme.

Statistical Analyses

For all statistical analyses, I conducted a one-way ANCOVA (separately for each theme). The independent variable was treatment: vocabulary instruction versus minimal-treatment, control condition. The covariate was students' pretest performance for the posttest variable being assessed, since pre- and post-test scores were found to correlate significantly for all variables. For example, in the analysis

designed to examine if vocabulary instruction enhanced vocabulary words learned at posttest, the pretest vocabulary scores were entered as covariate.

The only exception to this involved the analyses for Questions 2 and 3 examining the impact of vocabulary instruction on use of vocabulary words and synonyms in students' written text (Question 2), and on quality of students' written text (Question 3). For these analyses, time spent writing at posttest served as a second covariate along with students' pretest performance for the posttest variables (use of words and their synonyms in students' written text, and quality of students' written text). Students were allowed to write for as long as they liked to compose their stories increasing the ecological validity of this assessment. However, allowing students to write for as long as they liked presented a possible confound into this measure as differences in the posttest variable could be due simply to differences in the composing time. Consequently, time used by students to compose their stories was treated as a covariate.

Social Acceptability of Vocabulary Instruction

Experimental students' views about the social acceptability of the vocabulary instruction they received during this study was assessed by calculating the percentages of students who liked and did not like each of the activities used throughout the study and by calculating the percentages of students who thought that each of the activity was helpful for learning the words taught. Students' responses are presented by theme in tables below (see Question 5).

Analysis of Results

In the following sections, I summarize the analysis for each dependent measure as it pertains to the major research questions of this study. Raw scores were used for all analyses and are reported in the relevant tables.

Question 1

Does vocabulary instruction in theme-related words as well as practice using these words to write about a theme improve students' knowledge of the words taught? To answer Question 1, I conducted two one-way ANCOVAs with students' pretest scores on the vocabulary multiple-choice vocabulary test as covariate. A separate ANCOVA was done for mystery and adventure. Means and standard deviations are presented separately for each theme in Tables 17 and 18.

After controlling for initial differences in students' pretest scores in the vocabulary multiple-choice test, a statistically significant main effect was found for Treatment for adventure, $F = 415.431$, $df = 1/28$, $p < .05$, and for mystery, $F = 267.313$, $df = 1/28$, $p < .05$. The effect sizes for these analyses were 0.937 and 0.905 for the theme of adventure and mystery, respectively. According to Cohen (1988) and Graham and Perrin (2007), both can be considered large effect sizes. Results from both ANCOVAs are presented in Tables 19 and 20.

As can be seen in Tables 17 and 18, knowledge of the target adventure and target mystery words among students' in the experimental condition improved from pretest to posttest for the theme of adventure as well as for the theme of mystery. Students in the control condition experienced little improvement in their knowledge of the adventure and mystery target words from pretest to posttest.

Question 2

Table 17

Means and Standard Deviations for Knowledge of Adventure Target Words

Treatment	N	Pretest	Posttest	Adjusted
Experimental	15	1.60	9.53	9.54
		(1.06)	(0.64)	
Control	16	1.50	2.19	2.19
		(1.21)	(1.22)	

Note. Raw scores reported. Standard deviations are reported in parentheses. The possible maximum score for the adventure vocabulary test was 10.

Table 18

Means and Standard Deviations for Knowledge of Mystery Target Words

Treatment	N	Pretest	Posttest	Adjusted
Experimental	15	1.87	9.13	9.12
		(1.06)	(1.13)	
Control	16	1.75	1.94	1.95
		(1.13)	(1.29)	

Note. Raw scores reported. Standard deviations are reported in parentheses. The possible maximum score for the mystery vocabulary test was 10.

Table 19

Analysis of Covariance for Knowledge of Adventure Words

Source	df	SS	MS	F	Partial Eta Squared
Pretest	1	0.045	0.045	0.045	0 .002
Treatment	1	417.299	417.299	415.431*	0.937
Error (Time)	28	28.126	1.004		

Note. *p < .05.

Table 20

Analysis of Covariance for Knowledge of Mystery Words

Source	df	SS	MS	F	Partial Eta Squared
Pretest	1	1.042	1.042	0.701	0.024
Treatment	1	397.423	397.423	267.313*	0.905
Error (Time)	28	41.629	1.487		

Note. *$p < .05$.

Does vocabulary instruction with theme-related words as well as practice using these words to write about a theme result in an increased use of these words when students write about the theme? To answer Question 2, I conducted two one-way ANCOVAs with two covariates: pretest scores and posttest time spent writing. A separate ANCOVA was done for mystery and adventure. Means and standard deviations are presented by theme in Tables 21 and 22.

After controlling for initial pretest differences in students' use of the mystery words and their synonyms, and posttest differences in writing time, a statistically significant main effect was found for Treatment ($F = 11.191$, $df = 1/27$, $p < .05$). A similar effect was however, not found for Treatment for adventure words ($F = 0.457$, $df = 1/27$, $p > .05$). The effect size for the first analysis was 0.293, which is typically considered a small effect size according to Cohen (1988), and Graham and Perrin (2007). Results from both ANCOVAs are presented in Table 23 for the theme of adventure and in Table 24 for the theme of mystery.

Thus, vocabulary instruction resulted in an increase in the use of instructional words and their synonyms in students' writing only for the theme of mystery and not for the theme of adventure. Specifically, experimental students' use of mystery words increased from pretest to posttest, whereas use of adventure words and their synonyms decreased from pretest to posttest for the same group of students. It is important to note, however, that experimental students outperformed control students in the number of adventure and mystery target words and their synonyms included in their posttest stories for both themes.

Question 3

Table 21

Means and Standard Deviations for Number of Words Used in Adventure Story

Writing

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Treatment	N	Pretest	Posttest	Adjusted
Experimental	15	1.67	1.00	1.10
		(3.27)	(0.85)	
Control	16	1.19	0.88	0.78
		(1.87)	(1.54)	

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Note. Raw scores reported. Standard deviations are reported in parentheses. The

possible maximum number of adventure target words and their synonyms that

students could include in their adventure stories was 58.

Table 22

Means and Standard Deviations for Number of Words Used in Mystery Story Writing

Treatment	N	Pretest	Posttest	Adjusted
Experimental	15	0.87	2.00	2.04
		(0.83)	(1.56)	
Control	16	0.44	0.56	0.53
		(0.73)	(0.81)	

Note. Raw scores reported. Standard deviations are presented in parentheses. The possible maximum number of mystery target words and their synonyms that students could include in their mystery stories was 35.

Table 23

Analysis of Covariance for Use of Adventure Instructional Words

Source	df	SS	MS	F	Partial Eta Squared
Pretest	1	0.63	0.63	0.41	0.02
Time spent writing at posttest	1	3.96	3.96	2.59	0.09
Treatment	1	0.70	0.70	0.46	0.02
Error (Time)	27	41.35	1.53		

Note. *$p < .05$.

Table 24

Analysis of Covariance for Use of Mystery Instructional Words

Source	df	SS	MS	F	Partial Eta Squared
Pretest	1	0.12	0.12	0.08	0.003
Time spent writing at posttest	1	5.16	5.16	3.62	0.12
Treatment	1	15.97	15.97	11.19*	0.29
Error (Time)	27	46.74	1.73		

Note. *p < .05.

Does vocabulary instruction with theme-related words as well as practice using these words to write about a theme improve students' knowledge about the theme? To answer Question 3, I conducted two one-way ANCOVAs with pretest knowledge serving as covariate. A separate ANCOVA was done for mystery and adventure. Means and standard deviations are presented by theme in Tables 25 and 26.

After controlling for initial pretest differences, I found no statistically significant main effects for Treatment for either adventure, $F = 0.016$, $df = 1/28$, $p > .05$, or mystery, $F = 2.227$, $df = 1/28$, $p > .05$. Results from both ANCOVAs are presented in Table 27 for the theme of adventure and in Table 28 for the theme of mystery.

Question 4

Does vocabulary instruction with theme-related words as well as practice using these words to write about a theme improve the quality of students' writing about the theme? To answer Question 4, I conducted two one-way ANCOVAs with two covariates: the quality of students' writing at pretest and the amount of time students spent writing at posttest. A separate ANCOVA was done for mystery and adventure. Means and standard deviations are presented by theme in Tables 29 and 30.

After controlling for initial differences in the quality of students' stories at pretest and for the time students spent writing at posttest, a statistically significant main effect was found for Treatment for mystery, $F = 6.043$, $df = 1/27$, $p < .05$. Even

Table 25

Means and Standard Deviations for On-topic Units of Knowledge for Adventure

Treatment	N	Pretest	Posttest	Adjusted
Experimental	15	4.07	4.27	4.62
		(2.46)	(2.37)	
Control	16	5.25	4.81	4.48
		(4.43)	(4.59)	

Note. Raw scores reported. Standard deviations are presented in parentheses. There was an infinite number of on-topic units of knowledge that students could include in their adventure knowledge telling.

Table 26

Means and Standard Deviations for On-topic Units of Knowledge for Mystery

Treatment	N	Pretest	Posttest	Adjusted
Experimental	15	3.73	4.73	4.79
		(3.86)	(3.61)	
Control	16	4.31	3.06	3.01
		(6.41)	(3.17)	

Note. Raw scores reported. Standard deviations are presented in parentheses. There was an infinite number of on-topic units of knowledge that students could include in their mystery knowledge telling.

Table 27

Analysis of Covariance for On-topic Units of Knowledge for Adventure

Source	df	SS	MS	F	Partial Eta Squared
Pretest	1	127.95	127.95	13.397*	0.324
Treatment	1	0.149	0.149	0.016	0.001
Error (Time)	28	267.420	9.551		

Note. *$p < .05$.

Table 28

Analysis of Covariance for On-topic Units of Knowledge for Mystery

Source	df	SS	MS	F	Partial Eta Squared
Pretest	1	27.520	27.520	2.515	0.082
Treatment	1	24.361	24.361	2.227	0.074
Error (Time)	28	306.351	10.941		

Note. *$p < .05$.

Table 29

Means and Standard Deviations for Quality of Students' Story Writing About

Adventures

Treatment	N	Pretest	Posttest	Adjusted
Experimental	15	3.17	3.33	3.43
		(0.75)	(1.23)	
Control	16	3.09	2.97	2.88
		(1.28)	(1.18)	

Note. Raw scores reported. Standard deviations are presented in parentheses. The

possible maximum score for the quality of adventure stories was 7.

Table 30

Means and Standard Deviations for Quality of Students' Story Writing Quality

Mysteries

Treatment	N	Pretest	Posttest	Adjusted
Experimental	15	2.83	3.50	3.51
		(0.75)	(1.25)	
Control	16	2.56	2.66	2.65
		(0.96)	(1.14)	

Note. Raw scores reported. Standard deviations are presented in parentheses. The possible maximum score for the quality of mystery stories was 7.

though the results were in the predicted direction for adventure, the effects of vocabulary instruction were not strong enough to result in a statistically significant difference between the groups, $F = 2.028$, $df = 1/27$, $p > .05$. The effect size for the first analysis was 0.183, which is considered a small effect size (Cohen, 1988; Graham & Perrin, 2007). Thus, at least for mystery writing, vocabulary instruction had a positive impact on the quality of students' compositions. Results from the ANCOVAs are presented in Tables 31 and 32 for the theme of adventure and mystery, respectively.

Question 5

Is vocabulary instruction in theme-related words perceived as socially acceptable by third-grade average and below average writers for learning new words and enhancing their writing performance and knowledge about the themes? To answer Question 5, I first calculated the percentage of students' responses with a *Yes*, *No*, and *I'm not sure*, to each of the question items included in Parts 1 and 2 of the social acceptability inventory. This was done separately for each theme (Tables 33 and 34). Then, I recorded all students' responses to the open-ended questions included in Part 3 of the social acceptability inventory (separately for each theme) and classified them into nine categories: *Environment*, *Homework*, *Miscellaneous*, *Stories*, *Words*, *Word Definitions*, *WordFamily*, *Worksheets*, and *Writing*. Finally, I calculated the percentage of the activities included in each of the nine categories that students liked most and least in the vocabulary instruction they received, based on their responses (Tables 35 and 36). The nine categories were the same for both themes.

Table 31

Analysis of Covariance for Quality of Students' Story Writing About Adventures

Source	df	SS	MS	F	Partial Eta Squared
Pretest	1	10.331	10.331	10.042*	0.271
Time spent writing at posttest	1	4.064	4.064	3.950	0.128
Treatment	1	2.086	2.086	2.028	0.070
Error (Time)	27	27.779	1.029		

Note. $*p < .05$.

Table 32

Analysis of Covariance for Quality of Students' Story Writing About Mysteries

_____

Source	df	SS	MS	F	Partial Eta Squared
Pretest	1	3.420	3.420	3.863	0.125
Time spent writing at posttest	1	6.994	6.994	7.901*	0.226
Treatment	1	5.350	5.350	6.043*	0.183
Error (Time)	27	23.901	0.885		

_____

*Note. *p < .05.*

Table 33

Students' Opinions for Certain Mystery Activities

_____

Activities	Yes	No	I'm not sure
1. Reading stories	87% (n = 13)	13% (n = 2)	0% (n = 0)
2. Writing definitions	87% (n = 13)	0% (n = 0)	13% (n = 2)
3. Using words in sentences	80% (n = 12)	7% (n = 1)	13% (n = 2)
4. Word Family activity	93% (n = 14)	0% (n = 0)	7% (n = 1)
5. Fill-in-the-blanks	80% (n = 12)	13% (n = 2)	7% (n = 1)
6. True-false activities	80% (n = 12)	13% (n = 2)	7% (n = 1)
7. Homework	87% (n = 13)	7% (n = 1)	7% (n = 1)
8. New words helped in W	93% (n = 14)	0% (n = 0)	7% (n = 1)
9. Enjoy learning new words	100% (n = 15)	0% (n = 0)	0% (n = 0)
10. Lessons are fun	80% (n = 12)	7% (n = 1)	13% (n = 2)
11. Like to learn new words	73% (n = 11)	7% (n = 1)	20% (n = 3)

_____

Table 34

Students' Opinions for Certain Adventure Activities

Activities	Yes	No	I'm not sure
1. Reading stories	80% ($n = 12$)	7% ($n = 1$)	13% ($n = 2$)
2. Writing definitions	80% ($n = 12$)	7% ($n = 1$)	13% ($n = 2$)
3. Using words in sentences	87% ($n = 13$)	7% ($n = 1$)	7% ($n = 1$)
4. Word Family activity	80% ($n = 12$)	13% ($n = 2$)	7% ($n = 1$)
5. Fill-in-the-blanks	73% ($n = 11$)	0% ($n = 0$)	27% ($n = 4$)
6. True-false activities	87% ($n = 13$)	13% ($n = 2$)	0% ($n = 0$)
7. Homework	87% ($n = 13$)	7% ($n = 1$)	7% ($n = 1$)
8. New words helped in W	93% ($n = 14$)	0% ($n = 0$)	7% ($n = 1$)
9. Enjoy learning new words	100% ($n = 15$)	0% ($n = 0$)	0% ($n = 0$)
10. Lessons are fun	93% ($n = 14$)	0% ($n = 0$)	7% ($n = 1$)
11. Like to learn new words	80 % ($n = 12$)	7% ($n = 1$)	13% ($n = 2$)

Table 35

Students' Responses to Open-ended Questions for Mystery Activities

_____

Activities	Like	Do not like
Environment	27% ($n = 4$)	7% ($n = 1$)
Homework	47% ($n = 7$)	27% ($n = 4$)
Miscellaneous	20% ($n = 3$)	27% ($n = 4$)
Stories	27% ($n = 4$)	0% ($n = 0$)
Words	33% ($n = 5$)	20% ($n = 3$)
Word definitions	13% ($n = 2$)	13% ($n = 2$)
Word family	53% ($n = 8$)	0% ($n = 0$)
Worksheets	20% ($n = 3$)	27% ($n = 4$)
Writing	13% ($n = 2$)	7% ($n = 1$)

_____

Note. Categories are reported in alphabetical order.

Table 36

Students' Responses to Open-ended Questions for Adventure Activities

_____

Activities	Like	Do not like
Environment	13% ($n = 2$)	27% ($n = 4$)
Homework	67% ($n = 10$)	27% ($n = 4$)
Miscellaneous	33% ($n = 5$)	0% ($n = 0$)
Stories	7% ($n = 1$)	7% ($n = 1$)
Words	27% ($n = 4$)	0% ($n = 0$)
Word definition	33% ($n = 5$)	13% ($n = 2$)
Word family	27% (n = 4)	13% (n = 2)
Worksheets	13% ($n = 2$)	20% ($n = 3$)
Writing	33% (n = 5)	33% ($n = 5$)

_____

Note. Categories are presented in alphabetical order.

In the section below, I present examples of students' responses that were classified into each of the nine categories. With two exceptions (categories *Environment* and *Miscellaneous*), all of the categories were related to a basic activity or part of the vocabulary instruction provided to students in the experimental condition. The category *Environment* included responses that were related to the circumstances (i.e., location or group arrangement) under which instruction was delivered. Some of the students' responses classified into this category were: "I like working with my friends," I didn't like the tape recorder; it made me a little bit nervous." Students' responses classified into the category *Miscellaneous* included any responses that were not closely related to the activities implemented during vocabulary instruction and usually referred to the reinforcements used throughout the study. Examples of such responses were: "I like when we got the stuff out the treasure box," or "I like the stickers we get for doing homework."

Following are examples of students' responses classified into the rest of the categories: (a) category *Homework*, "I didn't like doing a homework; preparing a sentence," I liked when we picked our homework from the hat;" (b) category *Stories*, "I liked reading the stories;" (c) category *Words*, "I like learning adventure words," I don't like when I forget the words that we learned last week;" (d) category *Word Definitions*, "I don't like writing definitions of words," "I like writing word and definition in logbook;" (e) category *Word Family*, "I liked the word family activity;" (f) category *Worksheets*, "I didn't like when we circled a or be in my worksheet," and (g) category *Writing*, "I like to write a mystery story."

Based on students' responses to items presented in Parts 1 and 2 of the social

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acceptability inventory, all 15 students in the experimental condition enjoyed learning new adventure and mystery words. In general, lessons were perceived to be fun by 93% of the students for the theme of adventure and 80% of the students for the theme of mystery. The majority of students (93%) also reported that learning new adventure and mystery words had helped them write better adventure and better mystery stories, respectively. Furthermore, a relatively large percentage of students stated that they would like to learn new adventure (80%) and new mystery words (73%) in this way again. As far as students' perceived effectiveness and acceptability of each specific activity implemented throughout these lessons concerns, students' responses were not uniform between the two themes, as the same activities implemented during vocabulary instruction in mystery words were generally ranked higher than those implemented during vocabulary instruction in adventure words.

For example, for mystery the Word Family activity was perceived as the most helpful for learning new mystery words (93%), whereas for the theme of adventure the first position in students' rankings was shared between homework, using words in sentences, and true/false activities (87%). Reading stories and writing words/definitions in the logbooks were the two activities in the second position for both themes (80% for the theme of adventure and 87% for the theme of mystery). Finally, students believed that fill-in-the-blank, true/false, and word sentences had helped them the least with learning new mystery words (80%). For the theme of adventure, fill-in-the-blank was deemed helpful by a smaller percentage of students (73%).

When recording students' responses to items in Part 3 of the social

acceptability inventory, I counted only once a similar or same statement. Even though students were asked to provide three examples of activities that they liked most and least about the lessons separately for each theme, in some cases students responded with only one or two activities. The examiner was directed to prompt students to give additional examples, but in many cases students did not. Specifically for the theme of adventure, there were three students who reported that there were only two activities that they liked least (circling a or b in the worksheet and fill-in-the-blank activity, doing homework and writing the stories, tape recorder and some words you don't know) and one student reported there was only one activity that he/she liked least ("All the writing"). One student liked only two of the activities implemented (write word and definition in logbook and word family activity), whereas there was another student who liked only one of the activities (prizes/stickers they got for homework and activities completed).

For the theme of mystery, five students liked least one of the activities (writing the definitions of the words in logbooks, Word Family, losing the secret prize, having to do the homework, "when we had to do the writing activity"), and two students liked least two of the activities ("when I forgot the word for homework and when I didn't get the three stickers," "when it took me so long to write the definition of the words and D. when she made me laugh at stupid stuff). In addition, there were two students who liked two of the activities most (getting in a group and stickers/stars they got, fill-in-the-blank activity and when they had to make sentences for homework). Finally, there were a couple of students who reported that there was nothing that they didn't like about the lessons in both themes (for mystery 5 students

and for adventure 4 students).

For the theme of mystery one student responded with four positive comments about the lessons implemented such as "I liked them all," whereas for the theme of adventure another student stated three positive ("I liked all lessons we had") and one negative general statement ("They were not that good; I don't like them") about the lessons. Other student statements provided in response to the final open-ended question are reported below by theme: for the theme of mystery, "I just like them," for the theme of adventure, "I just liked them," "Yes, it was fun and I hope I could do it again."

As shown in Table 35, when students were asked to report three activities that they liked most about these lessons for the theme of mystery, the majority of students said the Word Family activity (53%), followed by Homework (47%), and all activities related to learning the target mystery words (33%). Reading stories and the environment where the lessons took place were put together in the fourth position (27%), whereas completing worksheets and competing for reinforcements were in the fifth ranking (20%). Finally, any activities involving writing, such as writing stories or writing words and definitions in the logbooks, were among the least preferable activities (13%). On the other hand, when students were asked directly to report their least preferable activities the majority of students said the Homework, completing the worksheets, and competing for reinforcements (27%). In the second, third, and fourth position were any activities related to words and writing the words and definitions to the logbooks (20% and 13%, respectively), followed by any environmental issues and writing (7%). In theme of mystery, none of the students disliked the stories and

the Word Family activity.

Surprisingly, the results for the theme of adventure were somewhat different from those obtained for the theme of mystery (Table 36). In particular, students' most favorite activities included homework (67%), writing stories and word definitions as well as competing for the reinforcements (33%). In the third position, were Word Family and any activities related to learning the words (27%), and in the fourth position were completing worksheets and any issues related to the environment (13%). Finally, a relatively small percentage of students appeared to like least the adventure stories read throughout the lessons (7%). When it comes to reporting the three activities that students liked least, inconsistencies were observed between the two most and the two least preferable activities. For example, writing and homework were positioned in the first two rankings in both questions (as least and most preferable activities). Among the least preferable activities were also environment (27%), completing the worksheets (20%), writing the word/definitions and word family activity (13%), and stories (7%). Learning the adventure words and competing for the reinforcements were not selected as least preferable activities by any of the students.

A thorough analysis of students' responses in the three parts of the inventory revealed a close relationship between the activities that students liked and the activities that students perceived as helpful in learning the new words, more for the theme of mystery and less for the theme of adventure. Specifically, for the theme of mystery word family was perceived as the most preferable and most helpful activity among students, whereas homework was the second most preferable and helpful by

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the majority of the students. Completing worksheets, on the other hand, such as true/false and fill-in-the-blank activities, was perceived as less helpful and preferable by students. For the theme of adventure, a high correspondence between the activities perceived as most preferable and helpful was only observed for homework, which was ranked first by students in both ratings (as most preferable and most helpful).

Chapter 5: Major Findings

The primary purpose of this study was to examine the effects of vocabulary instruction in theme-related words on the vocabulary knowledge and use of these instructional words and their synonyms in 3rd-grade, average and below average writers' written products. In addition, the study examined the effects of vocabulary instruction in theme-related words on students' knowledge about the themes as well as on students' writing performance on the themes. Lastly, the study examined the perceived acceptability of the instruction implemented as reported by students in the experimental condition.

In the following sections, I present the results of this study in three parts. First, I examine the extent to which vocabulary instruction in theme-related words increases students' knowledge of the words taught and students' knowledge about the themes taught. Second, I examine the extent to which vocabulary instruction in theme-related words transfers to students' story writing about the themes taught, including the use of these words and their synonyms in students' writing as well as effects on the quality of students' writing. Third, the extent to which vocabulary instruction in theme-related words provided to students in the experimental condition is perceived as effective, helpful, and socially acceptable by students in terms of learning the new words and enhancing students' writing performance.

Along with the presentation of the major findings, I discuss similarities and differences among the present study and related prior research, and the extent to which the present study adds to the existing literature on the subject. Furthermore, I examine limitations of the present study and propose recommendations for future

research.

Does Vocabulary Instruction in Theme-related Words Increase Students'
Knowledge of the Words taught and Students' Knowledge about the Themes
Taught?

It was hypothesized that instruction in theme-related words would prove effective for enhancing students' knowledge of the words taught and subsequently students' knowledge about the themes taught. Even though the results confirmed the first part of the hypothesis, for the second part of the hypothesis the results were unexpected. In the following sections, I provide a brief overview of the relevant results obtained from this study and offer possible explanations for those results.

Knowledge of Words Taught

Prior to instruction, students in both the experimental and control conditions knew an equivalent number of words for both adventure and mystery themes. On average, students were able to correctly identify the meaning of two adventure and two mystery words. Following instruction, students in the experimental condition were able to correctly identify the meaning of more adventure and mystery words than students in the control condition, once their pretest knowledge of these words was controlled. Students in the experimental condition evidenced an average of approximately a seven- and eight-word increase in their ability to correctly identify the meaning of mystery and adventure words, respectively, from pretest to posttest, correctly identifying virtually all of the instructional words at the time of post-testing.

In contrast, students in the control condition showed little improvement, increasing their pretest to posttest performance for both themes (adventure and

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mystery) by approximately a single word. Thus, the procedures used to teach the meaning of theme-related vocabulary words were effective, at least in terms of effects immediate following instruction. No conclusion can be drawn about students' long-term retention of these words, as this was not tested. The small gains observed among students in the control condition can most likely be attributed to correct guessing, a second exposure to the vocabulary tests, and/or some learning of word meanings through listening to the stories about the themes that included the target instructional words. Differences in vocabulary knowledge between students in the experimental and control condition at the time of post-testing were not only statistically significant but also practically meaningful as revealed by the relatively large effect sizes for both themes (eta squared was 0.91 for mystery and 0.94 for adventure).

The results of this analysis can further be linked to the procedures followed during test development. Specifically, since the test correct responses were exactly the same word definitions used during instruction it was more likely for students in the experimental condition than students in the control condition to be able to identify the correct responses. Furthermore, it is possible that the type of distractors used in the multiple-choice test influenced the level of variability in students' scores. Specifically, since none of the alternative responses selected for each stem word were similar to each other and related to the stem word but the correct one, it is not surprising to obtain such low variation among students' scores in the experimental condition.

The results of this study are consistent with the positive effects of vocabulary instruction in theme-related words and especially vocabulary instruction in theme-

related words combined with writing activities on students' knowledge about the words, as reported by Duin and Graves (1986, 1987). Specifically, experimental students participating in this study learned 91% of the mystery instructional words and 95% of the adventure instructional words, whereas students in the control condition learned only 2% and 8% of the mystery and adventure instructional words, respectively. These gains showed a similar pattern to those acquired by students in the experimental condition in Duin and Graves' study (1986). Specifically, experimental students in fourth-grade and in sixth-grade high and low ability groups showed a 62%, 29%, and 32% increase in their vocabulary scores, whereas small (7%) to no increase in their vocabulary scores was reported among sixth-grade and fourth-grade students in the control condition, respectively. Additionally, when comparing the effects of traditional vocabulary instruction to the effects of intensive vocabulary and writing instruction and intensive vocabulary instruction only conditions, students in the first condition learned only 75% of the target words in contrast to 97% and 92% of the words learned by students in the second and third conditions, respectively (Duin & Graves, 1987), percentages very close to the ones obtained in this study among students in the experimental condition.

Knowledge About the Themes Taught

Prior to instruction, students in the experimental and control conditions did not differ statistically in their knowledge either about the theme of adventure or about the theme of mystery. Students in both conditions generated an average of approximately four to five on-topic units of knowledge prior to instruction for each theme. At posttest, students in the experimental condition showed a small

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(approximately one on-topic unit of knowledge), but not statistically significant

increase in the number of on-topic units of mystery and adventure knowledge,

whereas students in the control condition showed a decrease in the number of on-

topic units of knowledge for both themes, once students' pretest knowledge about the

themes was controlled.

While instruction on the target adventure and mystery words had a strong

impact on students' acquisition of the meaning of these words, it appears that the

acquisition of these word meanings did not result in an increase in students'

knowledge about adventures and mysteries. I expected that learning the target

vocabulary words would have a positive impact on theme knowledge, as the selected

words provided knowledge about the specific theme and the procedures for learning

these words also provided such information incidentally.

Why did the vocabulary instruction procedures apparently fail to produce

gains in students' knowledge about adventures and mysteries? In the paragraphs

below, I offer four possible explanations.

First, knowledge about adventures and mysteries was not directly taught.

Students had to acquire this information incidentally as they read the stories

containing the target words, and participated in activities to help them acquire the

meaning of these words. While a number of studies have shown that third-grade

students, including struggling writers, can be directly taught knowledge about themes

(Graham, Harris, & Mason, 2005), it is possible that these students were not yet

capable or were ineffective in acquiring such information incidentally.

Second, the likelihood of the statistical analysis identifying possible effects of

vocabulary instruction in theme-related words on students' knowledge about the themes taught may have been weakened by the relatively small number of students participating in this study. Nevertheless, students' in the experimental condition outperformed students in the control condition in the number of on-topic units of knowledge included in their interviews about both themes at the time of post-testing, a difference that may have been more pronounced and even statistically significant, especially for the theme of mystery, provided a larger number of participants.

Third, the measures of knowledge used in this study may have been inadequate and not sensitive enough to detect differences in students' knowledge about a theme from pre-to posttest. Therefore, it is possible that a different assessment tool would have provided a more accurate estimation of students' knowledge about a theme. Finally, students may needed more and diverse exposure to information about a theme in order for them to gain, internalize, and later demonstrate theme-knowledge in their own words.

In any event, any changes in students' writing cannot be attributed directly to changes in students' knowledge about adventures and mysteries in the current study. For this to be the case, experimental students' knowledge about a theme would have to be greater than that of students in the control condition at the time of post-testing. Given the fact that until now there are no studies examining vocabulary instruction as a knowledge building approach, additional research is needed to investigate the relationship between vocabulary instruction in theme-related words and knowledge about the theme.

Does Vocabulary Instruction in Theme-related Words Transfer to Students'
Story Writing about the Themes Taught Including the Use of these Words and
their   Synonyms in Writing as well as Effects on the Quality of Students'
Writing?

It was hypothesized that instruction in theme-related words would increase the number of instructional words and their synonyms that students use in their writing about the themes, and subsequently increase the quality of students' writing about themes, as the use of diverse vocabulary has been found to result in higher quality ratings of written products (Grobe, 1981; Neilsen & Piche', 1981). It was further suggested that deep understanding and knowledge of theme-related words that are typically used in genre writing and the concepts underlying these words would enhance the quality of students' genre writing.

Use of the Words Taught and Their Synonyms in Students' Written Stories About the Themes

Prior to instruction, students in the experimental and control conditions did not differ statistically in the use of instructional words and their synonyms they used when writing either an adventure or a mystery story. At pretest, both groups used a relatively small number of these types of word categories (instructional words and their synonyms) in their writing about adventures and mysteries, ranging from approximately one to two words on average. After instruction, students in the experimental condition increased the number of instructional words and their synonyms they used in their writing by approximately one word (from one to two words) on average for the theme of mystery, once students' pretest use of these words

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and the time spent writing at posttest were controlled.

What is also worth mentioning is that students in the experimental condition not only used a larger number of instructional words and their synonyms in their mystery stories from pre- to posttest, but they also used a more diverse set of instructional words (six different words in posttest versus one different word in pretest). Although students in the experimental condition also used more instructional words and their synonyms when compared to students in the control condition on the posttest adventure story, they actually used fewer of these items (about one word less) at posttest than at pretest.

Why did students use fewer instructional words and their synonyms on the posttest adventure stories? One reason may be that their knowledge of these words at pretest was superficial and limited to definitional information about the word rather than on information on how to use this word in context (Nagy & Scott, 2000). Therefore, it might have been more difficult for these students to use the adventure words they had been learning when asked to compose an adventure story. Knowing a word is not an all-or-nothing proposition (Beck, McKeown, & Kucan, 2002); word knowledge is considered a complex concept that consists of several qualitative dimensions (Nagy & Scott, 2000) and proceeds in stages from no knowledge about a word, to knowing the definition of the word, to being able to recall and use the word in context, and to acquiring a rich, de-contextualized knowledge of a word's meaning, its relationship to other words, and its extensions to metaphorical uses.

A second explanation is that students may not have been interested in or motivated about writing an adventure story. Therefore, students may have placed

little effort in writing such a story, and did not use the words they were learning or ones with similar meanings. They may also have viewed adventure writing as easy, and saw little reason to use sophisticated words such as the ones taught during vocabulary instruction on adventure.

In summary, vocabulary instruction in theme-related words increased the likelihood students would use these words and their synonyms when writing mysteries and adventures, in comparison to students in the control condition, who were not directly taught these words. The finding for adventure writing must be tempered, however, as students in the experimental condition actually used fewer of these words at posttest than at pretest. Based on these findings, the earlier reported observation that vocabulary instruction in theme-related words did not enhance students' knowledge about the themes, and provided that the use of vocabulary words is an important component of writing quality, improvement in students' writing quality would hypothetically be more likely for the theme of mystery than for the theme of adventure, since students showed an increased use of mystery words in their writing, whereas adventure words actually declined at posttest in comparison to pretest. As reported in the next section, this is what I found.

When comparing this study to the investigation by Duin and Graves (1987), students in this study used fewer instructional words in their posttest instructional stories about the themes than students in the prior study. Particularly, students in this study used an average of two out of 10 mystery instructional words and one out of 10 adventure instructional words in their stories, whereas experimental students in Duin and Graves' study (1987) used an average of seven (intensive vocabulary plus writing

instruction condition), five (intensive vocabulary instruction condition), and less than one words (traditional vocabulary instruction condition) out of 13 possible words in their stories. There are at least three possible explanations for this finding.

First, during story writing, students in Duin and Graves' study (1987) were offered revision suggestions, were guided as they shared their writing with their peers, and were encouraged to use the instructional words in their writing. In this study, students were not provided any help during story writing except for assistance with word spelling and were not prompted to use any of the instructional words.

Second, participants in Duin and Graves' study (1987) were older students (seventh-graders) with scores from the verbal component of the Cognitive Abilities Test (CogAT, 1984) ranging from the 8th to the 99th percentile. Therefore, these students were more experienced with story writing than the third-grade, average and below average   writers who participated in this study. Finally, it is possible that students in Duin and Graves' study (1987) were able to remember more word definitions and use more of the instructional words in their writing because instruction occurred over six consecutive days and the writing test was administered on the day immediately following instruction. In this study, instruction in each set of theme-related words was extended over two weeks and sometimes more depending on fieldtrips and holidays, which might have weakened students' use of these words in their writing.

Quality of Writing About the Themes

Prior to instruction, adventure and mystery stories written by students in both conditions (experimental and control) did not differ statistically in writing quality,

with an average quality rating of 3 for both themes (out of a possible score of 7). Following instruction, the quality ratings of mystery stories written by students' in the experimental condition showed an average increase of approximately a single point (from a rating of 3 to a rating of 4), once students' pretest quality ratings and the time spent writing at posttest were controlled. For mystery writing, differences between students in the experimental and control condition in the quality of their writing were statistically significant as well as practically meaningful (eta squared 0.18). In contrast, quality ratings of adventure stories written by students in the experimental condition showed an increase from pre- to posttest in the predicted direction, but this increase was not large enough to result in statistically significant differences among students in the two conditions (experimental and control).

Data drawn from this study revealed different effects of vocabulary instruction in theme-related words on students' use of these words (and their synonyms in writing as well as on the quality of students' writing between the two themes. Specifically, instruction in mystery words lead students to learn these words, which subsequently resulted in a statistically significant increase in the use of these words and their synonyms in students' writing, which in turn had a statistically significant, positive impact on the quality of students' mystery stories. In contrast such an effect was not found for the theme of adventure; even though students showed an increased knowledge of the target adventure words from pre- to posttest, this increase did not result in an increased use of these words in students' writing nor in improvements in the quality of students' written adventure stories.

Thus, vocabulary instruction in adventure words did not result in a statistically significant effect on the quality of students' adventure stories. Within the context of the study's findings discussed in the previous sections, this is not surprising since the use of the instructional adventure words and their synonyms did not increase following instruction, even though students in the experimental condition outperformed students in the control condition on this variable. Thus, the expectation that the particular factor (use of adventure words and their synonyms) would influence the writing quality of students' adventure stories was not actualized.

When comparing the results from this study with those obtained by Duin and Graves (1987), the findings for mystery writing in this study were similar to the findings for writing about space in the prior study. Nevertheless, similar findings for adventure writing were not obtained.

Vocabulary Instruction in Theme-related Words as a Socially Acceptable Method for Teaching new Words and Improving the Writing Performance of Students

All students in the experimental condition enjoyed learning new adventure and mystery words, whereas the majority of these students thought learning new words helped them write better adventure and mystery stories (93%). Students' perspectives about the instruction they received differed slightly based on the theme. For example, more students' (93%) believed that the instruction they received in the adventure words was fun than the percentage of students (80%) who believed that the instruction they received in the mystery words was fun. Additionally, 73% of students reported that they would like to learn new mystery words in this way again when

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compared to 80% of students who reported that they would like to learn new adventure words in this way again.

Results from the social acceptability inventory used in this study are in accordance with those obtained from the attitude inventories used in both Duin and Graves' (1986, 1987) studies. Larger percentages of students who participated in the intensive vocabulary instruction with writing condition responded positively in the instruction implemented in Duin and Graves' study (1987) than students in the intensive vocabulary instruction alone and the traditional vocabulary instruction conditions. Specifically, more students in the first condition reported that they enjoyed learning words about the topic (92%), that they would like to learn new words in this way again (96%), and that the unit was fun (100%) than students in each of the other two conditions. In addition, among the experimental students in the first Duin and Graves' study (1986) the youngest students (fourth-graders) had more positive responses to the attitude inventory than the oldest ones (sixth-graders). Specifically, 96% of the fourth-graders versus 83% of the sixth-graders indicated that the instruction had helped them increase their use of the instructional words in sentences and stories, whereas 85% of the fourth-graders versus 69% of the sixth-graders enjoyed the unit.

When students were asked specifically about the effectiveness of each activity used in this study, the majority of students (80% to 93% for the theme of mystery and 73% to 87% for the theme of adventure) reported that the activities implemented (homework, using the new words in sentences, reading theme-related stories, Word Family, writing words and definitions in logbook, and two types of

worksheets) were helpful for learning the new theme-related words. In terms of students' preferences Homework and Word Family activity were among the top three for both themes, whereas writing stories was one of the least preferable activities among students, especially for the theme of mystery.

The primary finding from the social acceptability inventory is that the majority of students: (a) enjoyed the activities implemented throughout the study for both themes; (b) thought that the activities helped them learn the new adventure and mystery words, and (c) believed that the new adventure and mystery words helped them write better adventure and mystery stories. Therefore, most students perceived the instruction implemented as helpful, effective, and socially acceptable for learning new words and enhancing their writing performance.

A couple of inferences can further be drawn from the findings reported above. Based on students' beliefs that learning new words had helped them write better stories, it appears that students consider vocabulary to play an important role in their writing performance. Participants in this study, similarly to students with LD, however, tend to hold higher expectations about their writing performance and to assign higher quality ratings to their written products than those assigned by actual raters. It was found that most students (93%) believed their writing performance for both themes had improved as a result of learning the new adventure and mystery words. This was not the case for the theme of adventure, however.

Summary of Findings

In conclusion, vocabulary instruction in words that are typically used in adventure and mystery stories had a positive impact on students' learning of the

meaning of these words. In addition, students found the methods used to teach these words to be socially acceptable. Although, learning words related to the themes of adventure and mystery appeared to not influence students' knowledge about these two themes, following instruction, students in the experimental condition used more of the target mystery words and their synonyms when writing mystery stories, following instruction, once pretest performance and writing time at the time of post-testing were controlled. Transfer of mystery word use to mystery writing was further attenuated by the fact that the quality of mystery stories written by students' in the experimental condition improved from pre- to posttest. Some caution in concluding that quality improvements were due solely to use of the learned vocabulary must be tempered by the fact that the increased use of this vocabulary in mystery writing was relatively minimal.

In contrast, students in the experimental condition showed a decrease in the number of adventure target words and their synonyms they used in their adventure stories from pretest to posttest, therefore minimizing the transfer effects of word use to writing for the theme of adventure, even though students in the experimental condition used more adventure words in their writing than their counterparts in the control condition at the time of post-testing. Not surprisingly then, there was no overall improvement from pre- to posttest in the quality of adventure stories written by students in the experimental condition, when compared to pertinent performance of students in the control condition, as the former did not demonstrate any advantage in knowledge about adventure stories from pre-to posttest nor did they increase their

use of the target adventure words and their synonyms in their adventure stories from pretest to posttest.

In addition to differences in the application of target words in writing, other factors may have contributed to the observed differences between mystery and adventure writing in the impact of vocabulary instruction on students' writing quality and use of target words in their writing. One factor might be students' familiarity/interest with the themes. For example, students may have been more familiar with the theme of adventure, reducing the possible impact of vocabulary instruction in adventure words. Students may also have had a lower interest in learning about adventures than learning about mysteries, reducing the impact of instruction in this area.

The possible mitigating influence of interest and knowledge in the differential impact of vocabulary instruction in adventure and mystery words on students' knowledge and use of these words as well as on students' knowledge about the themes and the quality of their written products, is weakened by two findings. One, experimental students generated a similar number of on-topic units of knowledge on pretest for both adventure and mystery. While this does not rule out knowledge as a mitigating factor (as this was a relatively blunt measure), it does weaken it. Second, more students reported enjoying learning adventure words than mystery words, although the difference was not large.

Another factor that may have contributed to the differential effects for mystery and adventure writing may reside with the particular words selected for instruction. It is possible that the adventure words were not as critical or suitable for

adventure writing as the mystery words were for mystery writing. Subsequently, students might have encountered difficulties with learning and adapting the particular words when talking and writing about the theme.

A third factor that may have contributed to the observed differential effects involves possible differences in materials. For example, it is possible that the materials developed for the theme of adventure, such as the stories and worksheets, were less effective or viewed by students as less interesting or complicated and confusing when compared to the materials developed for the theme of mystery. While I attempted to develop parallel sets of materials, they may have differed in subtle, but important ways.

The results from this study can also be considered in relation to: (a) what is known about teaching writing; (b) what prior theory has revealed about the role of vocabulary in writing, and (c) what an effective vocabulary instruction involves. Although writing development is a complex and somewhat uncertain process, there is considerable evidence to suggest that growth in writing is shaped by changes in knowledge, skill, will, and self-regulation (Graham, 2006). Specifically, one of the most powerful ways to improve writing among school-age students is through teaching of planning and revising strategies. In the most recent meta-analysis on writing instruction for grades 4 to 12 (Graham & Perrin, 2007) the average effect sizes across 20 comparison groups revealed a large average effect size of 1.15 for planning and revising strategies on writing quality. Teaching other strategies and skills such as summarization and sentence construction were also found to effectively enhance (average weighted effect sizes were 0.82 and 0.50) the quality of adolescent

students' writing (Graham & Perrin, 2007). Similarly, large effect sizes were also reported for the Self-Regulated Strategy Development model (Harris & Graham, 1996), which appeared to be a particularly potent approach for teaching writing strategies (average weighted effect size of 1.14) among adolescent writers.

Research on writing and motivation has been mostly limited to the study of attitudes toward writing, self-efficacy, interest, writing apprehension, and attributions for writing success (Pajares, 2003). The limited research that does exist support the assumptions that there are motivational differences between more and less skilled writers (Graham et al., 1993), that interest in writing develops over time (Lipstein & Renninger, in press) and predicts the writing performance of older students (Albin et al., 1996), that individual differences in motivation predict writing performance (Knudson, 1995), and that writing apprehension typically correlates negatively with measures of writing performance (Madigan, Linton, & Johnston, 1996). Although there are a number of recommendations aimed to increase students' motivation in order to improve writing performance, motivational features are included in instructional packages and their effects are rarely separated from other aspects of the instruction. In seven occasions, however, developing instructional arrangements where adolescents collaborate to plan, draft, revise, and edit their compositions was found to have a strong impact (average weighted effect size of 0.75) on the quality of what students wrote (Graham & Perrin, 2007) when compared to the effects of the same instructional package without the motivational features.

Moreover, even though handwriting and spelling have not been directly linked to improvements in writing quality several studies investigating the effects of

alternative modes of composing revealed that word processing has a moderate effect on the writing of students in grades 4-12 (Graham & Perrin, 2007). Finally, increasing students' knowledge about writing genres, such as providing instruction on the basic elements of a good story or persuasive essay by directly teaching story parts and their interrelations was also found to result in significant and meaningful improvements (average weighted effect sizes ranged from 0.75 to 1.27) in the writing performance of adolescent students' (Graham & Perrin, 2007).

What is however a fact is that even though the number and quality of writing intervention studies have advanced over the last two decades and much is known about writing and effective writing instruction, additional research is still needed to draw even a tentative conclusion about the impact of some promising but neglected instructional procedures such as vocabulary instruction. Specifically, Duin and Graves (1987) investigated the role of teaching theme-related words on students' written products about the theme by adapting Beck and colleagues' approach (Beck et al., 1980; Beck et al., 1982; McKeown et al., 1983; McKeown et al., 1985). This approach, known as "Beckized," is based on a direct and very structured instructional model targeting 8-10 new words on a 5-day cycle for a total of 2 ½ hours of instruction weekly. Emphasis is also placed on speed of access to meaning, ample opportunities for review, multiple and varied exposures to target words, and students' motivation. In the most recent meta-analysis on writing (Graham & Perrin, 2007), this vocabulary instruction approach was found to yield large effect sizes (1.21) for writing quality.

My study was designed to replicate and extend previous research on the positive effects of vocabulary knowledge (Duin & Graves, 1987) and knowledge of genre writing (Bryson & Scardamalia, 1996; Fitzgerald & Teasley, 1986; Gordon & Braun, 1986; Scardamalia & Paris, 1985) on students' writing quality, and to explore any possible interrelation between vocabulary and genre-writing knowledge. Specifically, I decided to move one step further from instruction on content knowledge (Duin & Graves, 1987) to implicit information about genre writing.

Specifically, I provided students with general information about two writing genres (adventure writing and mystery writing) by defining the two themes (adventure and mystery) and identifying the parts of a good adventure and mystery story. Then I coupled this information with additional knowledge of the genre by teaching theme-related words, which are typically used in genre writing, and the concepts underlying these words. Therefore, I approached vocabulary instruction in theme-related words more as a means to increase knowledge about a theme and knowledge about genre writing through a deep understanding of the concepts underlying the words taught rather than an approach to enhance content knowledge and rote memorization of word meanings. This was also one of the main reasons why I devoted a relatively large amount of time to teaching each of the two sets of theme-related words (approximately four hours to teach 10 words). Not only did I aim to increase students' deep knowledge and understanding of the instructional words as well as the concepts underlying these words, in accordance with the approach by Beck and colleagues (Beck at al., 1980; Beck et al., 1982; McKeown et al., 1983;

McKeown et al., 1985), but I also targeted young, average and below average writers with relatively low vocabulary and writing performance.

The statistically significant and meaningful results obtained from this study regarding students' knowledge of the words taught, use of the words taught in their writing, as well as quality of their writing at least for the theme of mystery are promising. Additional research is needed, however, to investigate the interrelation between genre and vocabulary knowledge and genre writing.

Limitations

This study has several limitations. First, due to limited resources, the sample size was relatively small. Second, the intervention implemented as part of this study was short (two weeks for each theme); therefore it is possible that more practice using the words taught in oral and written sentences/stories may have been needed before students would be able to use these words in their writing. Third, participants in this study were not provided any type of writing instruction. Because these students were low to average writers, providing only vocabulary instruction may have been insufficient for improving the quality of their story writing. Fourth, participants in this study were younger compared to the participants in previous studies by Duin & Graves (1986, 1987). It is, therefore, possible that students in this study were not yet able to use what they were learning via vocabulary instruction as well as the older students in the prior studies.

Fifth, the presence of behavior issues in one of the two participating schools (School 1) that were aggravated by the relatively large group sizes and location issues may have weakened the impact of instruction. Sixth, problems with fidelity of

treatment may have weakened the impact of instruction even though a preliminary

analysis of students' scores at the time of post-testing showed small differences in

students' performance when they were instructed by Instructor 3 versus when they

were instructed by Instructor 1 (see Table 14, Chapter 3). Seventh, there was no

maintenance component in this study; therefore the durability of gains made during

the intervention period is unknown. Eighth, this was an exploratory study, and all

materials and assessments were developed by the researcher. Therefore, it is possible

that instructional materials need to be revised to better correspond to students' interest

and readability levels and to the wide range of the topics included in each of the

themes examined. Furthermore, the measure used to assess students' knowledge may

also need to be revised to test whether it is sensitive enough or adequate in capturing

differences in students' knowledge from pre- to posttest.

Recommendations

In the section below, I provide suggestions for future research. I also offer

recommendations for transferring the effects of teaching theme-related words to

students' writing performance.

1.   Since the study was exploratory and all assessments and materials were

developed by the researcher, the results of this study need to be replicated

in further studies with different writing genres (i.e., expository writing) and

participants from a wider range of grades and skill levels. Specifically,

additional study is necessary to determine whether the present findings

regarding vocabulary instruction and knowledge of theme-related words,

use of the theme-related words in students' story writing, and quality of

students' story writing are replicated at different grade levels, for different genres of writing (i.e., expository writing), as well as for different themes and different sets of theme-related words.

2. The study should be replicated using a larger sample size.

3. Future research needs to determine the impact of increasing instructional time on word learning, word use, theme-knowledge, and writing quality. For example, struggling writers might need more time to acquire new words (Boucher, 1986), ample opportunities to use these new words frequently (Boucher, 1986), and explicit vocabulary instruction that would not require students to use context clues to derive the meaning of important unknown words encountered in written text (Stahl & Erickson, 1986). Additional practice time might also be required for students, especially weaker writers and students from low-income families like the ones in School 1, to internalize their vocabulary knowledge and be able to transfer this knowledge to writing by including more instructional words in their writing and subsequently increasing the quality of their writing. As Anglin (1993) noted, there are differences in the vocabulary acquisition rate between students in the lowest and students in the highest quartile, whereas presumably these differences are even more obvious in higher levels of knowledge such as application and generalization of already acquired knowledge, a task that was required by students in this study.

4. It is also possible that a larger corpus of theme-related words is needed for students' to enhance their knowledge about a theme and to reach the

transfer level of vocabulary knowledge to writing that was the purpose of
this study.

5.   To facilitate the transfer of vocabulary instruction effects to students'
writing, future investigations may also need to provide a combination of
vocabulary instruction in theme-related words and writing instruction about
the specific genre. It is possible that the benefits of vocabulary instruction
on struggling and average writers' quality of story writing will be more
pronounced when students are also provided direct instruction on how to
compose a written story. Since this study involved only incidental learning
of story writing, more direct methods for teaching young/novice and
struggling writers how to write as well as more opportunities for these
students to use the instructional words in their writing may be required to
attain transfer effects.

6.   Future investigations need to be conducted to examine any differences in
the quality of students' story writing and use of instructional words in their
writing when students are prompted to use the words they learned. It is
possible that students use more instructional words in their writing and thus
improve the quality of their writing when they are explicitly asked to use
these words in their writing (Duin & Graves, 1986; 1987).

7.   Other instructional changes that may result in more positive effects in
students' vocabulary and writing performance include: (a) providing
opportunities for students to gain a deeper knowledge of the words taught
by encouraging the use of these words in other everyday activities or

contexts; (b) including timed matching activities to facilitate students'

automatic retrieval of the new word meanings (Duin & Graves, 1987); (c)

revising the relevant words included in the Word Family activity to include

a better set of words that more closely relate to the target words (maybe

synonyms) so the connection between the word in the blue card and the

words in the yellow cards are less confusing and more straight forward; (d)

reducing the number of words taught during a week (3 to 4 words) in order

to provide more frequent revision activities; (e) including a goal setting and

self-assessment component in the instruction where students set a goal for

how many words they can include in their stories and chart their progress

weekly, and (f) providing instruction to smaller groups of students to avoid

behavior issues and provide more opportunities for each student to

participate during instruction.

8.   Future studies need to be conducted to determine the effects of vocabulary

instruction in theme-related words using a different control condition.

Students participating in this control condition could be provided treatment

that would not influence vocabulary learning, knowledge about the themes,

or writing (for example math instruction), therefore providing a more

stringent control condition.

9.   Since I was not able to identify any statistical differences in students'

knowledge about both themes as a result of vocabulary instruction,

additional research is needed to investigate the relationship between

vocabulary instruction in theme-related words and knowledge about the

theme. The measure used to assess students' knowledge about the themes may not be sensitive enough to capture differences in students' knowledge. Thus, researchers may need to develop different measures to examine this relationship. Furthermore, since knowledge about adventures and mysteries was not directly taught and students had to acquire this knowledge incidentally through listening to adventure and mystery stories containing the target words, it is possible that these students were not yet capable or ineffective in acquiring such information incidentally and thus a more direct approach is required for students to acquire and demonstrate gains in their knowledge about a theme.

10. This study was conducted outside the regular classroom in a group instructional arrangement of three to five students. Future research should be replicated within the regular classroom (as was done by Duin and Graves, 1987) to investigate the effects of environment and instructional group size on the acquisition of vocabulary words, their use in story writing, as well as on students' knowledge about the themes, and quality of their story writing.

11. Future studies should also include a maintenance component to assess the durability of students' gains in their vocabulary knowledge and vocabulary use as well as in students' writing performance following instruction.

Appendix A

Teachers' Questionnaire

(items with an asterisk indicate questions added to the

initial survey used by Agate, 2005)

General Information about the Questionnaire

The 61-item questionnaire consists of three sections. In the first section (total of 6 items), teachers are asked to provide information about themselves (highest level of education, years of teaching) and the students in their classrooms (number of students in the class, students' socioeconomic status and racial composition). Section 2 (total of 9 items) consists of the new items added in the questionnaire in order to assess the vocabulary instructional program (if any) used by teachers in the classroom. These items are: (a) Please circle how important you think vocabulary is in writing; (b) During an average week, how many minutes of your instructional time involve students learning and practicing new words; (c) Do you use a commercial program for teaching new words, and if yes what program(s); (d) Circle how often your students use new words in their writing; (e) Check which of the following activities describe your vocabulary instructional program (i.e., provide definitions, provide synonyms/antonyms, pre-reading activities, matching activities, sentence completion, use new words in context, paraphrasing sentences that contain new words, use context to draw meaning, writing); (f) Please circle your evaluation of the vocabulary level of all your students; (g) Please indicate what methods/types of tests you use to assess vocabulary knowledge; (h) Circle how often you assess the vocabulary knowledge of your students, and (i) If you have any additional information about your vocabulary program that you would like to share with us, please do so here (open-ended question).

The third section of the survey (total of 46) contains 43 items that assess how

often teachers implement or how often students participate in a particular activity. Specifically, teachers indicate how often they use (a) instructional supports or methods for teaching writing skills and strategies; (b) strategies to extend writing beyond the classroom, and (c) various practices commonly included in a process approach to writing instruction. Teachers are also asked to report their writing assessment techniques and the frequency with which students use invented spellings, use writing to support reading or reading to support writing, as well as how often students help their classmates with their writing. Similarly to Section 2, teachers are also provided the opportunity to share any additional information they would like regarding their writing instruction in an open-ended question. Two forms of Likert-type scales are used in sections 2 and 3 in order to assess teachers' responses. The first is a 7-point scale with responses at each point, ranging from never (1) to several times a day (7), whereas the second is a 7-point scale with only three points labeled with responses [never (1), half the time (4), and always (7)].

Instrument Reliability and Validity

The original survey's (Agate, 2005) content validity was established by examining the types of practices assessed in prior studies of writing practices as well as by reviewing current books on writing practices. From this analysis, a list of writing practices was identified and questions were developed for each one. The coefficient alphas reported for the subscales of the original measure (Agate, 2005) are: process writing activities = .87 (items 1-11); instructional methods or support = .87 (items 12-29); assessment techniques = .75 (items 30-33); extending writing to the home = .74 (items 34-36); and extending writing to different curriculum = .83

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(items 39-41). The survey was also field-tested in order to assess its thoroughness, the

time needed to complete, as well as the clarity of each of its questions (Agate, 2005).

Please complete the following survey about your classroom writing and vocabulary

practices. It should take you about 15 minutes to complete it.

Section I

1. Please circle your highest educational level:

   Bachelor's   Bachelor's +   Master's   Master's +   Doctorate

2. How many years have you taught? _____

3. How many children are in your classroom? _____

4. How many children in your classroom receive a free or reduced lunch? _____

I don't know _____

5. How many of the children in your classroom are: _____Hispanic _____ White

                                    _____ Black   _____ Asian   _____ Other

6. How many of the children in your classroom receive special education services? __

Section 2

* 1. Please circle how important you think vocabulary is in writing.

Very important   Somewhat important   Not important   I don't know

* 2. During an average week, how many minutes of your instructional time involve

students learning and practicing new vocabulary words?

        _____% (Please give a figure from 0% to 100%)

* 3. Do you use a commercial program for teaching new vocabulary words? Yes No

What program(s)?

_____

_____

_____

* 4. Circle how often your students use new vocabulary words in their writing.

|_____|_____|_____|_____|_____|_____|_____|

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

           Times a Year   Times a Month   Times a Week   Times a Day

* 5. Check which of the following activities describe your vocabulary instructional

program (check all that applies).

_____ Provide definitions   _____ Provide synonyms/antonyms

_____ Pre-reading activities   _____ Matching Activities _____ Sentence

Completion _____ Use new words in context   _____ Paraphrasing sentences

that contain new words _____ Use context to draw meaning   _____ Writing

_____ Other (Please specify)

_____

_____

_____

* 6. Please circle your evaluation of the vocabulary level of all your students

Exceptional   Very good   Adequate   Poor   Inadequate

* 7. Please indicate what methods/types of tests you use to assess vocabulary

knowledge.

_____

_____

_____

* 8. Circle how often you assess the vocabulary knowledge of your students.

```
|          |          |          |          |          |          |          |
```
Never   Several   Monthly   Several   Weekly   Several   Daily   Several

      Times a Year   Times a Month   Times a Week   Times a Day

----

* If you have any additional information about your vocabulary program that you

would like to share with us, please do so here.

Section 3

1. Circle how often you conference with students about their writing.

```
|          |          |          |          |          |          |          |
```
Never   Several   Monthly   Several   Weekly   Several   Daily   Several

      Times a Year   Times a Month   Times a Week   Times a Day

----

2. Circle how often students conference with their peers about their writing.

```
|          |          |          |          |          |          |          |
```
Never   Several   Monthly   Several   Weekly   Several   Daily   Several

      Times a Year   Times a Month   Times a Week   Times a Day

----

3. Circle how often students select their own writing topics.

```
o          1          2          3          4          5          6          7
```
Never   Half   Always
                        the Time

----

4. Circle how often your students engage in "planning" before writing.

Never	Several	Monthly	Several	Weekly	Several	Daily	Several
	Times a Year		Times a Month		Times a Week		Times a Day

----

5. Circle how often your students "revise" their writing products.

Never	Several	Monthly	Several	Weekly	Several	Daily	Several
	Times a Year		Times a Month		Times a Week		Times a Day

----

6. Circle how often students share their writing with their peers.

Never	Several	Monthly	Several	Weekly	Several	Daily	Several
	Times a Year		Times a Month		Times a Week		Times a Day

----

7. Circle how often your students "publish" their writing. (Publish means to print or

write it so that it can be shared with others.)

Never	Several	Monthly	Several	Weekly	Several	Daily	Several
	Times a Year		Times a Month		Times a Week		Times a Day

----

8. Circle how often your students help their classmates with their writing.

Never	Several	Monthly	Several	Weekly	Several	Daily	Several
	Times a Year		Times a Month		Times a Week		Times a Day

----

9. Circle how often students are allowed to complete writing assignments at their

own pace.

| o | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Never   Half   Always

The Time

----

10. Circle how often you encourage students to use "invented spellings" at any point

during the writing process.

| o | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Never   Half   Always

The Time

----

11. Circle how often you read your own writing to your students.

| | | | | | | | | | | | | | | |

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

Times a Year   Times a Month   Times a Week   Times a Day

----

12. Circle how often you teach sentence construction skills.

| | | | | | | | | | | | | | | |

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

Times a Year   Times a Month   Times a Week   Times a Day

----
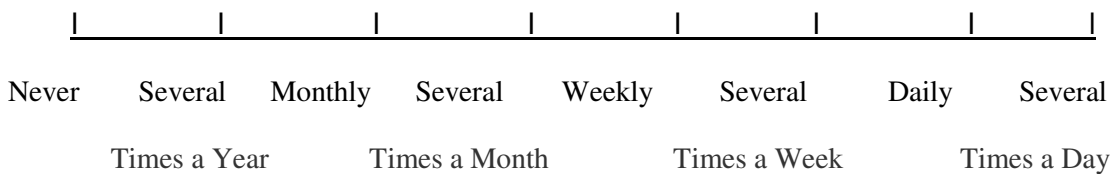
13. Circle how often you teach students about ways of organizing text or how texts are organized.

|_____|_____|_____|_____|_____|_____|_____|_____|

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

      Times a Year   Times a Month   Times a Week   Times a Day

----

14. Circle how often you teach students strategies for planning.

|_____|_____|_____|_____|_____|_____|_____|_____|

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

      Times a Year   Times a Month   Times a Week   Times a Day

----

15. Circle how often you teach students strategies for revising.

|_____|_____|_____|_____|_____|_____|_____|_____|

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

      Times a Year   Times a Month   Times a Week   Times a Day

----

16. Circle how often you teach students handwriting skills.

|_____|_____|_____|_____|_____|_____|_____|_____|

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

      Times a Year   Times a Month   Times a Week   Times a Day

----

17. Circle how often you teach spelling skills.

|_____|_____|_____|_____|_____|_____|_____|_____|

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

      Times a Year   Times a Month   Times a Week   Times a Day

----

18. Circle how often you teach grammar skills.

| | | | | | | | |

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

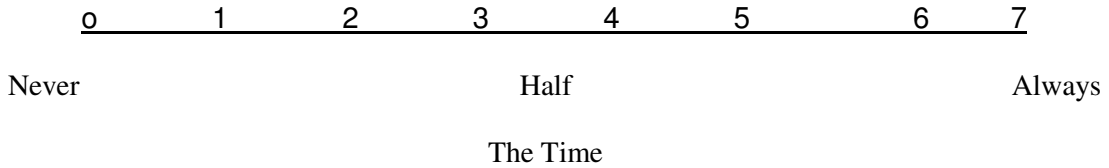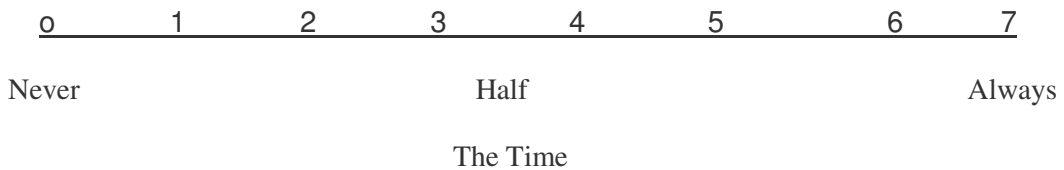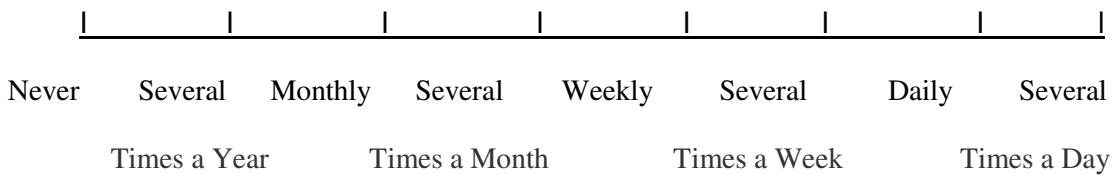   Times a Year   Times a Month   Times a Week   Times a Day

----

19. Circle how often you teach punctuation skills.

| | | | | | | | |

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

       Times a Year   Times a Month   Times a Week   Times a Day

----

20. Circle how often you teach capitalization skills.

| | | | | | | | |

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

       Times a Year   Times a Month   Times a Week   Times a Day

----

21. Circle how often you provide mini-lessons on writing skills or processes students

need to know at this moment---skills, vocabulary, concepts, strategies, or other things.

| | | | | | | | |

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

       Times a Year   Times a Month   Times a Week   Times a Day

----

22. Circle how often you overtly model writing strategies.

```
|_____|_____|_____|_____|_____|_____|_____|_____|
Never    Several   Monthly   Several   Weekly    Several   Daily    Several
         Times a Year        Times a Month       Times a Week       Times a Day
```

----

23. Circle how often you model the enjoyment or love of writing for students.

```
|_____|_____|_____|_____|_____|_____|_____|_____|
Never    Several   Monthly   Several   Weekly    Several   Daily    Several
         Times a Year        Times a Month       Times a Week       Times a Day
```

----

24. Circle how often you re-teach writing skills or strategies that you previously

taught.

```
|_____|_____|_____|_____|_____|_____|_____|_____|
Never    Several   Monthly   Several   Weekly    Several   Daily    Several
         Times a Year        Times a Month       Times a Week       Times a Day
```

----

25. Circle how often you assign writing homework to students in your class.

```
|_____|_____|_____|_____|_____|_____|_____|_____|
Never    Several   Monthly   Several   Weekly    Several   Daily    Several
         Times a Year        Times a Month       Times a Week       Times a Day
```

----

26. Circle how often your students work at writing centers.

```
|_____|_____|_____|_____|_____|_____|_____|_____|
Never    Several   Monthly   Several   Weekly    Several   Daily    Several
         Times a Year        Times a Month       Times a Week       Times a Day
```

----

27. Circle how often your writing lessons have multiple instructional goals.

| o | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Never   Half   Always

The Time

----
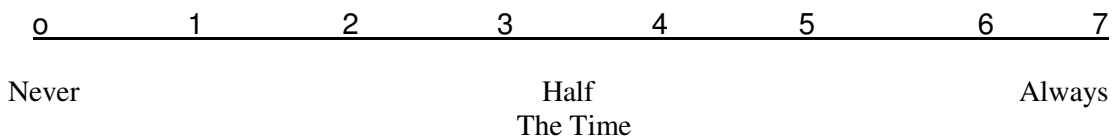
28. Circle how often you use a writing prompt (e.g., story starter, picture, physical

object, etc.) to encourage student writing.

Never	Several	Monthly	Several	Weekly	Several	Daily	Several
	Times a Year		Times a Month		Times a Week		Times a Day

----

29. Circle how often your students use a graphic organizer (e.g., story map) when

writing.

| o | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Never   Half   Always

The Time

----

30. Circle how often you monitor the writing progress of your students in order to

make decisions about writing instruction.

Never	Several	Monthly	Several	Weekly	Several	Daily	Several
	Times a Year		Times a Month		Times a Week		Times a Day

----
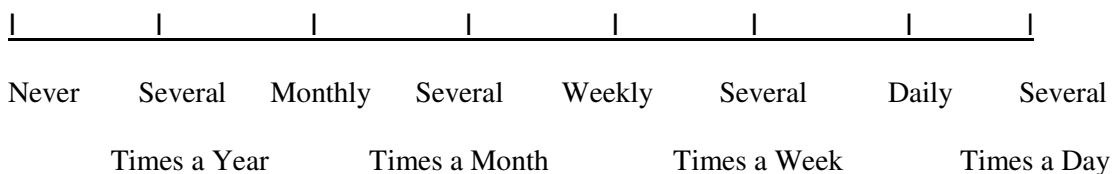
31. Circle how often you encourage students to monitor their own writing progress.

```
|        |          |          |          |          |          |          |        |
```
Never   Several   Monthly   Several   Weekly   Several   Daily   Several

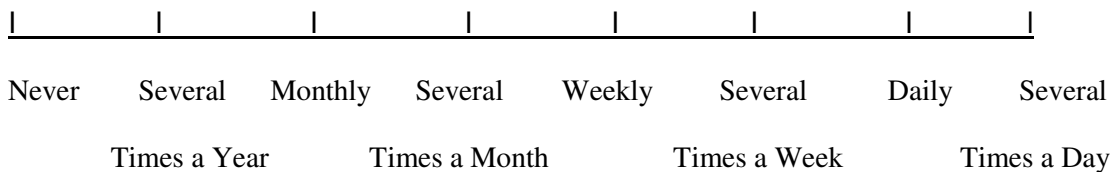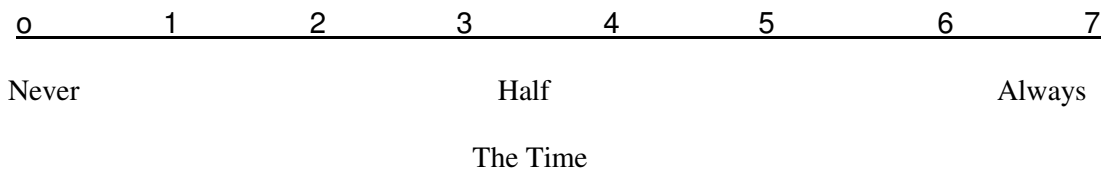   Times a Year   Times a Month   Times a Week   Times a Day

----

32. Circle how often students use rubrics to evaluate their writing.

```
|        |          |          |          |          |          |          |        |
```
Never   Several   Monthly   Several   Weekly   Several   Daily   Several

         Times a Year   Times a Month   Times a Week   Times a Day

----
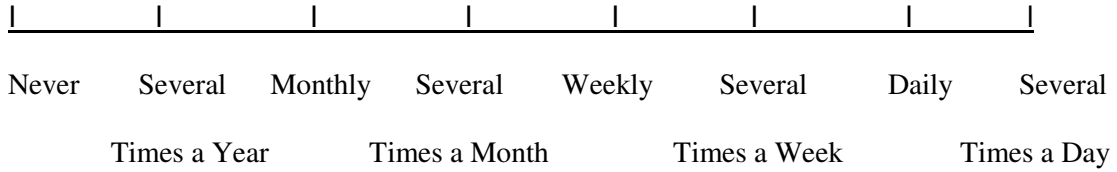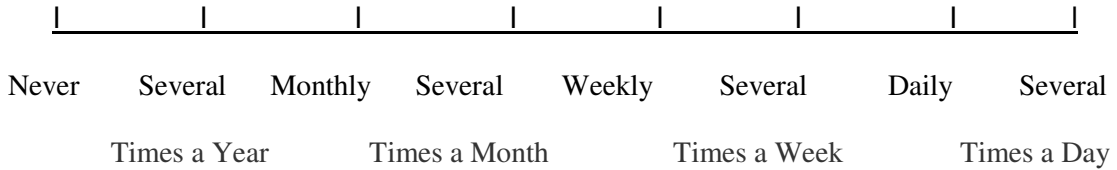
33. Circle how often students in your classroom use writing portfolios (add material

to a portfolio, look at material already in it, and so forth).

```
|        |          |          |          |          |          |          |        |
```
Never   Several   Monthly   Several   Weekly   Several   Daily   Several
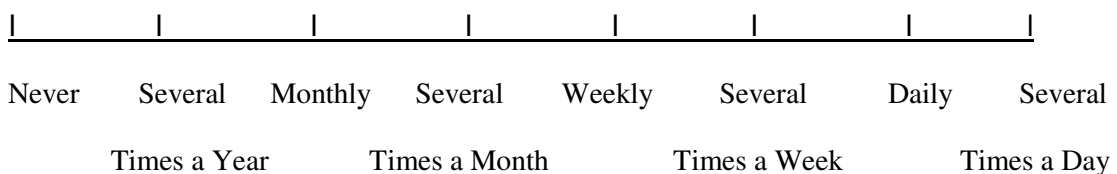
         Times a Year   Times a Month   Times a Week   Times a Day

----
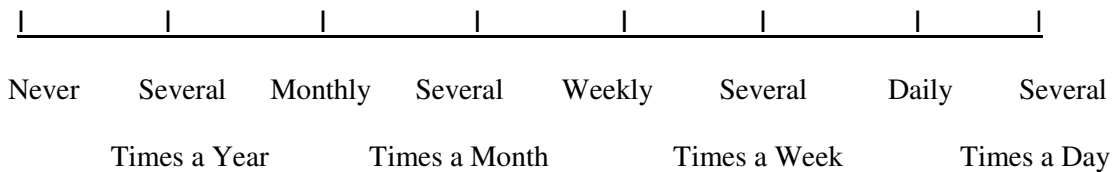
34. Circle how often you ask students to write at home with parental help.

```
|        |          |          |          |          |          |          |        |
```
Never   Several   Monthly   Several   Weekly   Several   Daily   Several

         Times a Year   Times a Month   Times a Week   Times a Day

----
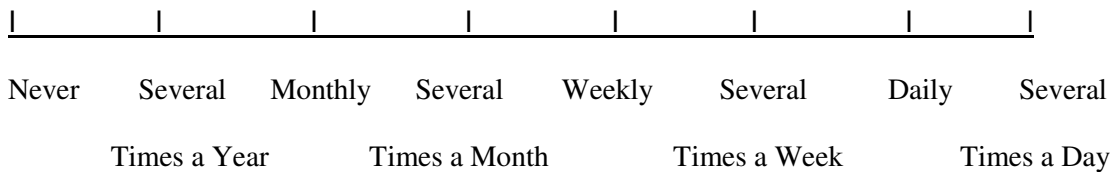
35. Circle how often you ask parents to listen to something their child wrote at

school.

```
|        |          |          |          |          |          |          |        |
```
Never   Several   Monthly   Several   Weekly   Several   Daily   Several

         Times a Year   Times a Month   Times a Week   Times a Day

----

36. Circle how often you communicate with parents about their child's writing

progress.

| | | | | | | |
Never   Several   Monthly   Several   Weekly   Several   Daily   Several
      Times a Year   Times a Month   Times a Week   Times a Day

----

37. Circle how often you allow one or more students in your classroom to write by

dictating their compositions to someone else.

| | | | | | | |
Never   Several   Monthly   Several   Weekly   Several   Daily   Several
      Times a Year   Times a Month   Times a Week   Times a Day

----

38. Circle how often you allow one or more students in your classroom to use

computers during the writing period.

| | | | | | | |
Never   Several   Monthly   Several   Weekly   Several   Daily   Several
      Times a Year   Times a Month   Times a Week   Times a Day

----

39. Circle how often students use writing to support reading (e.g., write about

something they read).

| | | | | | | |
Never   Several   Monthly   Several   Weekly   Several   Daily   Several
      Times a Year   Times a Month   Times a Week   Times a Day

----

40. Circle how often students use reading to support writing (e.g., read to inform their

writing).

|_____|_____|_____|_____|_____|_____|_____|

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

        Times a Year   Times a Month   Times a Week   Times a Day

----

41. Circle how often your students use writing in other content areas such as social

studies, science, and math.

|_____|_____|_____|_____|_____|_____|_____|

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

        Times a Year   Times a Month   Times a Week   Times a Day

----

42. During an average week, how many minutes do your children spend writing?

(This does not include instruction. It does include time spent planning, drafting,

revising, and editing text that is paragraph length or longer). _____

43. During an average week, how many minutes do you spend teaching each of the

following?

     _____ Spelling   _____ Handwriting   _____ Revising Strategies

     _____ Grammar and Usage   _____Planning Strategies ____ * Vocabulary

44. Pease write a brief description of your writing program below.

_____

_____

_____

_____

_____

_____

45. Check which of the following best describes your approach to writing instruction:

        _____ traditional skills approach combined with process writing

        _____ process writing approach

        _____ traditional skills approach

If you have any additional information about your writing program that you would like to share with us, please do so here.

Appendix B

Teachers' Responses to the Questionnaire

Teachers' Responses to the Questionnaire

	School 1		School 2	
	Teacher 1	Teacher 2	Teacher 3	Teacher 4
Section 1				
1. Educational Level	Master's	Master's	Master's+	Master's+
2. Years of Teaching	25	20	27	17
3. # of Students	28	28	30	30
4. # of students receiving free/reduced lunch	28	28	0	0
5. # of Hispanic students	7	4	0	0
# of Black students	20	24	0	0
# of White students	0	0	30	30
6. # of students receiving special education	5	2	0	0
Section 2				
1. How important is Vocabulary in Writing	Very important	Very important	Very important	Very important
2. Percentage of instructional time students learn and practice new words	100%	80%	NR*	NR*
3. Use of a commercial program to teach vocabulary	Yes	Yes	Yes	Yes
4. Students use new vocabulary				

words in their writing	Weekly	Weekly	NR*	NR*

5. Activities that describe

vocabulary instructional program

Provide definitions	1	1	1	1
Provide synonyms /antonyms	1	1	NR*	NR*
Pre-reading activities	1	1	1	1
Matching Activities	NR*	1	1	1
Sentence Completion	1	1	NR*	NR*
Use new words in context	NR	1	1	1
Paraphrasing sentences that contain new words	1	1	NR*	NR*
Use context to draw meaning	1	NR*	1	1
Writing	NR*	1	NR*	NR*
Other (Please specify)	NR*	Proof reading to correct spelling works	NR*	NR*

6. Evaluation of students

vocabulary level	Exceptional	Adequate	Adequate	Adequate

8. Assess students

vocabulary knowledge	Daily	Weekly	N/A	N/A

Section 3

1. Teacher conference with students about their writing	Daily	Daily	Several times a month	Several times a month
2. Students conference with peers about their writing	Daily	Daily	Several times a month	Several times a month
3. Students select their own writing topic**	3.5	3.5	3.5	3.5
4. Students engage in planning before writing	Daily	Daily	Several times a month	Several times a month
5. Students revise their writing products	Daily	Daily	Several times a month	Several times a month
6. Students share their writing with peers	Daily	Daily	Monthly	Monthly
7. Students publish their writing	Daily	Several times a month	Monthly	Monthly
8. Students help peers with writing	Daily	Daily	Monthly	Monthly
9. Students complete assignments at own pace**	7	3.5	3.5	3.5

10. Teacher encourages use of

invented spelling**   7   2   3   2

11. Teacher reads own writing

to students   Daily   Several times   Monthly   Monthly

                                           a day

12. Teacher teaches sentence

construction skills Daily   Daily   Monthly   Monthly/several

                                                                          times a month

13. Teacher teaches ways

to organize text   Daily   Several times   Several times   Several times

                                           a week   a week   a week

14. Teacher teaches planning

strategies   Daily   Several times   Several times   Several times

                                           a week   a week   a week

15. Teacher teaches revising

strategies   Daily   Daily   Weekly   Weekly

16. Teacher teaches handwriting

skills   Daily   Several times   Several times   Several times

                                           a week   a week   a week/daily

17. Teacher teaches spelling

skills	Daily	Several times a week	Daily	Daily-several times a day
18. Teacher teaches grammar				
skills	Daily	Several times a week	Daily	Daily-several times a day
19. Teacher teaches punctuation				
skills	Daily	Several times a day	Several times a week	Several times a week
20. Teacher teaches capitalization				
skills	Daily	Daily	Several times a week	Several times a week
21. Teacher provides mini-lessons on				
writing skills	Daily	Several times a week	Weekly	Weekly
22. Teacher models writing				
strategies	Daily	Daily	Weekly	Weekly
23. Teacher models enjoyment				
of writing	Daily	Daily	Weekly	Weekly
24. Teacher re-teaches writing				
skills	Daily	Several times a week	Several times a month	Several times a month
25. Teacher assigns writing				

homework	Daily	Several times a month	Weekly	Several times a month
26. Students work at writing				
centers	Daily	Never	Never	Never
27. Lessons have multiple instructional				
goals**	7	7	5	5
28. Teacher uses writing				
prompts	Several times a day	Several times a week	Several times a month	Several times a month
29. Students use graphic				
organizers**	7	3.5	6	6
30. Teacher monitors their students' writing				
progress	Daily	Several times a week	Several times a week	Several times a week-daily
31. Teacher encourages students to				
monitor their writing				
progress	Daily	Several times a day	Several times a week	Several times a week
32. Students use rubrics to evaluate				
their writing	Daily	Weekly	Weekly	Weekly
33. Students use writing				
portfolio	Daily	Several times a month	Weekly	Weekly

34. Teacher asks students to write at home with parental help	Daily	Several times a month	Several times a year	Several times a year
35. Teacher asks parents to listen to what their children wrote at school	Daily	Several times	Monthly a month	Monthly
36. Teacher communicates with parents about their children writing progress	Daily	Several times a year	Several times a year	Several times a year
37. Teacher allows students to write by dictating	Daily	Never	Never	Never
38. Teacher allows students to use computers during writing period	Daily	NR*	Never	Never
39. Students use writing to support reading	Daily	Weekly	Weekly	Weekly
40. Students use reading to support writing	Daily	Several times a week	Weekly	Weekly

41. Students use writing in other

content areas	Daily	Several times a week	Several times a day	Several times a day
42. Minutes per week students write	NR*	40	120	120
43. Minutes per week teacher spends teaching:				
Spelling	30	20	75	75
Handwriting	30	20	100	20-60
Revising strategies	60	30	45	45
Grammar and usage	40	15	120	120
Planning strategies	30	15	45	45
Vocabulary	35	15	60-120	60-120
45. Approach to writing instruction	Traditional with process	Process	Traditional/ Process	Traditional/ Process

Teachers' Responses to Open-ended Questions:

Section 2 – Question 3:

What commercials programs do you use for teaching new vocabulary words?

Teacher 1: Lesson Planning Support

   Houghton Miffin Reading Series

Teacher 2: Picture cards

   Vocabulary Support Books

   Audio CD

   Assessment – reading words / testing drill

Teacher 3: New this year – McMillan McGraw Hill

Teacher 4: McMillan McGraw Hill

Section 2 - Question 7:

Please indicate what methods/types of tests you use to assess vocabulary knowledge.

Teacher 2: Using words in sentences

   Context clues

   Selecting the correct word meaning

Section 3 – Question 44:

Please write a brief description of your writing program below.

Teacher 1: My students write every a.m. for Do Now Activity. Assessing with a

writing rubric. Descriptive writing, paragraph writing.

Teacher 2: We also do guided writing process – narratives, descriptive, persuasive,

and expository writing; sometimes teacher's directed instructions, small and whole

group writing experiences. We also respond to literature, writing different forms of

writing, journal, and interactive writing. Creative writing is encouraged with drawing.

Remember, school is just 1 month old. We have just finished the narrative process –

title, topic sentence, supporting details, and conclusion. Writing to share the favorite

part of a book or story.

Teacher 3: Writing is done everyday. However, story writing is done on an average of

two times per week. The methods used include: graphic organizers, modeling,

Writer's Workshop, editing, revising, and sharing of stories. We do both, creative and

paragraph writing. The children write poetry, postcards, invitations, letters, brochures,

nonsense stories, and true/life descriptions.

Teacher 4: I use graphic organizers, modeling, effective strategies, Writer's

Workshop with revising, editing, publishing, and writing. This is done daily.

If you have any additional information about your writing program that you would

like to share with us, please do so here.

Teacher 2: My word study includes:

1) Phonemic awareness

2) Word interactive activities

3) Phonics

4) Spelling

5) Vocabulary

6) Word wall interactions

7) Review

* NR stands for no response

** In Sections 2 and 3 these items had the following scale:

| o | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Never   Half   Always

All remaining items had a different scale:

Never   Several   Monthly   Several   Weekly   Several   Daily   Several

     Times a Year   Times a Month   Times a Week   Times a Day
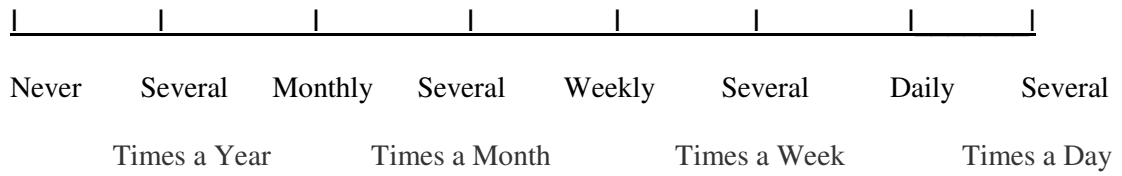
Appendix C

Information on the Educator's Word Frequency Guide

The Educator's Word Frequency Guide (WFG, 1995) corpus exceeds

17,000,000 tokens (total number of words) and 154,000 types (number of different

words), constituting the single largest, systematic count ever made. It was created

from 60,527 samples of text obtained from 6,333 textbooks, works of literature, and

popular works of fiction and nonfiction used throughout the United States for students

in kindergarten through college. It is approximately three times the size of American

Heritage Intermediate Corpus (AHI) that was used to develop the *American Heritage*

Word Frequency Book (Carroll, Davies, & Richman, 1971) and contains texts from

more content areas and with greater diversity within content areas than AHI and other

previous corpora. The content areas represented in WFG are: (a) language arts; (b)

social sciences; (c) science and math; (d) fine arts; (e) health/safety; (f) home

economics; (g) business; (h) trade/technical, and (i) literature and popular titles.

The statistical indices reported for this corpus are similar to the ones used in

the AHI corpus. *F* is the raw frequency of a word based on the total corpus. *D* is the

index of word dispersion and reflects how widely a word is used in different subject

areas (i.e., can take values between 0 – word appears in only one content area - and 1

– word appears across all categories). *U* is the frequency of the word per million

words weighted by D (in a corpus of infinite size). *SFI* is a logarithmic transformation

of U.

In the WFG corpus, words' SFI values ranged between 3.5 and 88.3,

corresponding to a low frequency per million words of approximately .0002 and a

high frequency per million of 67,500. Table A1 presents distributions of SFI values in

the total WFG corpus and in selected grade-level corpora. In the fourth grade corpus,

for example, 60 percent of the types are at or above an SFI value of 31.6, whereas 5 percent of the types are at or above an SFI value of 54.0. Table A2 provides examples of words in the corpus having various SFI values. For example, in the WFG corpus, words with SFI values of 35, 45, and 55, are expected to occur 0.30, 3.00, and 30.00 times per million words, respectively. Finally, Table A3 shows word frequencies within selected SFI ranges, along with the percent of the words falling into these frequencies, the cumulative frequency, and the cumulative percent.

Table A1

Distribution of SFI Values in the Total Corpus and Selected Grade-Level Corpora

Percentile	2	4	6	9	12	Total
95	22.1	22.1	22.1	20.8	18.1	16.2
90	25.1	22.1	22.1	22.1	21.1	20.8
85	26.9	22.1	22.1	22.1	22.1	20.8
80	29.3	25.1	22.1	22.1	22.1	22.1
75	31.5	26.9	25.1	24.9	22.1	22.1
70	33.3	28.1	26.8	25.1	25.1	22.1
65	35.0	30.0	27.7	27.4	27.4	22.1
60	36.5	31.6	29.3	29.1	28.8	22.1
55	38.0	33.0	30.7	30.4	30.3	23.8
50	39.5	34.4	32.3	31.7	31.6	25.1
45	40.9	35.9	33.6	33.2	33.1	26.9
40	42.3	37.3	35.0	34.6	34.6	27.7
35	43.8	38.9	36.5	36.2	36.1	29.3
30	45.3	40.5	38.2	37.7	37.7	31.2
25	47.0	42.3	40.0	39.6	39.5	33.1
20	48.8	44.3	42.0	41.6	41.6	35.4
15	51.0	46.6	44.4	44.0	44.0	38.2
10	53.7	49.6	47.6	47.2	47.2	41.9

| 5 | 57.5 | 54.0 | 52.3 | 52.0 | 52.0 | 47.5 |

Note. SFI (the standard frequency index) = a logarithmic transformation of U where U is equal to: [U=10(log10 U + 4)]. From *The Educator's Word Frequency Guide* (p. 14), by S. M. Zeno, S. H., Ivens, R. T. Millard, and R. Duvvuri, 1995, Touchstone Applied Science Associates (TASA) Inc. Copyright 1995 by the Touchstone Applied Science Associates (TASA) Inc. Adapted with permission of the author(s).

Table A2

Words and Frequencies per Million for Selected SFI Values

SFI value	Approx. frequency per million	Examples of words
80.0 & Above	10, 000.00	the, and, is
75.0	3, 000.00	she, when
70.0	1, 000.00	out, good
65.0	300.00	special, door
60.0	100.00	brother, minute
55.0	30.00	bowl, snake
50.0	10.00	abuse, charter
45.0	3.00	enclosure, implement
40.0	1.00	converge, moonshine
35.0	0.30	resilient, interdisciplinary
30.0	0.10	sleazy, obstetrician
25.0	0.03	spillage, demolish
20.0	0.01	humidor, venture
20.0 & Below	Less than 0.01	acclimate, orthogonal

Note. SFI (the standard frequency index) = a logarithmic transformation of U where

U is equal to: [U=10(log10 U + 4)]. From *The Educator's Word Frequency Guide* (p.

13), by S. M. Zeno, S. H., Ivens, R. T. Millard, and R. Duvvuri, 1995, Touchstone

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Table A3

Number, Percent, and Cumulative Frequency, and Percent of Words in Various SFI

Ranges

SFI Range	No. of Words	Percent	Cumulative Frequency	Cumulative Percent
60.1 & Above	925	0.6	925	0 .6
50.1 – 60.0	4,729	3.1	5,654	3.7
45.1 – 50.0	5,445	3.5	11,099	7.2
40.1 – 45.0	8,829	5.7	19,928	12.9
35.1 – 40.0	13,147	8.5	33,075	21.3
30.1 – 35.0	19,284	12.4	52,359	33.8
25.1 – 30.0	30,895	19.9	83,254	53.7
25.0 - & Below	71,687	46.3	154,941	100.0

Note. SFI (the standard frequency index) = a logarithmic transformation of U where U is equal to: [U=10(log10 U + 4)]. From *The Educator's Word Frequency Guide* (p. 13), by S. M. Zeno, S. H., Ivens, R. T. Millard, and R. Duvvuri, 1995, Touchstone Applied Science Associates (TASA) Inc. Copyright 1995 by the Touchstone Applied Science Associates (TASA) Inc. Adapted with permission of the author(s).

Appendix D

Vocabulary Instruction for Experimental Students

for the Theme of Mystery

Date: _____ Instructor: _____

Child's Name: _____ School: _____

Mystery: Week 1 Day 1

_____If this is your first week of instruction introduce yourself to the students as

being a student from the University of Maryland who will be working with them on

their vocabulary. Hi, my name is _____ and I am a student at the University of

Maryland. I will be working with you three times a week to discuss and learn some

words about adventure and mystery. This week and next week we will talk and learn

words about mystery. If students had already 2 weeks of instruction on "adventure"

words tell them that for the next 2 weeks they would learn some words about

mystery. Hi; for the past two weeks we have been talking and learning

some words about adventure. This week and the week after we will talk and learn

words about mystery.

_____Does anybody know what a mystery is? If student(s) provide a definition praise

them. Once students have generated their ideas, define a mystery as: Mystery is a

problem or puzzle that is difficult to explain and solve. Give 2 examples: For

example this would be a mystery: If you find a box of chocolates on your desk with

no name on it and you don't know who sent it to you, this is a mystery or If you and

your friend walk into an old, empty house and you hear a strange voice calling your

name, this is a mystery. Then ask them about the elements of a mystery. Provide

social praise if they know at least one element of a mystery, then tell them: When we

read or write about mysteries we are usually looking for 7 things: a) the character(s)

(the people involved in the mystery); b) the setting (where the mystery takes place); c) the problem (in the 2 examples I gave you earlier the problem is to find out who put the box with the chocolates on your desk or if who is the person who calls your name); d) things or people that help you solve the mystery; e) things that keep you from solving the mystery; f) what happens when the character(s) try to solve the mystery; and g) how the mystery is solved.

_____Today, I will read to you the first part of a mystery story. This mystery story is about something that was stolen. Next time we meet, we will read the end of this mystery story. Please take out from your folders the Mystery Story 1, page 1. While I read I want you to listen to the story carefully and try to figure out the meaning of 2 words. These 2 words are highlighted on this page. Point to the first word and say it out loud. Do the same for the second word. Do you see this word? This is the word "sleuth." Do you see this word? This is the word "clues." When I finish reading I will ask you to tell me what the words "sleuth" and "clues" mean. It is ok if you don't know what these words mean. I will explain them to you when I finish reading.

_____Now, I am going to start reading. Are you ready to follow along? Read. When you finish, point to the word "sleuth" and say the word out loud. This is the word "sleuth." Let me read to you the part of the story that might help you figure out the meaning of this word. Read. (*I got very excited….sleuth ever*).

_____Does anybody know what the word "sleuth" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Sleuth means person who solves a puzzle), and praise the student (Good job). If

students do not know the definition of the word, provide the definition to them:

Sleuth means person who solves a puzzle. Write the word and definition on the

whiteboard. Ask students to read back to you the word and its definition. Please read

back to me the word "sleuth" and its definition.

_____Point to the word "clues" and say the word out loud. This is the word "clues."

Let me read to you the part of the story that might help you figure out the meaning of

this word. Read. (*I needed to figure out…..what had actually happened*).

_____Does anybody know what the word "clues" means? If students provide you

with an approximate definition of the word, restate the definition as you will teach it,

(Clues mean directions that help people solve a puzzle), and praise the student (Good

job). If students do not know the definition of the word, provide the definition to

them: Clues mean directions that help people solve a puzzle. Write the word and

definition on the whiteboard. Ask students to read back to you the word and its

definition. Please read back to me the word "clues" and its definition.

_____ Please take out from your folders the Mystery Words package and open it to

Week 1 Day 1. If this is the first week of instruction for these students introduce

the logbooks. These are your logbooks. Every time we learn a new word and its

definition I will ask you to write the word and its definition in your logbooks. You

can always use your logbook if you want to refresh your memory about what these

words mean. Now, look under Mystery, Week 1, Day 1 and write the word "sleuth"

and its definition under Word 1. Now, write the word "clues" and its definition under

Word 2. Please read back to me the 2 mystery words we learned today and their

definitions. If it is not the first week of instruction for these students just ask them to

write both words and their definitions in the logbooks. Please, write both words and their definitions in your logbooks. Look under Mystery, Week 1, Day 1 and write the word "sleuth" and its definition under Word 1. Now, write the word "clues" and its definition under Word 2. Now, I would like to ask you to read back to me the two mystery words that we learned today and their definitions. Very good job.

_____You can use these words, "sleuth" and "clues," in any story you write. I am going to give you an example of how you can use these words in a sentence. Then I am going to ask you to try to do the same thing. Here is an example of how to use the word "sleuth" in a sentence: One thing a sleuth does is try to find who stole something that belonged to somebody else. Ask students to give you an example. Can somebody tell us a sentence where the word "sleuth" is used? If students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "sleuth" when you talk about a mystery. I believe you can also use this word when you write a story about a mystery as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "sleuth" when you talk about a mystery. I believe you can also use this word when you write a story about a mystery as well. Can somebody else tell a sentence where the word "sleuth" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "sleuth" can be used is: The sleuth asked me a lot of questions to figure out who had tried to hurt me. Now, can you tell us one sentence with the word "sleuth?" If students give you a correct example, praise and move on. If students do not give you

an example or do not give you a correct one, share with them a third example. Another example where the word "sleuth" can be used is: As soon as the thief left the jewelry store, the sleuth followed him closely to see where he was going to hide the stolen jewelry.

_____Here is an example of how to use the word "clues" in a sentence: If Paul's shoes have mud stuck on them, that is a clue that he was digging in the mud. Ask students to give you an example. Can somebody tell us a sentence where the word "clues" is used? If students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "clues" when you talk about a mystery. I believe you can also use this word when you write a story about a mystery as well. If students give you one correct example, praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "clues" when you talk about a mystery. I believe you can also use this word when you write a story about a mystery as well. Can somebody else tell us a sentence where the word "clues" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "clues" can be used is: One of the clues that Jack stole grandmother's blueberry pie was that his teeth were blue. Now, can you tell us one sentence with the word "clues?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "clues" can be used is: Mary and Tom's homework were exactly the same, and that was a clue that Tom copied Mary's homework.

_____Now that we learned the meaning of these 2 words I would like to ask you to complete some activities for me. Please open your Mystery Instruction package into Week 1 Day 1, Activity 1. First, I will read the instructions to you. Read instructions. Do you have any questions? Let's do an example together to make sure that everybody understands what you need to do. Read the first sentence and ask students what word goes in the blank .If students give you the correct answer praise them (Good work); if not give students the correct answer, reread the sentence with the correct answer, and ask students if that makes sense to them. Move on to the rest of the activity. Now, let's finish our activity. I will read each sentence to you and allow you some time to mark your answers before I move on to the next sentence. Do you have any questions? This is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently.

_____What is the correct answer for the first sentence? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody else have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about the second sentence? If students give you a wrong answer identify the correct one.

_____ is the correct answer. Reread the whole sentence with the correct word and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move on. Good try. Don't worry about not getting all the answers correct as you are just learning these words. We will do some more

practice activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next sentence? Do the same for all sentences.

_____Now, we will play a game called Word Families. First, I will show you what you have to do and then I will ask you to do the same thing. Show students the blue card. This is the word "sleuth." Does anybody remember what this word means? Praise students (Excellent remembering) if students remember. Flip the cards to read the definitions to the students, if students do not remember. "Sleuth" means a person who solves a puzzle. Put on the table the blue card with the word "sleuth" facing up. Show students the three yellow cards. Here are three cards in yellow. Two of these yellow cards go with the word "sleuth" because they mean the same thing or something like it. One of these yellow cards does not go with the word "sleuth" because it means something different. I am going to read to you what is on each of these 3 yellow cards. The first card has the word "policeman," the second card has the phrase "salesman," and the third card has the phrase "catch a criminal." Remember the definition of the word "sleuth?" The card with the phrase "catch a criminal" goes together with the card "sleuth," because a sleuth is trying to catch a criminal. What other card goes together with "sleuth"? Give students a couple of minutes to think and if they do not select the second yellow card or if they select the wrong one, give them the correct answer. The second yellow card that goes with "sleuth" is "policeman," because a sleuth is trying to catch the criminals and put them in jail just like a policeman. If students select the correct second yellow card praise them. Good job. Show students the second blue card and ask them to work together as a team to figure

out which words go together with the second blue card "clues." Do you think that you can do the same with the word "clues?" Clues mean directions that help people solve a puzzle. The three yellow cards are "flyers," "tips," and "hints." I will give you a couple of minutes to think about it and decide which two yellow cards go with the word "clues." You will get a colored star inside your logbooks for finding the correct cards, and with three colored stars you will get a sticker in your mystery words progress chart. Remember that you can always look up the definition of the word by flipping the card. I can read to you any words you do not know. Let me know when you are done and want to share your responses with us. When students are ready ask one of them to give you one correct card. _____ (name of the student) tell us one card that goes with the word "clues." If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us the second yellow card that goes with "clues?" If the student gives you the correct card, praise. Correct; hints and tips, because clues are hints or tips that we use to solve a mystery! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Here are your word families. Let me give you your colored stars. Give students their colored stars and write Week 1 Day 1.

_____And now we will do something fun. This activity is called the Payload. I would like each of you to draw a little piece of paper from this hat. On each of these little pieces of paper is one of the two words we learned today. Can each of you read back

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to us the word you got? Help students read their words if needed. Write the word that each student selected in your checklist to remember for next time. From today until the next time we meet I would like you to be thinking of a sentence where you can use the word you selected. Next time we meet I will ask you to tell me your sentence. You can always write the sentence down on a piece of paper if that helps you remember the sentence. Whoever uses his/her word correctly in an oral sentence when we meet next time, he/she will earn a sticker in your mystery words progress chart. The person with the most stickers at the end of each week will get a secret prize and become the winner of the week. Here is your progress chart. Every time you earn a sticker I will put it on this chart. You will be like people who want to solve a mystery and move every day one step closer to solving the mystery. Every time you tell us a correct sentence you will be one step closer to winning the secret prize and becoming the winner of the week. Any questions? So remember to come prepared to share a sentence with this word because next time we meet we will go over your homework and give out the stickers.

_____Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will learn and practice some new mystery words.

Vocabulary Instruction Checklist

Date: _____   **Instructor:** _____

Child's Name: _____   **School:** _____

Mystery: Week 1 Day 2

_____Does anybody remember the 2 mystery words we learned last time ("sleuth" and "clues")? If students remember the words praise and ask them to tell you the definitions of these words. Good remembering. Does anybody remember what these words mean ("sleuth" means person who solves a puzzle and "clues" mean directions that help people solve a puzzle)? If students remember the definitions praise them. That is correct; "sleuth" means person who solves a puzzle and "clues" mean directions that help people solve a puzzle. If students do not remember the definitions flip the cards from Word the family activity and read the definitions back to them. If students do not remember the words, provide the words to the students by showing them the cards. The 2 mystery words that we learned last time are "sleuth" and "clues." Have the students repeat these words to you orally. What are the words? Then ask students about the definitions of these words. Does anybody remember what these words mean? If students remember the definitions praise them. That is correct; "sleuth" means person who solves a puzzle and "clues" mean directions that help people solve a puzzle. If students do not remember the definitions, flip the cards from the word family activity and read the definitions to them.

_____Now let us hear the sentences that each of you made up for these two words. Who prepared a sentence for the word "sleuth?" Who prepared a sentence for

the word "clues?" Praise students for their effort and give out stickers. Excellent sentence, very good work; Take out your Mystery words and go to Week 1, "My progress chart." Here are your stickers. If students do not use their words in sentences correctly, provide a sentence for each incorrect word to model correct use of the word. If students are not prepared to share a sentence, help them to come up with a sentence but do not give them a sticker. Let's think of a sentence together.

_____Today I will read to you the rest of the mystery story we started last time. Does anybody remember what the story was about? If students do not remember give the highlights of the story, otherwise praise them. Good remembering. Please take out from your folders the Mystery Story 1, page 2. While I read I want you to listen to the story carefully and try to figure out the meaning of 2 words. These 2 words are highlighted on this page. Point to the first word and say it out loud. Do the same for the second word. Do you see this word? This is the word "alibi." Do you see this word? This is the word "ransom." When I finish reading I will ask you to tell me what the words "alibi" and "ransom" mean. It is ok if you don't know what these words mean. I will explain them to you when I finish reading.

_____ Now, I am going to start reading. Are you ready to follow along? Read. When you finish, point to the word "alibi" and say the word out loud. This is the word "alibi." Let me read to you the part of the story that might help you figure out the meaning of this word. Read. (*We found that Mr. Jones …. after the war started*).

_____Does anybody know what the word "alibi" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Alibi means excuse used to avoid blame for doing wrong), and praise the student

(Good job). If students do not know the definition of the word, provide the definition to them: Alibi means excuse used to avoid blame for doing wrong. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "alibi" and its definition.

_____Point to the word "ransom" and say the word out loud. This is the word "ransom." Let me read to you the part of the story that might help you figure out the meaning of this word. Read. (*He was captured by two criminals …to get her brother back*).

_____Does anybody know what the word "ransom" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Ransom is paid to free a captured person), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Ransom is paid to free a captured person. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "ransom" and its definition.

_____Please take out from your folders the Mystery Words package and open it to Week 1 Day 2. Write the word "alibi" and its definition under Word 1. Now, write the word "ransom" and its definition under Word 2. Now, I would like to ask you to read back to me the two mystery words that we learned today and their definitions. Very good job.

_____You can use these words, "alibi" and "ransom," in any story you write. Here is an example of how to use the word "alibi" in a sentence: A person has an alibi when she/he is somewhere else when something bad happens. Ask students to give

you an example. Can somebody tell us a sentence where the word "alibi" is used? If students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "alibi" when you talk about a mystery. I believe you can also use this word when you write a story about a mystery as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "alibi" when you talk about a mystery. I believe you can also use this word when you write a story about a mystery as well. Can somebody else tell us a sentence where the word "alibi" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "alibi" can be used is: Joan was not the robber because she had an alibi; she was having surgery when somebody broke into the house and stole the necklace. Now, can you tell us one sentence with the word "alibi?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "alibi" can be used is: Bob was on a plane to Paris when the house caught on fire, so he did not start the fire; he had an alibi.

_____Here is an example of how to use the word "ransom" in a sentence: The kidnappers asked for $100,000 in ransom in order to free the little girl. Ask students to give you an example. Can somebody tell us a sentence where the word "ransom" is used? If students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "ransom" when you talk about a mystery. I believe you can also use this word when you write a story about a mystery

as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "ransom" when you talk about a mystery. I believe you can also use this word when you write a story about a mystery as well. Can somebody else tell us a sentence where the word "ransom" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "ransom" can be used is: The policeman told the millionaire to pay the ransom if he wanted to see his wife again. Now, can you tell us one sentence with the word "ransom?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct one, share with them a third example. Another example where the word "ransom" can be used is: The robber held the bank teller for $30,000 ransom.

_____Now that we learned the meaning of these 2 words I would like to ask you to complete some activities for me. Please open your Mystery Instruction package into Week 1 Day 2, Activity 1. First, I will read the instructions to you. Read instructions. Do you have any questions? Now, let's finish our activity. Remember, this is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently. Read first sentence and allow some time for students to mark their answers before you move on to the second sentence. Do the same for the rest of the sentences.

_____What is the correct answer for the first sentence? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody else have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social

praise to the students for correct answers. That's right; good thinking. What about the second sentence? If students give you a wrong answer identify the correct one.

_____ is the correct answer. Reread the whole sentence with the correct word and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move one. Good try. Don't worry about not getting all the answers correct as you are just learning these words. We will do some more practice activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next sentence? Do the same for all sentences.

_____Now, it's time for the Word Family Activity. Show students the two blue cards and read the words back to them. This is the word "alibi" and this is the word "ransom." Does anybody remember what these 2 words mean? Praise students (Excellent remembering) if students remember. Flip the cards to read the definitions to the students, if students do not remember. "Alibi" means excuse used to avoid blame for doing wrong. "Ransom" is paid to free a captured person. Put on the table the blue cards with the words "alibi" and "ransom" facing up. Show students the 6 yellow cards. Two of these yellow cards go with the word "alibi" because they mean the same thing or something like it. Two of these yellow cards go with the word "ransom" because they mean the same thing or something like it. Two of these cards do not go with the words "alibi" or "ransom" because they mean something different. Read each of the cards separately and put them on the table. The six yellow cards are: "crime," "defense," "money," "trophy," "buy back," and "explanation." Think for a

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couple of minutes and decide which two words go together with the word "alibi" and which go with the word "ransom." If you find them you will get a colored star inside your logbooks, and with 3 colored stars you will get a sticker in your mystery word progress chart. Remember that you can always look up the definition of the words by flipping the cards. I can read to you any words you do not know. Let me know when you are done and want to share your responses with us. When students are ready ask one of them to give you one correct card. ___tell us one card that goes with the word "alibi." If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a word that does not go with "alibi?" Good. Now, ____ tell us the second yellow card that goes with "alibi?" If the student gives you the correct card, praise. Correct; defense and explanation, because alibi is an explanation that a person uses in his/her defense when somebody accuses him/her of something! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better).

_____Now, ____ (name of student) can you tell us one card that goes with the word "ransom?" If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a word that does not go with "ransom?" Good. Now, ___ tell us the second yellow card that goes with "ransom?" If the

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student gives you the correct card, praise. Correct; money and buy back, because ransom is money that you pay to free a captured person; to buy back this person! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Here are your word families. Let me give you your colored stars. Give students their colored stars and write Week 1 Day 2.

_____It is now time for the Payload activity. Please select a piece of paper from this hat. On each of these little pieces of paper is one of the two words we learned today. Can each of you read back to us the word you got? Help students read their words if needed. Write the word that each student selected in your checklist to remember for next me. If you use this word correctly in an oral sentence you will get a sticker. This is your homework for the next time we meet. Remember to come prepared to share a sentence with this word because next time we meet we will go over your homework and give out the stickers.

_____ Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will learn and practice some new mystery words.

Vocabulary Instruction Checklist

Date: _____   Instructor: _____

Child's Name: _____   School: _____

Mystery: Week 1 Day 3

_____Does anybody remember the 2 mystery words we learned last time ("alibi" and "ransom")? If students remember the words praise and ask them to tell you the definitions of these words. Good remembering. Does anybody remember what these words mean ("alibi" means excuse used to avoid blame for doing wrong and "ransom" is paid to free a captured person)? If students remember the definitions praise them. That is correct; "alibi" means excuse used to avoid blame for doing wrong, and "ransom" is paid to free a captured person. If students do not remember the definitions flip the cards from Word the family activity and read the definitions back to them. If students do not remember the words, provide the words to the students by showing them the cards. The 2 mystery words that we learned last time are "alibi" and "ransom." Have the students repeat these words to you orally. What are the words? Then ask students about the definitions of these words. Does anybody remember what these words mean? If students remember the definitions praise them. That is correct; "alibi" means excuse used to avoid blame for doing wrong, and "ransom" is paid to free a captured person. If students do not remember the definitions, flip the cards from the word family activity and read the definitions to them.

_____Now let us hear the sentences that each of you made up for these two words. Who prepared a sentence for the word "alibi?" Who prepared a sentence for the word

"ransom?" Praise students for their effort and give out stickers. Excellent sentence, very good work; Take out your Mystery words and go to Week 1, "My progress chart." Here are your stickers. If students do not use their words in sentences correctly, provide a sentence for each incorrect word to model correct use of the word. If students are not prepared to share a sentence, help them to come up with a sentence but do not give them a sticker. Let's think of a sentence together.

_____Please take out from your folders Mystery Story 1, page 2. Point to the word "testimony" in the passage and say the word out loud. This is the word "testimony." Let me read to you the part of the story that might help you figure out the meaning of this word. Read. (*One night I was coming ….. the golden ax behind*).

_____Does anybody know what the word "testimony" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Testimony describes what happens), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Testimony describes what happens. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "testimony" and its definition.

_____Please take out from your folders the Mystery Words package, open it to Week 1 Day 3, and write down the word "testimony" and its definition. Read back to me one more time the word and its definition.

_____You can use the word, "testimony" in any story you write. Here is an example of how to use the word "testimony" in a sentence: The witness of the accident agreed to give her testimony and to tell everything that she knew to the court. Ask students to

give you an example. Can somebody tell us a sentence where the word "testimony" is used? If students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "testimony" when you talk about a mystery. I believe you can also use this word when you write a story about a mystery as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "testimony" when you talk about a mystery. I believe you can also use this word when you write a story about a mystery as well. Can somebody else tell us a sentence where the word "testimony" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "testimony" can be used is: The boy was afraid, but the policemen told him that they needed his testimony in order to send the criminal to prison. Now, can you tell us one sentence with the word "testimony?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "testimony" can be used is: When the principal heard Kate's testimony about what she saw, he was sure that Nick had started the fight.

_____Now that we learned the meaning of the word "testimony" I would like to ask you to complete some activities for me. Please open your Mystery Instruction package into Week 1 Day 3, Activity 1. First, I will read the instructions to you. Read instructions. Do you have any questions? Now, let's finish our activity. Remember, this is not a test; these are just practice activities that will help you learn the words,

and we will discuss the correct answers later together. Please work independently. Read first sentence and allow some time for students to mark their answers before you move on to the second sentence. Do the same for the rest of the sentences.

_____What is the correct answer for the first sentence? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody else have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about the second sentence? If students give you a wrong answer identify the correct one.

_____ is the correct answer. Reread the whole sentence with the correct word and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move on. Good try. Don't worry about not getting all the answers correct as you are just learning these words. We will do some more practice activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next sentences? Do the same for all sentences.

_____ Now, it's time for the Word Family Activity. Show students the blue card and read the word back to them. This is the word "testimony." Does anybody remember what this word means? Praise students (Excellent remembering) if students remember. Flip the card to read the definition to the students, if students do not remember. "Testimony" describes what happens. Put on the table the blue card with the word "testimony" facing up. Show students the 3 yellow cards. Two of these yellow cards go with the word "testimony" because they mean the same thing or

something like it. One of these yellow cards does not go with the word "testimony" because it means something different. Read each of the cards separately and put them on the table. The three yellow cards are: "accident," "court," and "witness." Think for a couple of minutes and decide which two words go together with the word "testimony." If you find them you will get a colored star inside your logbooks, and with 3 colored stars you will get a sticker in your mystery word progress chart. Remember that you can always look up the definition of the word by flipping the card. I can read to you any words you do not know. Let me know when you are done and want to share your responses with us. When students are ready ask one of them to give you one correct card. ___tell us one card that goes with the word "testimony." If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a word that does not go with the word "testimony?" Now, ____ tell us the second yellow card that goes with "testimony?" If the student gives you the correct card, praise. Correct; court and witness, because testimony is something that a witness usually gives at the court! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Here is your word family. Let me give you your colored stars. Give students their colored stars and write Week 1 Day 3. _____Today, we will practice all 5 mystery words we learned so far. Can anybody tell us what these words are? If the students remember the words praise their effort. Good remembering. If they do not, show them the cards from the Word Family

activity and read the words back to them. Here are the 5 mystery words we learned so

far (show the cards one by one): "alibi," "clues," "ransom," "sleuth," and

"testimony." Ask students to repeat the words out loud. What are the words? Then

show each one of the words and ask the students to give you the definition of the

word. If the student knows the definition, praise him/her and move to the next word.

If the student does not know the definition, wait for a few seconds and call on another

child. If nobody remembers the definition from memory, flip the card and read the

definition to the students (have the students read the definition to you). Do the same

for the rest of the words. Who can tell us what the word "alibi" means? ("alibi"

means excuse used to avoid blame for doing wrong). Very good remembering. Let's

flip the card over to read the definition; "alibi" means excuse used to avoid blame for

doing wrong. Let's see if somebody can tell us what the word "clues" mean ("clues"

mean directions that help people solve a puzzle). Can anyone tell us what the word

"ransom" means ("ransom" is paid to free a captured person)? Can anyone tell us

what the word "sleuth" means ("sleuth" means person who solves a puzzle)? Finally,

who can tell us what the word "testimony" mean ("testimony" describes what

happens)?

_____Now, we will do a review activity. Please open your Mystery Instruction

package into Week 1, Day 3, Review. First, I will read the instructions to you. Read

instructions. Do you have any questions? Let's do an example together to make sure

that everybody understands what you need to do. Do the first item with the students.

Read the first question and the two possible answers and ask students what is the best

answer: a or b. If students give you the correct answer praise them (Good work); if

not give students the correct answer, reread the question and answer, and ask students if that makes sense to them. Move on to the rest of the activity. Now, let's finish our activity. I will read each question to you and two possible answers, and allow you some time to mark your answers before I move on to the next question. Do you have any questions? This is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently.

_____ What is the correct answer for the first question: a or b? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about for the second question? If students give you a wrong answer identify the correct one. _____ is the correct answer. Reread the question and the correct answer and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move on. Good try. Don't worry about not getting all answers correct as you are just learning these words. We will do some more activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next question? Do the same for all questions.

_____Writing Activity (see directions for administering the activity).

_____Our last activity today is to give out the secret prize to the winner of the week. Let's see who has the most stickers for this week and who can buy some stickers with

their colored stars. Give out the prize(s) and award(s) for the winner(s) of the week. Write the date and students' names on the award(s).

_____Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will learn and practice some new mystery words.

Vocabulary Instruction Checklist

Date: _____   **Instructor:** _____

Child's Name: _____   **School:** _____

Mystery: Week 2 Day 1

_____ The last three times we met we talked about mysteries and read a

mystery story. Can anybody tell us what a mystery is? If students remember the

definition of a mystery praise them. Good job with remembering. If students do not

remember the definition of a mystery provide it to them. Mystery is a problem or

puzzle that is difficult to explain and solve.

_____ Today I will read to you the first part of another mystery story. This mystery

story is about a haunted house and the secret of the lady who lived in that house. Next

time we meet, we will read the end of this mystery story. Please take out from your

folders the Mystery Story 2, page 1. While I read I want you to listen to the story

carefully and try to figure out the meaning of 2 words. These two words are

highlighted on this page. Point to the first word and say it out loud to you. Do the

same for the second word. Do you see this word? This is the word "twist." Do you

see this word? This is the word "conspire." When I finish reading I will ask you to tell

me what the words "twist" and "conspire" mean. It is ok if you don't know what

these words mean. I will explain them to you when I finish reading.

_____ Now, I am going to start reading. Are you ready to follow along? Read. When

you finish, point to the word "twist" and say the word out loud. This is the word

"twist." Let me read to you the part of the story that might help you figure out the

meaning of this word. Read. (*The only room left ….. what did you do next?*).

_____ Does anybody know what the word "twist" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Twist means unexpected change), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Twist means unexpected change. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "twist" and its definition.

_____ Point to the word "conspire" and say the word out loud. This is the word "conspire." Let me read the part of the story that might help you figure out the meaning of this word. Read. (*So, I needed my sister's help ……. to conspire with me*).

_____ Does anybody know what the word "conspire" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Conspire means to plan secretly with others to do wrong), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Conspire means to plan secretly with others to do wrong. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "conspire" and its definition.

_____Please take out from your folders the Mystery Words package and open it to Week 2 Day 1. Write the word "twist" and its definition under Word 1. Now, write the word "conspire" and its definition under Word 2. Now, I would like to ask you to read back to me the two mystery words that we learned today and their definitions. Very good job.

_____ You can use these words, "twist" and "conspire," in any story you write. Here is an example of how to use the word "twist" in a sentence: The book had an interesting twist in the last chapter and nobody was able to predict how it would end. Ask students to give you an example: Can somebody tell us a sentence where the word "twist" is used? If students give you two correct examples, praise and move on: Very good job; I see you understand how you can use the word "twist" when you talk about a mystery. I believe you can also use this word when I ask you later to write about a mystery as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "twist" when you talk about a mystery. I believe you can also use this word when I ask you later to write about a mystery as well. Can somebody else tell us a sentence where the word "twist" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "twist" can be used is: Most people love mystery stories because there is always a twist that makes it hard to guess what is going to happen next. Now, can you tell us one sentence with the word "twist?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "twist" can be used is: The last witness at the court said something that gave a new twist to the case of the dog's disappearance.

_____ Here is an example of how to use the word "conspire" in a sentence: In the old days, a king was afraid that his best knights might conspire against him and try to take his throne. Ask students to give you an example: Can somebody tell us a

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sentence where the word "conspire" is used? If the students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "conspire" when you talk about a mystery. I believe you can also use this word when I ask you later to write about a mystery as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "conspire" when you talk about a mystery. I believe you can also use this word when I ask you later to write about a mystery as well. Can somebody else tell us a sentence where the word "conspire" is used? If students still cannot give you an example, share with them an example. Another example where the word "conspire" can be used is: When I saw my younger brothers whispering to each other, I thought they might conspire together to get my ice cream. Now, can you tell us one sentence with the word "conspire?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "conspire" can be used is: Mom and dad knew that George and Nick would conspire to sneak out of the house.

_____ Now that we learned the meaning of these 2 words I would like to ask you to complete some activities for me. Please open your Mystery Instruction package into Week 2, Day 1, Activity 1. First, I will read the instructions to you. Read instructions. Do you have any questions? Now, let's finish our activity. Remember, this is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently.

Read first sentence and allow some time for students to mark their answers before you move on to the second sentence. Do the same for the rest of the sentences.

_____ What is the correct answer for the first sentence? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody else have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about the second sentence? If students give you a wrong answer identify the correct one. ____ is the correct answer. Reread the whole sentence with the correct word and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move on. Good try. Don't worry about not getting all the answers correct as you are just learning these words. We will do some more practice activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next sentence? Do the same for all sentences.

_____Now, it's time for the Word Family activity. Show students the two blue cards and read the words back to them. This is the word "twist" and this is the word "conspire." Does anybody remember what these 2 words mean? Praise students (Excellent remembering) if students remember. Flip the cards to read the definitions to the students, if students do not remember. "Twist" means unexpected change. "Conspire" means to plan secretly with others to do wrong. Put on the table the blue cards with the words "twist" and "conspire" facing up. Show students the 6 yellow cards. Two of these yellow cards go with the word "twist" because they mean the

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same thing or something like it. Two of these yellow cards go with the word "conspire" because they mean the same thing or something like it. Two of these yellow cards do not go with the words "twist" or "conspire" because they mean something different. Read each of the cads separately and put them on the table. The six yellow cards are: "go against the law," "turn," "danger," "quit," "agree to do something," and "surprise." Think for a couple of minutes and decide which two cards go together with the word "twist" and which go with the word "conspire." If you find them you will get a colored star inside your logbooks, and with 3 colored stars you will get a sticker in your mystery word progress chart. Remember that you can always look up the definition of the words by flipping the cards. I can read to you any words that you do not know. Let me know when you are done and want to share your responses with us. When students are ready ask one of them to give you one correct card. _____ tell us one card that goes with the word "twist." If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a card that does not go with "twist?" Now, _____ tell us the second yellow card that goes with "twist?" If the student gives you the correct card, praise. Correct; surprise and turn because a twist is a different turn in the story that usually surprises us! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better).

_____Now, ____ can you tell us one card that goes with the word "conspire?" If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a card that does not go with "conspire?". Now, ____ tell us the second yellow card that goes with "conspire?" If the student gives you the correct card, praise. Correct; go against the law and agree to do something, because when we conspire we agree with another person to do something that is wrong, so we go against the law! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Here are your word families. Let me give you your colored stars. Give students their colored stars and write Week 2 Day 1.

_____ It is now time for the Payload Activity. Please select a piece of paper from this hat. On each of these little pieces of paper is one of the two words we learned today. Can each of you read back to us the word you got? Read the words to the students if needed. If you use this word correctly in an oral sentence you will get a sticker. This is your homework for the next time we meet. Remember to come prepared to share a sentence with this word because next time we meet we will go over your homework and give out the stickers.

_____ Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will learn and practice some new mystery words.

Vocabulary Instruction Checklist

Date: _____   Instructor: _____

Child's Name: _____   School: _____

Mystery: Week 2 Day 2

_____ Does anybody remember the 2 mystery words we learned last time ("twist" and "conspire")? If students remember the words praise and ask them to tell you the definitions of these words. Good remembering. Does anybody remember what these words mean ("twist" means unexpected change and "conspire" means to plan secretly with others to do wrong)? If students remember the definitions praise them. That is correct; "twist" means unexpected change, and "conspire" means to plan secretly with others to do wrong. If students do not remember the definitions flip the cards from the Word Family activity and read the definitions back to them. If students do not remember the words, provide the words to the students by showing them the cards. The 2 mystery words that we learned last time are "twist" and "conspire." Have the students repeat these words to you orally. What are the words? Then ask students about the definitions of these words. Does anybody remember what these words mean? If students remember the definitions praise them. That is correct; "twist" means unexpected change and "conspire" means to plan secretly with others to do wrong. If students do not remember the definitions, flip the cards from the word family activity and read the definitions to them.

_____ Now let us hear the sentences that each of you made up for these two words. Who prepared a sentence for the word "twist?" Who prepared a sentence for the word "conspire?" Praise students for their effort and give out stickers. Excellent sentence,

very good work; Take out your Mystery words and go to Week 2, "My progress

chart." Here are your stickers If students do not use their words in sentences correctly,

provide a sentence for each incorrect word to model correct use of the word. If

students are not prepared to share a sentence, help them to come up with a sentence

but do not give them a sticker. Let's think of a sentence together.

 _____ Today I will read to you the rest of the mystery story we started last time.

Does anybody remember what the story was about? If students do not remember give

the highlights of the story, otherwise praise them. Good remembering. Please take out

from your folders the Mystery Story 2, page 2. While I read I want you to listen to the

story carefully and try to figure out the meaning of 2 words. These 2 words are

highlighted on this page. Point to the first word and say it out loud. Do the same for

the second word. Do you see this word? This is the word "conceal." Do you see this

word? This is the word "motive." When I finish reading I will ask you to tell me what

the words "conceal" and "motive" mean. It is ok if you don't know what these words

mean. I will explain them to you when I finish reading.

_____ Now, I am going to start reading. Are you ready to follow along? Read. When

you finish point to the word "conceal" and say the word out loud. This is the word

"conceal." Let me read to you the part of the story that might help you figure out the

meaning of this word. Read. (*My sister also promised …we were going to do until it*

was over).

_____ "Does anybody know what the word "conceal" means? If students provide

you with an approximate definition of the word, restate the definition as you will

teach it, (Conceal means to keep something a secret), and praise the student (Good

job). If students do not know the definition of the word, provide the definition to them: Conceal means to keep something a secret. Write the word and definition of word on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "conceal" and its definition.

_____ Point to the word "motive" and say the word out loud. This is the word "motive." Let me read to you the part of the story that might help you figure out the meaning of this word. Read. (*I knew that my sister…..did not want to harm anybody*).

_____ Does anybody know what the word "motive" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Motive means reason why a person acts in a certain way), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Motive means reason why a person acts in a certain way. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "motive" and its definition.

_____ Please take out from your folders the Mystery Words package and open it to Week 2 Day 2. Write the word "conceal" and its definition under Word 1. Now, write the word "motive" and its definition under Word 2. Now, I would like to ask you to read back to me the two mystery words that we learned today and their definitions. Very good job. Now, I would like to ask you to read back to me the two mystery words that we learned today and their definitions. Very good job.

_____ You can use these words, "conceal" and "motive," in any story you write. Here is an example of how to use the word "conceal" in a sentence: We should always conceal our friends' secrets for as long as needed no matter how excited we

are to talk about it. Ask students to give you an example: Can somebody tell us a sentence where the word "conceal" is used? If students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "conceal" when you talk about a mystery. I believe you can also use this word when I ask you later to write about a mystery as well. If students give one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "conceal" when you talk about a mystery. I believe you can also use this word when I ask you later to write about a mystery as well. Can somebody else tell us a sentence where the word "conceal" is used? If students still cannot give you an example or do not give a correct example, share with them an example. Another example where the word "conceal" can be used is: When I arrived at the party nobody was really surprised to see me, so I realized that my parents did not conceal that I was back in town. Now, can you tell us one sentence with the word "conceal?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "conceal" can be used is: Mark was very disappointed about his little sister because she was not able to conceal from her best friend what he told her.

_____ Here is an example of how to use the word "motive" in a sentence: My motive for telling a lie is that most of the time I do not want my friends to get in trouble. Ask students to give you an example: Can somebody tell us a sentence where the word "motive" is used? If students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "motive"

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when you talk about a mystery. I believe you can also use this word when I ask you later to write about a mystery as well. If students give one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "motive" when you talk about a mystery. I believe you can also use this word when I ask you later to write about a mystery as well. Can somebody else tell us a sentence where the word "motive" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "motive" can be used is: Timothy had a motive to hurt his sister, because she broke his favorite toy. Now, can you give us one sentence with the word "motive?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "motive" can be used is: Because she is very rich, Casie did not have a motive to steal her friend's money.

_____ Now that we learned the meaning of these 2 words I would like to ask you to complete some activities for me. Please open your Mystery Instruction package into Week 2 Day 2, Activity 1. First, I will read the instructions to you. Read instructions. Do you have any questions? Now let's finish our activity. Remember, this is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently. Read the first sentence and allow some time for students to mark their answers before you move on to the second sentence. Do the same for the rest of the sentences.

_____ What is the correct answer for the first sentence? Ask the rest of the students

if they agree with this selection. Do you agree? Does anybody else have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about the next sentence? If students give you a wrong answer identify the correct one. ____ is the correct answer. Reread the whole sentence with the correct word and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move on. Good try. Don't worry about not getting all the answers correct as you are just learning these words. We will do some more practice activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next sentence? Do the same for all sentences.

_____ Now, it's time for the Word Family activity. Show students the two blue cards and read the words back to them. This is the word "conceal" and this is the word "motive." Does anybody remember what these 2 words mean? Praise students (Excellent remembering) if students remember. Flip the cards to read the definitions to the students, if students do not remember. "Conceal" means to keep something a secret. "Motive" means a reason why a person acts in a certain way. Put on the table the blue cards with the words "conceal" and "motive" facing up. Show students the 6 yellow cards. Two of these yellow cards go with the word "conceal" because they mean the same thing or something like it. Two of these yellow cards go with the word "motive" because they mean the same thing or something like it. Two of these yellow cards do not go with the words "conceal" or "motive" because they mean something

different. Read each of the cads separately and put them on the table. The six yellow cards are: "hide," "punishment," "purpose," "cover," "idea behind what you do," and "announce." Think for a couple of minutes and decide which two cards go together with the word "conceal" and which go with the word "motive." If you find them you will get a colored star inside your logbooks, and with 3 colored stars you will get a sticker in your mystery word progress chart. Remember that you can always look up the definition of the words by flipping the cards. I can read to you any words that you do not know. Let me know when you are done and want to share your responses with us. When students are ready ask one of them to give you one correct card. ____ tell us one card that goes with the word "conceal." If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a word that does not go with "conceal?" Now, ___ tell us the second yellow card that goes with "conceal?" If the student gives you the correct card, praise. Correct; cover and hide because when a person conceals a secret he/she tries to hide and cover it so nobody finds out about it! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better).

_____Now, ____ can you tell us one card that goes with the word "motive?" If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the

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second card. Who can tell us a card that does not go with "motive?" Now, ___ tell us the second yellow card that goes with "motive?" If the student gives you the correct card, praise. Correct; idea behind it and purpose, because motive is the purpose or the idea behind what you do; why you behave in a certain way!! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Here are your word families. Let me give you your colored stars. Give students their colored stars and write Week 2 Day 2.

_____ It is now time for the Payload Activity. Please select a piece of paper from this hat. On each of these little pieces of paper is one of the two words we learned today. Can each of you read back to us the word you got? Help students read their words if needed. If you use this word correctly in an oral sentence you will get a sticker. This is your homework for the next time we meet. Remember to come prepared to share a sentence with this word because next time we meet we will go over your homework and give out the stickers.

_____ Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet you will learn and practice some new mystery words.

Vocabulary Instruction Checklist

Date: _____   **Instructor:** _____

Child's Name: _____   **School:** _____

Mystery: Week 2 Day 3

_____ Does anybody remember the 2 mystery words we learned last time

("conceal" and "motive")? If students remember the words praise them and ask them

to tell you the definitions of these words. Good remembering. Does anybody

remember what these words mean ("conceal means to keep something a secret and

"motive" means reason why a person acts in a certain way)? If students remember the

definitions praise them. That is correct; conceal means to keep something a secret and

"motive" means reason why a person acts in a certain way. If students do not

remember the definitions flip the cards from the word Family activity and read the

definitions back to them. If students do not remember the words provide the words to

the students by showing them the cards. The 2 mystery words that we learned last

time are "conceal" and "motive." Have the students repeat the words to you orally.

What are the words? Then ask students about the definitions of these words. Does

anybody remember what these words mean? If students remember the definitions

praise them. That is correct; "conceal" means to keep something a secret and

"motive" means reason why a person acts in a certain way. If students do not

remember the definitions, flip the cards from the Word Family activity and read the

definitions to them.

_____ Now let us hear the sentences that each of you made up for these two words.

Who prepared a sentence for the word "conceal?" Who prepared a sentence for the

word "motive?" Praise students for their effort and give out stickers. Excellent sentence, very good work; Take out your Mystery words and go to Week 2, "My progress chart." Here are your stickers. If students do not use their words in sentences correctly, provide a sentence for each incorrect word to model correct use of the word. If students are not prepared to share a sentence, help them to come up with a sentence but do not give them a sticker. Let's think of a sentence together.

_____ Please take out from your folders Mystery Story 2, page 2. Point to the word "suspense" in the passage and say the word out loud. This is the word "suspense." Let me read the part of the story that might help you figure out the meaning of this word. Read. (*What happened in the end….. could not hide her suspense*).

_____ Does anybody know what the word "suspense" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Suspense means feeling of excitement about what will happen next), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Suspense means feeling of excitement about what will happen next. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "suspense" and its definition.

_____ Please take out from your folders the Mystery Words package, open it to Week 2, Day 3, and write the word "suspense" and its definition. Read back to me one more time the word and its definition.

_____ You can use the word, "suspense" in any story you write. I am going to give you an example of how you can use this word in a sentence. Then I am going to

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ask you to try to do the same thing. Give an example of the word "suspense." Here is an example of how to use the word "suspense" in a sentence: A story has suspense if the reader feels excited about what will happen next. Ask students to give you an example. Can somebody tell us a sentence where the word "suspense" is used? If students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "suspense" when you talk about a mystery. I believe you can also use this word when you write a story about a mystery as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "suspense" when you talk about a mystery. I believe you can also use this word when you write a story about a mystery as well. Can somebody else tell us a sentence where the word "suspense" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "suspense" can be used is: The kids could not hide their suspense as the film was almost over and they could not say who caught the pirate and saved the princess. Now, can you tell us one sentence with the word "suspense?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "suspense" can be used is: Donald's suspense kept him up last night because today his teacher is going to read the last chapter of his favorite book.

_____ Now that we learned the meaning of the word "suspense" I would like to ask you to complete some activities for me. Please open your Mystery Instruction

package into Week 2, Day 3, Activity 1. First, I will read the instructions to you.

Read instructions. Do you have any questions? Now, let's finish our activity.

Remember, this is not a test; these are just practice activities that will help you learn

the words, and we will discuss the correct answers later together. Please work

independently. Read first sentence and allow some time for students to mark their

answers before you move on to the second sentence. Do the same for the rest of the

sentences.

_____ What is the correct answer for the first sentence? Ask the rest of the students

if they agree with this selection. Do you agree? Does anybody else have a different

answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social

praise to the students for correct answers. That's right; good thinking. What about the

second sentence? If students give you a wrong answer identify the correct one.

_____ is the correct answer. Reread the whole sentence with the correct word and

ask students if that makes sense to them. Does that make sense to you? Provide

positive reinforcement for good working manners. Ask students to write the correct

answer in their worksheets and move on. Good try. Don't worry about not getting all

the answers correct as you are just learning these words. We will do some more

practice activities next time we meet and I am sure that you will do better. Please

write the correct answer in your worksheets. What about the next sentence? Do the

same for all sentences.

_____ Now, it's time for the Word Family Activity. Show students the blue card

and read the word back to them. This is the word "suspense." Does anybody

remember what this word means? Praise students (Excellent remembering) if students

remember. Flip the card to read the definition to the students, if students do not remember. "Suspense" means feeling excitement about what will happen next. Put on the table the blue card with the word "suspense" facing up. Show students the 3 yellow cards. Two of these yellow cards go with the word "suspense" because they mean the same thing or something like it. One of these yellow cards does not go with the word "suspense" because it means something different. Read each of the cards separately and put them on the table. The three yellow cards are: "truth," "interest," and "uncertain." Think for a couple of minutes and decide which two words go together with the word "suspense." If you find them you will get a colored star inside your logbooks, and with 3 colored stars you will get a sticker in your mystery word progress chart. Remember that you can always look up the definition of the word by flipping the card. I can read to you any words you do not know. Let me know when you are done and want to share your responses with us. When students are ready ask one of them to give you one correct card. ___tell us one card that goes with the word "suspense." If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a card that does not go with "suspense?" Now, ____ tell us the second yellow card that goes with "suspense?" If the student gives you the correct card, praise. Correct; uncertain and interest, because when you have suspense you are uncertain about what will happen next and you have interest in finding out what will happen next! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct

card, praise (This is better). Here is your word family. Let me give you your colored stars. Give students their colored stars and write Week 2 Day 3.

_____ Today we will practice all 5 mystery words we learned so far. Can anybody tell us what these words are? If students remember the words praise their effort. Good remembering. If they do not, show them the cards from the Word Family activity and read the words back to them. Here are the 5 mystery words we learned so far (show the cards one by one): "conceal," "conspire," "motive," "twist," and "suspense." Ask students to repeat the words out loud. What are the words? Then show each one of the words and ask the students to give you the definition of the word. If the student knows the definition, praise him/her and move to the next word. If the student does not know the definition, wait for a few seconds and call on another child. If nobody remembers the definition from memory, flip the card and read the definition to the students (have the students read the definition to you). Do the same for the rest of the words. If the students remember the words praise their effort. Who can tell us what the word "conceal" means? ("conceal" means to keep something a secret). Very good remembering. Let's flip the card over to read the definition; "conceal" means to keep something a secret. Let's see if somebody can tell us what the word "conspire" mean ("conspire" means to plan secretly with others to do wrong). Can anyone tell us what the word "motive" means ("motive" means reason why a person acts in a certain way)? Can anyone tell us what the word "twist" means ("twist" means unexpected change)? Finally, who can tell us what the word "suspense" means ("suspense" means feeling of excitement about what will happen next)?

_____ Now, we will do a review activity. Please open your Mystery Instruction

package into Week 2, Day 3, Review. First, I will read the instructions to you. Read instructions. Do you have any questions? Let's do an example together to make sure that everybody understands what you need to do. Do the first item with the students. Read the first question and the two possible answers and ask students what is the best answer: a or b. If students give you the correct answer praise them (Good work); if not give students the correct answer, reread the question and answer, and ask students if that makes sense to them. Move on to the rest of the activity. Now, let's finish our activity. I will read each question to you and two possible answers, and allow you some time to mark your answers before I move on to the next question. Do you have any questions? This is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently.

_____ What is the correct answer for the first question: a or b? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about for the second question? If students give you a wrong answer identify the correct one. _____ is the correct answer. Reread the question and the correct answer and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move on. Good try. Don't worry about not getting all answers correct as you are just learning these words. We will do some more activities next time we meet and I am sure that you will do better. Please write the correct

answer in your worksheets. What about the next question? Do the same for all questions.

_____Writing Activity (see directions for administering the activity).

_____Our last activity today is to give out the secret prize to the winner of the week. Let's see who has the most stickers for this week and who can buy some stickers with their colored stars. Give out the prize(s) and award(s) for the winner(s) of the week. Write the date and students' names on the award(s).

_____ Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will talk about adventure, and we will learn and practice some adventure words. If this is the last session of instruction for this group of students, inform them that next time you meet they will be asked to complete some activities on the 10 adventure and 10 mystery words they learned. Next time we meet we will not learn more words, but I will ask you to complete some activities for me using the 10 adventure and 10 mystery words that we learned together.

Appendix E

Vocabulary Instruction for Experimental Students

for the Theme of Adventure

Vocabulary Instruction Checklist

Date: _____   **Instructor: _____**

Child's Name: _____   **School: _____**

Adventure: Week 1 Day 1

_____ If this is your first week of instruction introduce yourself as being a student

from the University of Maryland who will be working with them on their vocabulary.

Hi, my name is _____ and I am a student at the University of Maryland. I will

be working with you three times a week to discuss and learn some words about

adventure and mystery. This week and the week after we will talk and learn words

about adventure. If students had already 2 weeks of instruction on "mystery" words

tell them that for the next 2 weeks they would learn some words about adventure. Hi,

for the past two weeks we have been talking and learning some words about mystery.

This week and the week after we will talk and learn words about adventure.

_____ Does anybody know what an adventure is? If student(s) provide a definition

provide social praise. Once students have generated their ideas, define an adventure

as: Adventure is an exciting and unusual experience. Give 2 examples: For example

this would be an adventure: If you travel across country with some clothes in a

backpack and very little money this would be an adventure or If you are on an

airplane and the airplane crashes somewhere on an island this would

be an adventure. Then ask them about the elements of an adventure. Provide social

praise if they know at least one element of an adventure, then tell them: When we

read or write about adventures we are usually looking for 5 things: a) characters (the

people involved in the adventure); b) the setting (where the adventure takes place); c) what do these people want to do (in the two examples I gave you earlier people want to travel across country or to stay alive); d) what are the difficulties they have to face (little money and no transportation or no food and injuries); and e) what happens at the end.

_____ Today I will read to you the first part of an adventure story in the mountains. Next time we meet, we will read the end of this adventure story. Please take out from your folders the Adventure Story 1, page 1. While I read I want you to listen to the story carefully and try to figure out the meaning of 2 words. These 2 words are highlighted on this page. Point to the first word and say it out loud. Do the same for the second word. Do you see this word? This is the word "enterprise." Do you see this word? This is the word "confront." When I finish reading I will ask you to tell me what the words "enterprise" and "confront" mean. It is ok if you don't know what these words mean. I will explain them to you when I finish reading.

_____ Now, I am going to start reading. Are you ready to follow along? Read. When you finish, point to the word "enterprise" and say the word out loud. This is the word "enterprise." Let me read to you the part of the story that might help you figure out the meaning of this word. Read. (*Tom knew that…..engage in this dangerous enterprise*).

_____ Does anybody know what the word "enterprise" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Enterprise means large and risky job), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them:

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Enterprise means large and risky job. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "enterprise" and its definition.

_____ Point to the word "confront" and say the word out loud. This is the word "confront." Let me read to you the part of the story that might help you figure out the meaning of this word. Read. (*He had been told….the ice, and the howling winds*).

_____ Does anybody know what the word "confront" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Confront means to come up against), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Confront means to come up against. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "confront" and its definition.

_____ Please take out from your folders the Adventure Words package and open it to Week 1 Day 1. If this is the first week of instruction for these students introduce the logbooks. These are your logbooks. Every time we learn a new word and its definition I will ask you to write the word and its definition in your logbooks. You can always use your logbook if you want to refresh your memory about what these words mean. Now, look under Adventure, Week 1, Day 1 and write the word "enterprise" and its definition under Word 1. Now, write the word "confront" and its definition under Word 2. Please read back to me the 2 adventure words we learned today and their definitions. If it is not the first week of instruction for these students just ask them to write both words and their definitions in the logbooks. Please, write

both words and their definitions in your logbooks. Look under Adventure, Week 1, Day 1 and write the word "enterprise" and its definition under Word 1. Now, write the word "confront" and its definition under Word 2. Now, I would like to ask you to read back to me the two mystery words that we learned today and their definitions. Very good job.

_____ You can use these words, "enterprise" and "confront," in any story you write. I am going to give you an example of how you can use these words in a sentence. Then I am going to ask to try to do the same thing. Here is an example of how to use the word "enterprise" in a sentence: If I asked you to swim across a lake full of alligators, that would be quite an enterprise. Ask students to give you an example: Can somebody tell us a sentence where the word "enterprise" is used? If students give you two correct examples, praise them and move on. Very good job; I see you understand how you can use the word "enterprise" when you talk about an adventure. I believe you can also use this word when I ask you later to write about an adventure as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "enterprise" when you talk about an adventure. I believe you can also use this word when I ask you later to write about an adventure as well. Can somebody else tell us a sentence where the word "enterprise" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "enterprise" can be used is: Alison had the biggest enterprise of her life when she had to find her way out of the dark cave. Now, can you tell us a sentence with the word "enterprise?" If students give you a

correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "enterprise" can be used is: Little James had quite an enterprise killing the large lion.

_____ Here is an example of how to use the word "confront" in a sentence: When I fly my airplane on a very windy day, I confront the wind. Ask students to give you an example: Can somebody tell us a sentence where the word "confront" is used? If students give you two correct examples, praise them and move on. Very good job; I see you understand how you can use the word "confront" when you talk about an adventure. I believe you can also use this word when I ask you later to write about an adventure as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "confront" when you talk about an adventure. I believe you can also use this word when I ask you later to write about an adventure as well. Can somebody else tell us a sentence where the word "confront" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "confront" can be used is: When Frank went to jungle to find a beautiful flower, he had to confront snakes, elephants, and gorillas. Now, can you tell us a sentence with the word "confront?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "confront" can be used is: When Lucas moved from Africa to Antarctica, he did not know that he would confront such cold weather.

_____ Now that we learned the meaning of these 2 words I would like to ask you to complete some activities for me. Please open your Adventure Instruction package into Week 1 Day 1, Activity 1. First, I will read the instructions to you. Read instructions. Do you have any questions? Let's do an example together to make sure that everybody understands what you need to do. Read the first sentence and ask students what word goes in the blank .If students give you the correct answer praise them (Good work); if not give students the correct answer, reread the sentence with the correct answer, and ask students if that makes sense to them. Move on to the rest of the activity. Now, let's finish our activity. I will read each sentence to you and allow you some time to mark your answers before I move on to the next sentence. Do you have any questions? This is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently.

_____What is the correct answer for the first sentence? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody else have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about the second sentence? If students give you a wrong answer identify the correct one.

_____ is the correct answer. Reread the whole sentence with the correct word and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move on. Good try. Don't worry about not getting all the answers correct as you are just learning these words. We will do some more

practice activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next sentence? Do the same for all sentences.

_____Now, we will play a game called Word Families. First, I will show you what you have to do and then I will ask you to do the same thing. Show students the blue card. This is the word "enterprise." Does anybody remember what this word means? Praise students (Excellent remembering) if students remember. Flip the cards to read the definitions to the students, if students do not remember. "Enterprise" means large and risky job. Put on the table the blue card with the word "enterprise" facing up. Show students the three yellow cards. Here are three cards in yellow. Two of these yellow cards go with the word "enterprise" because they mean the same thing or something like it. One of these yellow cards does not go with the word "enterprise" because it means something different. I am going to read to you what is on each of these 3 yellow cards. The first card has the phrase "easy to do," the second card has the phrase "hard work," and the third card has the phrase "big problem." Remember the definition of the word "enterprise?" The card with the phrase "big problem" goes together with the card "enterprise," because an enterprise is a big problem. What other card goes together with "enterprise"? Give students a couple of minutes to think and if they do not select the second yellow card or if they select the wrong one, give them the correct answer. The second yellow card that goes with "enterprise" is "hard work," because an enterprise also requires hard work in order to be accomplished If students select the correct second yellow card praise them. Good job. Show students the second blue card and ask them to work together as a team to figure out which

words go together with the second blue card "confront." Do you think that you can do the same with the word "confront?" Confront means to come up against. The three yellow cards are "friend," "fight," and "challenge." I will give you a couple of minutes to think about it and decide which two yellow cards go with the word "confront." You will get a colored star inside your logbooks for finding the correct cards, and with three colored stars you will get a sticker in your adventure words progress chart. Remember that you can always look up the definition of the word by flipping the card. I can read to you any words you do not know. Let me know when you are done and want to share your responses with us. When students are ready ask one of them to give you one correct card. ____ tell us one card that goes with the word "confront." If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us the second yellow card that goes with "confront?" If the student gives you the correct card, praise. Correct; fight and challenge, because when you confront somebody you are fighting somebody; and this is a challenge! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Here are your word families. Let me give you your colored stars. Give students their colored stars and write Week 1 Day 1.

_____And now we will do something fun. This activity is called the Payload. I would like each of you to draw a little piece of paper from this hat. On each of these little pieces of paper is one of the two words we learned today. Can each of you read back

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to us the word you got? Help students read their words if needed. Write the word that each student selected in your checklist to remember for next time. From today until the next time we meet I would like you to be thinking of a sentence where you can use the word you selected. Next time we meet I will ask you to tell me your sentence. You can always write the sentence down on a piece of paper if that helps you remember the sentence. Whoever uses his/her word correctly in an oral sentence when we meet next time, he/she will earn a sticker in your adventure words progress chart. The person with the most stickers at the end of each week will get a secret prize and become the winner of the week. Here is your progress chart. Every time you earn a sticker I will put it on this chart. You will be like people who want to climb to the top of a mountain and every day you are one step closer to reaching the top. Every time you tell us a correct sentence you will be one step closer to winning the secret prize and becoming the winner of the week. Any questions? So remember to come prepared to share a sentence with this word because next time we meet we will go over your homework and give out the stickers.

_____Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will learn and practice some new adventure words.

Vocabulary Instruction Checklist

Date: _____   Instructor: _____

Child's Name: _____   School: _____

Adventure: Week 1 Day 2

_____ Does anybody remember the 2 adventure words we learned last time ("confront" and "enterprise")? If students remember the words praise and ask them to tell you the definitions of these words. Good remembering. Does anybody remember what these words mean ("confront" means to come up against and "enterprise" means large and risky job)? If students remember the definitions praise them. That is correct; "confront" means to come up against and "enterprise" means large and risky job. If students do not remember the definitions flip the cards from Word the family activity and read the definitions back to them. If students do not remember the words, provide the words to the students by showing them the cards. The 2 adventure words that we learned last time are "confront" and "enterprise." Have the students repeat these words to you orally. What are the words? Then ask students about the definitions of these words. Does anybody remember what these words mean? If students remember the definitions praise them. That is correct; "confront" means to come up against and "enterprise" means large and risky job. If students do not remember the definitions, flip the cards from the word family activity and read the definitions to them.

_____ Now, let us hear the sentences that each of you made up for these words. Who prepared a sentence for the word "enterprise?" Who prepared a sentence for the word "confront?" Praise students for their effort and give out stickers. Excellent sentence, very good work; here are your stickers If students do not use their words in

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sentences correctly, be prepared to provide a sentence for each incorrect word to

model correct use of the word. If students are not prepared to share a sentence, help

them to come up with a sentence but do not give them a sticker. Let's think of a

sentence together.

_____Today I will read to you the rest of the adventure story we started last

time. Does anybody remember what the story was about? If students do not remember

give the highlights of the story, otherwise praise them. Good remembering. Please

take out from your folders the Adventure Story 1, page 2. While I read I want you to

listen carefully and try to figure out the meaning of 2 words. These 2 words are

highlighted on this page. Point to the first word and say it out loud. Do the same for

the second word. Do you see this word? This is the word "anticipate." Do you see this

word? This is the word "fulfill." When I finish reading I will ask you to tell me what

the words "anticipate" and "fulfill" mean. It is ok if you don't know what these words

mean. I will explain them to you when I finish reading.

_____ Now, I am going to start reading. Are you ready to follow along? Read. When

you finish, point to the word "anticipate" and say the word out loud. This is the word

"anticipate." Let me read to you the part of the story that might help you figure out

the meaning of this word. Read. (*He had seen many climbers…..did not know what to

do*).

_____"Does anybody know what the word "anticipate" means? If students

provide you with an approximate definition of the word, restate the definition as you

will teach it, (Anticipate means to expect that something is going happen), and praise

the student (Good job). If students do not know the definition of the word, provide the

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definition to them. Anticipate means to expect that something is going to happen. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "anticipate" and its definition.

_____ Point to the word "fulfill" and say the word out loud. This is the word "fulfill." Let me read to you the part of the story that might help you figure out the meaning of this word. Read. (*Tom was exhausted….mountain in the world*).

_____ Does anybody know what the word "fulfill" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Fulfill means to make an idea come true), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Fulfill means to make an idea come true. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "fulfill" and its definition.

_____ Please take out from your folders the Adventure Words package and open it to Week 1 Day 2. Write the word "anticipate" and its definition under Word 1. Now, write the word "fulfill" and its definition under Word 2. Now, I would like to ask you to read back to me the two adventure words that we learned today and their definitions. Very good job.

_____ You can use these words, "anticipate" and "fulfill," in any story you write. Here is an example of how to use the word "anticipate" in a sentence: If I anticipate that I will get lost, I take a map and my cell phone with me. Ask students to give you an example. Can somebody tell us a sentence where the word "anticipate" is

used? If students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "anticipate" when you talk about an adventure. I believe you can also use this word when you write a story about an adventure as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "anticipate" when you talk about an adventure. I believe you can also use this word when you write a story about an adventure as well. Can somebody else tell us a sentence where the word "anticipate" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "anticipate" can be used is: I take many bottles of water with me, because I anticipate that it will be very hot in the dessert and I will get thirsty. Now, can you tell us one sentence with the word "anticipate?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "anticipate" can be used is: When you go scuba diving, you should anticipate the danger of running into a shark.

_____ Here is an example of how to use the word "fulfill" in a sentence: If you always wanted to go whale hunting and then one day you did, this fulfilled your dream. Ask students to give you an example. Can somebody tell us a sentence where the word "fulfill" is used? If students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "fulfill" when you talk about an adventure. I believe you can also use this word when you write a story about an adventure as well. If students give you one correct example,

provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "fulfill" when you talk about an adventure. I believe you can also use this word when you write a story about an adventure as well. Can somebody else tell us a sentence where the word "fulfill" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "fulfill" can be used is: The astronaut who returned home from Mars alive fulfilled his promise to his wife, to see her again. Now, can you tell us one sentence with the word "fulfill?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "fulfill" can be used is: When Vickie saw her name in the newspaper she was very happy because she fulfilled her hope of becoming famous.

_____ Now that we learned the meaning of these 2 words I would like to ask you to complete some activities for me. Please open your Adventure Instruction package into Week 1 Day 2, Activity 1. First, I will read the instructions to you. Read instructions. Do you have any questions? Now, let's finish our activity. Remember, this is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently. Read first sentence and allow some time for students to mark their answers before you move on to the second sentence. Do the same for the rest of the sentences.

_____What is the correct answer for the first sentence? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody else have a different

answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about the second sentence? If students give you a wrong answer identify the correct one.

_____ is the correct answer. Reread the whole sentence with the correct word and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move one. Good try. Don't worry about not getting all the answers correct as you are just learning these words. We will do some more practice activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next sentence? Do the same for all sentences.

_____Now, it's time for the Word Family Activity. Show students the two blue cards and read the words back to them. This is the word "anticipate" and this is the word "fulfill." Does anybody remember what these 2 words mean? Praise students (Excellent remembering) if students remember. Flip the cards to read the definitions to the students, if students do not remember. "Anticipate" means to expect that something is going to happen. "Fulfill" means to make an idea come true. Put on the table the blue cards with the words "anticipate" and "fulfill" facing up. Show students the 6 yellow cards. Two of these yellow cards go with the word "anticipate" because they mean the same thing or something like it. Two of these yellow cards go with the word "fulfill" because they mean the same thing or something like it. Two of these cards do not go with the words "anticipate" or "fulfill" because they mean something different. Read each of the cards separately and put them on the table. The six yellow

cards are: "guess," "clean a mess," "complete," "think ahead," "carry out," and "become smaller." Think for a couple of minutes and decide which two words go together with the word "anticipate" and which go with the word "fulfill." If you find them you will get a colored star inside your logbooks, and with 3 colored stars you will get a sticker in your adventure word progress chart. Remember that you can always look up the definition of the words by flipping the cards. I can read to you any words you do not know. Let me know when you are done and want to share your responses with us. When students are ready ask one of them to give you one correct card. ___tell us one card that goes with the word "anticipate." If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a card that does not go with "anticipate?" Now, ___ tell us the second yellow card that goes with "anticipate?" If the student gives you the correct card, praise. Correct; guess and think ahead, because when somebody anticipates something he/she thinks ahead or guesses that something will happen! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better).

_____Now, ____ can you tell us one card that goes with the word "fulfill?" If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a card that does not go with "fulfill?" Now, ___ tell us

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the second yellow card that goes with "fulfill?" If the student gives you the correct card, praise. Correct; complete and carry out, because when we fulfill a dream or a promise we complete something and carry it out! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Here are your word families. Let me give you your colored stars. Give students their colored stars and write Week 1 Day 2.

_____It is now time for the Payload activity. Please select a piece of paper from this hat. On each of these little pieces of paper is one of the two words we learned today. Can each of you read back to us the word you got? Help students read their words if needed. Write the word that each student selected in your checklist to remember for next me. If you use this word correctly in an oral sentence you will get a sticker. This is your homework for the next time we meet. Remember to come prepared to share a sentence with this word because next time we meet we will go over your homework and give out the stickers.

_____ Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will learn and practice some new adventure words.

Vocabulary Instruction Checklist

Date: _____   **Instructor: _____**

Child's Name: _____   **School: _____**

Adventure: Week 1 Day 3

_____ Does anybody remember the 2 adventure words we learned last time ("anticipate" and "fulfill")? If students remember the words praise and ask them to tell you the definitions of these words. Good remembering. Does anybody remember what these words mean ("anticipate" means to expect that something is going to happen and "fulfill" means to make an idea come true)? If students remember the definitions praise them. That is correct; "anticipate" means to expect that something is going to happen, and "fulfill" means to make an idea come true. If students do not remember the definitions flip the cards from Word the family activity and read the definitions back to them. If students do not remember the words, provide the words to the students by showing them the cards. The 2 adventure words that we learned last time are "anticipate" and "fulfill." Have the students repeat these words to you orally. What are the words? Then ask students about the definitions of these words. Does anybody remember what these words mean? If students remember the definitions praise them. That is correct; "anticipate" means to expect that something is going to happen, and "fulfill" means to make an idea come true. If students do not remember the definitions, flip the cards from the word family activity and read the definitions to them.

_____Now let us hear the sentences that each of you made up for these two words. Who prepared a sentence for the word "anticipate?" Who prepared a sentence for the

word "fulfill?" Praise students for their effort and give out stickers. Excellent sentence, very good work; Take out your Adventure words and go to Week 1, "My progress chart." Here are your stickers. If students do not use their words in sentences correctly, provide a sentence for each incorrect word to model correct use of the word. If students are not prepared to share a sentence, help them to come up with a sentence but do not give them a sticker. Let's think of a sentence together.

_____Please take out from your folders Adventure Story 1, page 2. Point to the word "pursue" in the passage and say the word out loud. This is the word "pursue." Let me read to you the part of the story that might help you figure out the meaning of this word. Read. (*Since he was a child…...after his grandfather died*).

_____Does anybody know what the word "pursue" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Pursue means to try to accomplish a job), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Pursue means to try to accomplish a job. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "pursue" and its definition.

_____Please take out from your folders the Adventure Words package, open it to Week 1 Day 3, and write down the word "pursue" and its definition. Read back to me one more time the word and its definition.

_____ You can use the word, "pursue" in any story you write. I am going to give you an example of how you can use this word in a sentence. Then I am going to ask you to try to do the same thing. Give an example of the word "pursue." Here is an

example of how to use the word "pursue" in a sentence: Bryan decided to pursue his dream to travel across the Sahara dessert and write about the life of the people who live there. Ask students to give you an example. Can somebody tell us a sentence where the word "pursue" is used? If students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "pursue" when you talk about an adventure. I believe you can also use this word when you write a story about an adventure as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "pursue" when you talk about an adventure. I believe you can also use this word when you write a story about an adventure as well. Can somebody else tell us a sentence where the word "pursue" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "pursue" can be used is: My father taught me that if I work hard and believe in myself I would be able to pursue my goal to win a gold metal in the Olympic Games. Now, can you tell us one sentence with the word "pursue?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "pursue" can be used is: It is important to pursue what you want and to not give up until you accomplish it.

_____Now that we learned the meaning of the word "pursue" I would like to ask you to complete some activities for me. Please open your Adventure Instruction package into Week 1 Day 3, Activity 1. First, I will read the instructions to you. Read

instructions. Do you have any questions? Now, let's finish our activity. Remember, this is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently. Read first sentence and allow some time for students to mark their answers before you move on to the second sentence. Do the same for the rest of the sentences.

_____What is the correct answer for the first sentence? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody else have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about the second sentence? If students give you a wrong answer identify the correct one.

_____ is the correct answer. Reread the whole sentence with the correct word and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move on. Good try. Don't worry about not getting all the answers correct as you are just learning these words. We will do some more practice activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next sentences? Do the same for all sentences.

_____ Now, it's time for the Word Family Activity. Show students the blue card and read the word back to them. This is the word "pursue." Does anybody remember what this word means? Praise students (Excellent remembering) if students remember. Flip the card to read the definition to the students, if students do not remember. "Pursue" means to try to accomplish a job. Put on the table the blue card

with the word "pursue" facing up. Show students the 3 yellow cards. Two of these yellow cards go with the word "pursue" because they mean the same thing or something like it. One of these yellow cards does not go with the word "pursue" because it means something different. Read each of the cards separately and put them on the table. The three yellow cards are: "be persistent," "fear something," and "finish." Think for a couple minutes and decide which two words go together with the word "pursue." If you find them you will get a colored star inside your logbooks, and with 3 colored stars you will get a sticker in your adventure word progress chart. Remember that you can always look up the definition of the word by flipping the card. I can read to you any words you do not know. Let me know when you are done and want to share your responses with us. When students are ready ask one of them to give you one correct card. ___tell us one card that goes with the word "inspire." If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us the second yellow card that goes with "pursue?" If the student gives you the correct card, praise. Correct; be persistent and finish, because when you pursue something you have to be persistent and finish what you started! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Here is your word family. Let me give you your colored stars. Give students their colored stars and write Week 1 Day 3.

_____ Today, we will practice all 5 adventure words we learned so far. Can anybody

tell us what these words are? If the students remember the words praise their effort. Good remembering. If they do not, show them the cards from the Word Family activity and read the words back to them. Here are the 5 adventure words we learned so far (show the cards one by one): "anticipate," "confront," "enterprise," "fulfill," and "pursue." Ask students to repeat the words out loud. What are the words? Then show each one of the words and ask the students to give you the definition of the word. If the student knows the definition, praise him/her and move to the next word. If the student does not know the definition, wait for a few seconds and call on another child. If nobody remembers the definition from memory, flip the card and read the definition to the students (have the students read the definition to you). Do the same for the rest of the words. Who can tell us what the word "anticipate" means? ("anticipate" means to expect that something is going to happen). Very good remembering. Let's flip the card over to read the definition; "anticipate" means to expect that something is going to happen. Let's see if somebody can tell us what the word "confront" means ("confront" means to come up against). Can anyone tell us what the word "enterprise" means ("enterprise" means large and risky job)? Can anyone tell us what the word "fulfill" means ("fulfill" means to make an idea come true)? Finally, who can tell us what the word "pursue" means ("pursue" means to try to accomplish a job)?

_____Now, we will do a review activity. Please open your Adventure Instruction package into Week 1, Day 3, Review. First, I will read the instructions to you. Read instructions. Do you have any questions? Let's do an example together to make sure that everybody understands what you need to do. Do the first item with the students.

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Read the first question and the two possible answers and ask students what is the best answer: a or b. If students give you the correct answer praise them (Good work); if not give students the correct answer, reread the question and answer, and ask students if that makes sense to them. Move on to the rest of the activity. Now, let's finish our activity. I will read each question to you and two possible answers, and allow you some time to mark your answers before I move on to the next question. Do you have any questions? This is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently.

_____ What is the correct answer for the first question: a or b? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about for the second question? If students give you a wrong answer identify the correct one. _____ is the correct answer. Reread the question and the correct answer and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move on. Good try. Don't worry about not getting all answers correct as you are just learning these words. We will do some more activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next question? Do the same for all questions.

_____Writing Activity (see directions for administering the activity).

_____Our last activity today is to give out the secret prize to the winner of the week. Let's see who has the most stickers for this week and who can buy some stickers with their colored stars. Give out the prize(s) and award(s) for the winner(s) of the week. Write the date and students' names on the award(s).

_____Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will learn and practice some new adventure words.

Vocabulary Instruction Checklist

Date: _____   Instructor: _____

Child's Name: _____   School: _____

Adventure: Week 2 Day 1

_____ The last three times we met we talked about adventure and read an

adventure story in the mountains. Can anybody tell us what an adventure is? If

students remember the definition of an adventure praise them. Good job with

remembering. If students do not remember the definition of an adventure provide it to

them. Adventure is an exciting and unusual experience.

_____ Today, I will read to you the first part of another adventure story in the

mountains. Next time we meet, we will read the end of this adventure story. Please

take out from your folders the Adventure Story 2, page 1. While I read I want you to

listen to the story carefully and try to figure out the meaning of 2 words. These two

words are highlighted on this page. Point to the first word and say it out loud to you.

Do the same for the second word. Do you see this word? This is the word "peril." Do

you see this word? This is the word "prevail." When I finish reading I will ask you to

tell me what the words "peril" and "prevail" mean. It is ok if you don't know what

these words mean. I will explain them to you when I finish reading.

_____ Now, I am going to start reading. Are you ready to follow along? Read. When

you finish, point to the word "peril" and say the word out loud. This is the word

"peril." Let me read to you the part of the story that might help you figure out the

meaning of this word. Read. (*Today very few climbers……200 hundreds years ago*).

_____ Does anybody know what the word "peril" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Peril means immediate danger), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Peril means immediate danger. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "peril" and its definition.

_____ Point to the word "prevail" and say the word out loud. This is the word "prevail." Let me read the part of the story that might help you figure out the meaning of this word. Read. (*He tried to prevail….on his way back down*).

_____ Does anybody know what the word "prevail" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Prevail means to overcome difficulties), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Prevail means to overcome difficulties. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "prevail" and its definition.

_____Please take out from your folders the Adventure Words package and open it to Week 2 Day 1. Write the word "peril" and its definition under Word 1. Now, write the word "prevail" and its definition under Word 2. Now, I would like to ask you to read back to me the two adventure words that we learned today and their definitions. Very good job.

_____ You can use these words, "peril" and "prevail," in any story you write. Here

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is an example of how to use the word "peril" in a sentence: When I was scuba diving and saw the shark coming after me, I realized that I was in peril. Ask students to give you an example: Can somebody tell us a sentence where the word "peril" is used? If students give you two correct examples, praise and move on: Very good job; I see you understand how you can use the word "peril" when you talk about an adventure. I believe you can also use this word when I ask you later to write about an adventure as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "peril" when you talk about an adventure. I believe you can also use this word when I ask you later to write about an adventure as well. Can somebody else tell us a sentence where the word "peril" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "peril" can be used is: The biggest peril for a sailor who searches for a hidden treasure is the pirates who hid it. The biggest peril for a sailor who searches for a hidden treasure is the pirates who hid it. Now, can you tell us one sentence with the word "peril?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "peril" can be used is: When you take a walk in the forest, remember to keep to the trails or you will be in peril if you get lost.

_____ Here is an example of how to use the word "prevail" in a sentence: Kim was able to prevail against the impossibly high waves and win the sailing competition. Ask students to give you an example: Can somebody tell us a sentence

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where the word "prevail" is used? If the students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "prevail" when you talk about an adventure. I believe you can also use this word when I ask you later to write about an adventure as well. If students give you one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "prevail" when you talk about an adventure. I believe you can also use this word when I ask you later to write about an adventure as well. Can somebody else tell us a sentence where the word "prevail" is used? If students still cannot give you an example, share with them an example. Another example where the word "prevail" can be used is: The survivors of the airplane accident were explaining to the reporter how they managed to prevail despite the hot and moist climate in the jungle. Now, can you tell us one sentence with the word "prevail?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "prevail" can be used is: Eric had a heavy coat, a hat, and gloves on and was able to prevail against the strong cold winds that blow at the top of the mountain.

_____ Now that we learned the meaning of these 2 words I would like to ask you to complete some activities for me. Please open your Adventure Instruction package into Week 2, Day 1, Activity 1. First, I will read the instructions to you. Read instructions. Do you have any questions? Now, let's finish our activity. Remember, this is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently.

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Read first sentence and allow some time for students to mark their answers before you move on to the second sentence. Do the same for the rest of the sentences.

_____ What is the correct answer for the first sentence? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody else have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about the second sentence? If students give you a wrong answer identify the correct one. ____ is the correct answer. Reread the whole sentence with the correct word and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move on. Good try. Don't worry about not getting all the answers correct as you are just learning these words. We will do some more practice activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next sentence? Do the same for all sentences.

_____Now, it's time for the Word Family activity. Show students the two blue cards and read the words back to them. This is the word "peril" and this is the word "prevail." Does anybody remember what these 2 words mean? Praise students (Excellent remembering) if students remember. Flip the cards to read the definitions to the students, if students do not remember. "Peril" means immediate danger. "Prevail" means to overcome difficulties. Put on the table the blue cards with the words "peril" and "frustrations" facing up. Show students the 6 yellow cards. Two of these yellow cards go with the word "peril" because they mean the same thing or

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something like it. Two of these yellow cards go with the word "prevail" because they mean the same thing or something like it. Two of these yellow cards do not go with the words "peril" or "prevail" because they mean something different. Read each of the cads separately and put them on the table. The six yellow cards are: "possible harm," "threat," "survive," "continue to live," "make a joke," and "gift." Think for a couple of minutes and decide which two cards go together with the word "peril" and which go with the word "prevail." If you find them you will get a colored star inside your logbooks, and with 3 colored stars you will get a sticker in your adventure word progress chart. Remember that you can always look up the definition of the words by flipping the cards. I can read to you any words that you do not know. Let me know when you are done and want to share your responses with us. When students are ready ask one of them to give you one correct card. _____ tell us one card that goes with the word "peril." If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a card that does not go with "peril?" Now, ___ tell us the second yellow card that goes with "peril?" If the student gives you the correct card, praise. Correct; possible harm and threat because peril is a threat, something that can be of possible harm to a person! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better).

_____Now, _____ can you tell us one card that goes with the word "prevail?" If the student gives you a correct card, praise. Good work! If the student does not give you a

correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a card that does not go with "prevail?" Now, ____ tell us the second yellow card that goes with "prevail?" If the student gives you the correct card, praise. Correct; continue to live and survive, because when you prevail for example against a serious, life threatening disease you manage to survive and continue to live! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Here are your word families. Let me give you your colored stars. Give students their colored stars and write Week 2 Day 1.

_____ It is now time for the Payload Activity. Please select a piece of paper from this hat. On each of these little pieces of paper is one of the two words we learned today. Can each of you read back to us the word you got? Read the words to the students if needed. If you use this word correctly in an oral sentence you will get a sticker. This is your homework for the next time we meet. Remember to come prepared to share a sentence with this word because next time we meet we will go over your homework and give out the stickers.

_____ Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will learn and practice some new adventure words.

Vocabulary Instruction Checklist

Date: _____   **Instructor:** _____

Child's Name: _____   **School:** _____

Adventure: Week 2 Day 2

_____ Does anybody remember the 2 adventure words we learned last time ("peril" and "prevail")? If students remember the words praise and ask them to tell you the definitions of these words. Good remembering. Does anybody remember what these words mean ("peril" means immediate danger and "prevail" means to overcome difficulties)? If students remember the definitions praise them. That is correct; "peril" means immediate danger and "prevail" means to overcome difficulties. If students do not remember the definitions flip the cards from Word the family activity and read the definitions back to them. If students do not remember the words, provide the words to the students by showing them the cards. The 2 adventure words that we learned last time are "peril" and "prevail." Have the students repeat these words to you orally. What are the words? Then ask students about the definitions of these words. Does anybody remember what these words mean? If students remember the definitions praise them. That is correct; "peril" means immediate danger and "prevail" means to overcome difficulties. If students do not remember the definitions, flip the cards from the word family activity and read the definitions to them.

_____ Now, let us hear the sentences that each of you made up for these words. Who prepared a sentence for the word "peril?" Who prepared a sentence for the word

"prevail?" Praise students for their effort and give out stickers. Excellent sentence, very good work; here are your stickers If students do not use their words in sentences correctly, be prepared to provide a sentence for each incorrect word to model correct use of the word. If students are not prepared to share a sentence, help them to come up with a sentence but do not give them a sticker. Let's think of a sentence together.

_____Today I will read to you the rest of the adventure story we started last time. Does anybody remember what the story was about? If students do not remember give the highlights of the story, otherwise praise them. Good remembering. Please take out from your folders the Adventure Story 2, page 2. While I read I want you to listen carefully and try to figure out the meaning of 2 words. These 2 words are highlighted on this page. Point to the first word and say it out loud. Do the same for the second word. Do you see this word? This is the word "encounter." Do you see this word? This is the word "endure." When I finish reading I will ask you to tell me what the words "encounter" and "endure" mean. It is ok if you don't know what these words mean. I will explain them to you when I finish reading.

_____ Now, I am going to start reading. Are you ready to follow along? Read. When you finish, point to the word "encounter" and say the word out loud. This is the word "encounter." Let me read to you the part of the story that might help you figure out the meaning of this word. Read. (*My friend John and I ….. decided to stay put*).

_____"Does anybody know what the word "encounter" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Encounter means to come face to face with danger), and praise the student (Good job). If students do not know the definition of the word, provide the

definition to them: Encounter means to come face to face with danger. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "encounter" and its definition.

_____ Point to the word "endure" and say the word out loud. This is the word "endure." Let me read to you the part of the story that might help you figure out the meaning of this word. Read. (*Robert's body became jammed …heavy snow*).

_____ Does anybody know what the word "endure" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Endure means to keep doing a job that is unpleasant), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Endure means to keep doing a job that is unpleasant. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "endure" and its definition.

_____ Please take out from your folders the Adventure Words package and open it to Week 2 Day 2. Write the word "encounter" and its definition under Word 1. Now, write the word "endure" and its definition under Word 2. Now, I would like to ask you to read back to me the two adventure words that we learned today and their definitions. Very good job.

_____ You can use these words, "encounter" and "endure," in any story you write. Here is an example of how to use the word "encounter" in a sentence: Mark was afraid to encounter the hungry wolves, so he climbed a tree to get away from them. Ask students to give you an example: Can somebody tell us a sentence where the word "encounter" is used? If students give two correct examples, praise and move on.

Very good job; I see you understand how you can use the word "encounter" when you talk about an adventure. I believe you can also use this word when I ask you later to write about an adventure as well. If students give one correct example, provide social praise and ask for an additional example from a different student. Very good job; I see you understand how you can use the word "encounter" when you talk about an adventure. I believe you can also use this word when I ask you later to write about an adventure as well. Can somebody else tell us a sentence where the word "encounter" is used? If students still cannot give you an example or do not give a correct example, share with them an example. Another example where the word "encounter" can be used is: When my father stepped into our burning house he had to encounter huge flames and lots of smoke in order to save me. Now, can you tell us one sentence with the word "encounter?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "encounter" can be used is: No one wants to encounter the hot dessert, unless they have plenty of water.

_____ Here is an example of how to use the word "endure" in a sentence: Babies cry a lot, because they are sensitive and cannot endure pain at all. Ask students to give you an example: Can somebody tell us a sentence where the word "endure" is used? If students give you two correct examples, praise and move on. Very good job; I see you understand how you can use the word "endure" when you talk about an adventure. I believe you can also use this word when I ask you later to write about an adventure as well. If students give one correct example, provide social praise and ask

for an additional example from a different student. Very good job; I see you understand how you can use the word "endure" when you talk about an adventure. I believe you can also use this word when I ask you later to write about an adventure as well. Can somebody else tell us a sentence where the word "endure" is used? If students still cannot give you an example or do not give you a correct example, share with them an example. Another example where the word "endure" can be used is: Even though I was very tired, the applause from the crowd helped me endure and finish the game. Now, can you give us one sentence with the word "endure?" If students give you a correct example, praise and move on. If students do not give you an example or do not give you a correct example, share with them a third example. Another example where the word "endure" can be used is: I was able to endure running 20 miles a day, and I made the team.

_____ Now that we learned the meaning of these 2 words I would like to ask you to complete some activities for me. Please open your Adventure Instruction package into Week 2 Day 2, Activity 1. First, I will read the instructions to you. Read instructions. Do you have any questions? Now, let's finish our activity. Remember, this is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently. Read first sentence and allow some time for students to mark their answers before you move on to the second sentence. Do the same for the rest of the sentences.

_____What is the correct answer for the first sentence? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody else have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social

praise to the students for correct answers. That's right; good thinking. What about the second sentence? If students give you a wrong answer identify the correct one. _____ is the correct answer. Reread the whole sentence with the correct word and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move one. Good try. Don't worry about not getting all the answers correct as you are just learning these words. We will do some more practice activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next sentence? Do the same for all sentences.

_____Now, it's time for the Word Family Activity. Show students the two blue cards and read the words back to them. This is the word "encounter" and this is the word "endure." Does anybody remember what these 2 words mean? Praise students (Excellent remembering) if students remember. Flip the cards to read the definitions to the students, if students do not remember. "Encounter" means to come face to face with danger. "Endure" means to keep doing a job that is unpleasant. Put on the table the blue cards with the words "encounter" and "endure" facing up. Show students the 6 yellow cards. Two of these yellow cards go with the word "encounter" because they mean the same thing or something like it. Two of these yellow cards go with the word "endure" because they mean the same thing or something like it. Two of these cards do not go with the words "encounter" or "endure" because they mean something different. Read each of the cards separately and put them on the table. The six yellow cards are: "feel happy," "go on vacation," "meet," "stand against," "put up with," and

"continue." Think for a couple of minutes and decide which two words go together with the word "encounter" and which go with the word "endure." If you find them you will get a colored star inside your logbooks, and with 3 colored stars you will get a sticker in your adventure word progress chart. Remember that you can always look up the definition of the words by flipping the cards. I can read to you any words you do not know. Let me know when you are done and want to share your responses with us. When students are ready ask one of them to give you one correct card. ___tell us one card that goes with the word "encounter." If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a card that does not go with "encounter?" Now, ___ tell us the second yellow card that goes with "encounter?" If the student gives you the correct card, praise. Correct; meet and stand against, because when we encounter somebody we meet somebody and we stand against him/her! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better).

_____Now, ____ can you tell us one card that goes with the word "endure?" If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us a card that does not go with "endure?" Now, ___ tell us the second yellow card that goes with "endure?" If the student gives you the correct

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card, praise. Correct; put up with and continue, because when we endure something we put up with something and continue doing it even if it is unpleasant for us! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Here are your word families. Let me give you your colored stars. Give students their colored stars and write Week 2 Day 2.

_____It is now time for the Payload activity. Please select a piece of paper from this hat. On each of these little pieces of paper is one of the two words we learned today. Can each of you read back to us the word you got? Help students read their words if needed. Write the word that each student selected in your checklist to remember for next me. If you use this word correctly in an oral sentence you will get a sticker. This is your homework for the next time we meet. Remember to come prepared to share a sentence with this word because next time we meet we will go over your homework and give out the stickers.

_____ Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will learn and practice some new adventure words.

Vocabulary Instruction Checklist

Date: _____   **Instructor:** _____

Child's Name: _____   **School:** _____

Adventure: Week 2 Day 3

_____ Does anybody remember the 2 adventure words we learned last time ("encounter" and "endure")? If students remember the words praise them and ask them to tell you the definitions of these words. Good remembering. Does anybody remember what these words mean ("encounter" means to come face to face with danger and "endure" means to keep doing a job that is unpleasant)? If students remember the definitions praise them. That is correct; encounter means to come face to face with danger and "endure" means to keep doing a job that is unpleasant. If students do not remember the definitions flip the cards from the word Family activity and read the definitions back to them. If students do not remember the words provide the words to the students by showing them the cards. The 2 adventure words that we learned last time are "encounter" and "endure." Have the students repeat the words to you orally. What are the words? Then ask students about the

definitions of these words. Does anybody remember what these words mean? If students remember the definitions praise them. That is correct; "encounter" means to come face to face with danger and "endure" means to keep a doing a job that is unpleasant. If students do not remember the definitions, flip the cards from the Word Family activity and read the definitions to them.

_____ Now let us hear the sentences that each of you made up for these two words.

Who prepared a sentence for the word "encounter?" Who prepared a sentence for the word "endure?" Praise students for their effort and give out stickers. Excellent sentence, very good work; Take out your Adventure words and go to Week 2, "My progress chart." Here are your stickers. If students do not use their words in sentences correctly, provide a sentence for each incorrect word to model correct use of the word. If students are not prepared to share a sentence, help them to come up with a sentence but do not give them a sticker. Let's think of a sentence together.

_____ Please take out from your folders the Adventure Story 2, page 2. Point to the word "determination" in the passage and say the word out loud. This is the word "determination." Let me read the part of the story that might help you figure out the meaning of this word. Read. (*He tried to dig himself …... covered with snow*).

_____ Does anybody know what the word "determination" means? If students provide you with an approximate definition of the word, restate the definition as you will teach it, (Determination means firm decision to do a difficult job), and praise the student (Good job). If students do not know the definition of the word, provide the definition to them: Determination means firm decision to do a difficult job. Write the word and definition on the whiteboard. Ask students to read back to you the word and its definition. Please read back to me the word "determination" and its definition.

_____ Please take out from your folders the Adventure Words package, open it to Week 2, Day 3, and write the word "determination" and its definition. Read back to me one more time the word and its definition.

_____ You can use the word, "determination" in any story you write. I am going to give you an example of how you can use this word in a sentence. Then I am going to

ask you to try to do the same thing. Give an example of the word "determination."

Here is an example of how to use the word "determination" in a sentence: Columbus'

determination helped him to discover America, as he kept trying and trying to find it.

Ask students to give you an example. Can somebody tell us a sentence where the

word "determination" is used? If students give you two correct examples, praise and

move on. Very good job; I see you understand how you can use the word

"determination" when you talk about an adventure. I believe you can also use this

word when you write a story about an adventure as well. If students give you one

correct example, provide social praise and ask for an additional example from a

different student. Very good job; I see you understand how you can use the word

"determination" when you talk about an adventure. I believe you can also use this

word when you write a story about an adventure as well. Can somebody else tell us a

sentence where the word "determination" is used? If students still cannot give you an

example or do not give you a correct example, share with them an example. Another

example where the word "determination" can be used is: Even though Jack had

difficulties walking, his determination helped him climb all the way to the top of the

mountain. Now, can you tell us one sentence with the word "determination?" If

students give you a correct example, praise and move on. If students do not give you

an example or do not give you a correct example, share with them a third example.

Another example where the word "determination" can be used is: One month after the

attack, Paul had the determination to go back out and catch the animal that had hurt

him.

_____ Now that we learned the meaning of the word "determination" I would like to ask you to complete some activities for me. Please open your Adventure Instruction package into Week 2, Day 3, Activity 1. First, I will read the instructions to you. Read instructions. Do you have any questions? Now, let's finish our activity. Remember, this is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently. Read first sentence and allow some time for students to mark their answers before you move on to the second sentence. Do the same for the rest of the sentences.

_____ What is the correct answer for the first sentence? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody else have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about the second sentence? If students give you a wrong answer identify the correct one.

_____ is the correct answer. Reread the whole sentence with the correct word and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct answer in their worksheets and move on. Good try. Don't worry about not getting all the answers correct as you are just learning these words. We will do some more practice activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next sentence? Do the same for all sentences.

_____ Now, it's time for the Word Family Activity. Show students the blue card and read the word back to them. This is the word "determination." Does anybody remember what this word means? Praise students (Excellent remembering) if students remember. Flip the card to read the definition to the students, if students do not remember. "Determination" means firm decision to do a difficult job. Put on the table the blue card with the word "determination" facing up. Show students the 3 yellow cards. Two of these yellow cards go with the word "determination" because they mean the same thing or something like it. One of these yellow cards does not go with the word "determination" because it means something different. Read each of the cards separately and put them on the table. The three yellow cards are: "coward," "will get it done," and "keep at it." Think for a couple of minutes and decide which two words go together with the word "determination." If you find them you will get a colored star inside your logbooks, and with 3 colored stars you will get a sticker in your adventure word progress chart. Remember that you can always look up the definition of the word by flipping the card. I can read to you any words you do not know. Let me know when you are done and want to share your responses with us. When students are ready ask one of them to give you one correct card. ___tell us one card that goes with the word "determination." If the student gives you a correct card, praise. Good work! If the student does not give you a correct card, ask him to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Then, ask another student to give you the second card. Who can tell us the second yellow card that goes with "determination?" If the student gives you the correct card, praise. Correct; will get it done and keep at it, because when you have

determination you keep working at something, and finally you get it done! If the student does not give you a correct card ask him/her to pick another card. Try another card. If the student gives you the correct card, praise (This is better). Here is your word family. Let me give you your colored stars. Give students their colored stars and write Week 2 Day 3.

_____ Today we will practice all 5 adventure words we learned so far. Can anybody tell us what these words are? If students remember the words praise their effort. Good remembering. If they do not, show them the cards from the Word Family activity and read the words back to them. Here are the 5 adventure words we learned so far (show the cards one by one): "determination," "encounter," "endure," "prevail," and "peril." Ask students to repeat the words out loud. What are the words? Then show each one of the words and ask the students to give you the definition of the word. If the student knows the definition, praise him/her and move to the next word. If the student does not know the definition, wait for a few seconds and call on another child. If nobody remembers the definition from memory, flip the card and read the definition to the students (have the students read the definition to you). Do the same for the rest of the words. If the students remember the words praise their effort. Who can tell us what the word "determination" means? ("determination" means firm decision to do a difficult job). Very good remembering. Let's flip the card over to read the definition; "determination" means firm decision to do a difficult job. Let's see if somebody can tell us what the word "encounter" mean ("encounter" means to come face to face with danger). Can anyone tell us what the word "endure" means ("endure" means to keep a doing a job that is unpleasant)? Can anyone tell us what the word "prevail" means

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("prevail" means to overcome difficulties)? Finally, who can tell us what the word "peril" means ("peril" means immediate danger)?

_____ Now, we will do a review activity. Please open your Adventure Instruction package into Week 2, Day 3, Review. First, I will read the instructions to you. Read instructions. Do you have any questions? Let's do an example together to make sure that everybody understands what you need to do. Do the first item with the students. Read the first question and the two possible answers and ask students what is the best answer: a or b. If students give you the correct answer praise them (Good work); if not give students the correct answer, reread the question and answer, and ask students if that makes sense to them. Move on to the rest of the activity. Now, let's finish our activity. I will read each question to you and two possible answers, and allow you some time to mark your answers before I move on to the next question. Do you have any questions? This is not a test; these are just practice activities that will help you learn the words, and we will discuss the correct answers later together. Please work independently.

_____ What is the correct answer for the first question: a or b? Ask the rest of the students if they agree with this selection. Do you agree? Does anybody have a different answer? Thumbs up if you agree; thumbs down if you do not agree. Provide social praise to the students for correct answers. That's right; good thinking. What about for the second question? If students give you a wrong answer identify the correct one. _____ is the correct answer. Reread the question and the correct answer and ask students if that makes sense to them. Does that make sense to you? Provide positive reinforcement for good working manners. Ask students to write the correct

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answer in their worksheets and move on. Good try. Don't worry about not getting all answers correct as you are just learning these words. We will do some more activities next time we meet and I am sure that you will do better. Please write the correct answer in your worksheets. What about the next question? Do the same for all questions.

_____Writing Activity (see directions for administering the activity).

____ Our last activity today is to give out the secret prize to the winner of the week. Let's see who has the most stickers for this week and who can buy some stickers with their colored stars. Give out the prize(s) and award(s) for the winner(s) of the week. Write the date and students' names on the award(s).

_____ Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will talk about mystery, and we will learn and practice some mystery words. If this is the last session of instruction for this group of students, inform them that next time you meet they will be asked to complete some activities on the 10 adventure and 10 mystery words they learned. Next time we meet we will not learn more words, but I will ask you to complete some activities for me using the 10 adventure and 10 mystery words that we learned together.

Appendix F

Worksheets for Experimental Students for the Theme of Adventure

(items with a *C* indicate correct responses)

Instruction

Adventure – Week 1

Student's Name: _____   **Instructor's Name: _____**

Adventure Worksheet – Day 1

Activity 1   **Student's Name:** _____

Date: _____   **Instructor's Name:** _____

Please use the words **"confront,"** and **"enterprise,"** to complete the sentences below. You can use each word only 2 times.

Our trip to the dessert would have been fun, if we did not have to **confront** the great heat.

Hunting in Africa is an **enterprise** that involves danger and a lot of difficulties.

My first time in the jungle, I had to **confront** my fear of snakes, but now I am not afraid of them any more.

Most people like the **enterprise** of entering a dark and cold cave to look for something new.

Adventure Worksheet – Day 2

Activity 1   **Student's Name:** _____

Date: _____   **Instructor's Name:** _____

Please use the words **"anticipate"** and **"fulfill"** to complete the sentences below. You can use each word only 2 times.

I was able to **fulfill** my plan for my paper, writing about animals in danger.

When I study for a test, I try to **anticipate** what questions the teacher will ask.

I always carry a light in a cave, because I **anticipate** that it will be dark and hard to see.

In order for Tom to **fulfill** his mission, he had to rescue Kate.

Adventure Worksheet – Day 3

Activity 1   Student's Name: _____

Date: _____   Instructor's Name: _____

Please use the words **"anticipate," "fulfill,"** and **"pursue,"** to complete the sentences below.

When Tom lost his young sister in the words, he did not get discouraged but continued to **pursue** his search for 2 days until he found her.

Climbers wear gloves, because they **anticipate** that the cold weather will hurt their fingers.

The first cars produced had many problems, but the car companies kept working to **pursue** their goal to have a beautiful and fast car.

Alison tried to **fulfill** the promise she gave to her father to take care of her younger sister when they went camping.

Adventure Worksheet – Day 3

Review   **Student's Name: _____**

Date: _____ Instructor's Name: _____

Please circle your response to the following questions. There is only 1 correct answer for each question.

1. Who do you think can **anticipate** something best?

a. Jen because she knows what to do when a big elephant comes after her? C

Or

b. Nicole because she goes hunting for elephants, and she does not bring her gun?

2. Who do you think **confronts** something?

a. Jo who cannot swim and decides not to go in the water?

<div align="center">Or</div>

b. Melanie who cannot swim well and decides to go swimming? C

3. Who do you think is involved in an **enterprise**?

a. John who enters a dark cave with a flashlight to look for ancient fossils? C

<div align="center">Or</div>

b. Rebecca who sits in her room and reads about the first people to discover ancient

fossils in a cave?

4. Who do you think will **fulfill** something?

a. Mary who looks for a missing climber and finds him? C

<div align="center">Or</div>

b. Robert who wants to climb a mountain, but never does?

5. What is more likely for Kate to **pursue**?

a. A noodle in a cup of soup?

<div align="center">Or</div>

b. A degree from the best university in nation? C

Instruction

Adventure – Week 2

Student's Name: _____ Instructor's Name: _____

Adventure Worksheet – Day 1

Activity 1   Student's Name: _____

Date: _____ Instructor's Name: _____

Please use the words **"peril"** and **"prevail"** to complete the sentences below. You can use each word only 2 times.

Don did not see the avalanche coming, but he heard snow crushing down the mountainside and understood the **peril**.

My favorite baseball team, the Washington Nationals managed to **prevail** over the New York Yankees in the last five minutes of the game.

When Mary got lost in the jungle, I was worried that she might be in **peril** and I had to find her as soon as possible.

When two hungry animals like a lion and a leopard fight over a wounded deer, the youngest animal is usually the one that will **prevail**.

Adventure Worksheet – Day 2

Activity 1   Student's Name: _____

Date: _____   Instructor's Name: _____

Please use the words **"encounter"** and **"endure"** to complete the sentences below. You can use each word only 2 times.

Survivors of the plane crash in Antarctica had to cover their body with the skin of polar bears to **endure** the freezing cold.

Derek wrote about the first people to explore the Sahara dessert, who managed to **endure** hunger and thirst and stay alive.

Paul was not afraid to **encounter** the lion and save Liz, because he had a lot of courage.

When we went scuba diving, I knew that we might have to **encounter** sharks and was prepared to fight with them.

Adventure Worksheet – Day 3

Activity 1   Student's Name: _____

Date: _____   Instructor's Name: _____

Please use the words **"encounter," "endure,"** and **"determination,"** to complete the sentences below.

Warren went fishing many times without success, but he had **<u>determination</u>** and kept trying until he caught a fish.

The reporter wanted to know the difficulties that Nick had to **<u>encounter</u>**, as he was sailing across the world in his small boat.

If you want to find the treasure, you should not complain and show **<u>determination</u>** that you will find it, said our leader.

John almost died last year in Everest because he got weak and could not **<u>endure</u>** to climb to the top of the mountain.

Adventure Worksheet – Day 3

Review   **Student's Name:** _____

Date: _____   **Instructor's Name:** _____

Please circle your response to the following questions. There is only 1 correct answer for each question.

1. What do you think will be harder for Jessica to **endure**?

a. Happiness because she was able to ride a horse for the first time?

Or

b. Pain because she fell off the horse and hurt her shoulder? C

2. Who do you think might **encounter** a difficulty?

a. Nick who goes on a dangerous adventure? C

                              Or

b. Frances who decided to stay at home?

3. Who do you think has **determination**?

a. Ann who tries a difficult task and quits after her first failure?

                              Or

b. John who tries a difficult task until he completes it successfully? C

4. Who is more likely to **prevail** over something?

a. Kim who was attacked by a lion and managed to kill it? C

                              Or

b. Wayne who was attacked by a lion, but run away from it?

5. Which person do you think will more likely be in **peril**?

a. Paul who has just started climbing the mountain and is caught in a storm? C

Or

b. Jessica who has just finished climbing the mountain and is safe at the campsite?

Appendix G

Worksheets for Experimental Students for the Theme of Mystery

(items with a *C* indicate correct responses)

Instruction

Mystery – Week 1

Student's Name: _____ Instructor's Name: _____

Mystery Worksheet – Day 1

Activity 1   Student's Name: _____

Date: _____   Instructor's Name: _____

Please use the words **"sleuth"** and **"clues"** to complete the sentences below. You can use each word only 2 times.

The **sleuth** wanted to get more information about the robbers, and I offered to answer all his questions.

The **clues** I collected led me to the basement, where I actually found mom's missing jewelry box.

When our dog disappeared, we hired a **sleuth** to find out who had taken it.

If I want to find where grandma hides the cookies, I must write down all the **clues** I have.

Mystery Worksheet – Day 2

Activity 1   Student's Name: _____

Date: _____   Instructor's Name: _____

Please use the words **"alibi"** and **"ransom"** to complete the sentences below. You can use each word only 2 times.

The criminals did not want to hurt the boy but they asked for a **ransom** in order to free him.

We sent one of the men to prison, because we checked his **alibi** and it was not true.

The policemen first made sure that the woman did not have an **alibi** before they arrested her.

The man was very upset because he couldn't pay the **ransom** to get his daughter back.

Mystery Worksheet – Day 3

Activity 1   Student's Name: _____

Date: _____   Instructor's Name: _____

Please use the words **"alibi," "ransom,"** and **"testimony,"** to complete the sentences below.

The lawyer asked if there was another person who knew Mrs. Simmons and could give **testimony** about her financial situation.

John was not the one who took his dad's car, because he had an **<u>alibi</u>**; he was home with mom the whole time.

The detective told the man that he had to pay the **<u>ransom</u>** if he wanted to see his wife again.

The judge told the man that before he gives his **<u>testimony</u>** he must promise to say the truth and only the truth.

Mystery Worksheet – Day 3

Review   **Student's Name:** _____

Date: _____   **Instructor's Name:** _____

Please circle your response to the following questions. There is only 1 correct answer for each question.

1. Who do you think needs an **alibi**?

a. Steve who took money out of his dad's wallet? C

<center>Or</center>

b. Wayne who found and returned his dad's wallet?

2. Who do you think needs **clues**?

a. A detective who wants to find the robber and the money stolen? C

Or

b. A robber who wants to steal some money and find a place to hide them?

3. What do you think a **sleuth** does?

a. Help the robbers steal the money?

Or

b. Help the policemen find the robbers? C

4. Who do you think is more likely to ask for **ransom**?

a. A criminal who holds a person in captivity? C

Or

b. A policeman who wants to free a person?

5. Who do you think can give better **testimony**?

a. Timothy who did not see what happened?

Or

b. Richard who saw what happened? C

Instruction

Mystery – Week 2

Student's Name: _____   Instructor's Name: _____

Mystery Worksheet – Day 1

Activity 1   **Student's Name:** _____

Date: _____   **Instructor's Name:** _____

Please use the words **"conspire"** and **"twist"** to complete the sentences below. You can use each word only 2 times.

The detective found new information about the robbers that created a **twist** in the case.

 I wouldn't be able to rent a car myself because I was under 18, so I had to **conspire** with my older brother to get the car.

The robber did **conspire** with another person, because the detectives found two masks on the scene.

The new **twist** in the story made me think of a different person who might want to hurt the little kitten.

Mystery Worksheet – Day 2

Activity 1   **Student's Name:** _____

Date: _____   **Instructor's Name:** _____

Please use the words **"conceal**" and **"motive"** to complete the sentences below. You can use each word only 2 times.

I asked Kelly to **conceal** my plan to buy a new bike, and I promised to let her ride my bike once a week.

When the principal asked Teresa about her **motive** to skip school that day, she said she had not finished her homework.

I got suspended from school because I did not **conceal** that my best friend was the one who had actually started the fight.

Jennifer was a good student, and the teacher did not think she had a **motive** to steal the test.

Mystery Worksheet – Day 3

Activity 1   Student's Name: _____

Date: _____   Instructor's Name: _____

Please use the words **"conceal," "motive,"** and **"suspense,"** to complete the sentences below.

A good mystery story keeps the reader in **<u>suspense</u>** until the problem is solved at the end of the story.

The woman had a **<u>motive</u>** to help the robbers because she needed money right now.

When the policeman told me that my father had an accident, I could not stand the **<u>suspense</u>** and wanted to know if my father was hurt.

Timothy told me what happened, because he trusted that I would **<u>conceal</u>** everything he said to me.

Mystery Worksheet – Day 3

Review   **Student's Name:** _____

Date: _____   **Instructor's Name:** _____

Please circle your response to the following questions. There is only 1 correct answer for each question.

1. Who do you think is more likely to **conceal** something?

a. Kate who got a bad grade on her report card? C

<div align="center">Or</div>

b. Chris who passed the final with the best grade in class?

2. When do you think Michael and Cindy are more likely to **conspire**?

a. When they want to go to a party they were not invited to go to?

Or

b. When they go to a movie that their parents offered to take them to? C

3. Who do you think has a **motive** to steal money?

a. Ann who wants to buy an expensive medication for her mom, who does not have the money to pay for it? C

Or

b. Tom who wants to buy an expensive medication for his mom, who has plenty of money to pay for it?

4. What does a **twist** do to a mystery?

a. Make it easier to solve the mystery?

Or

b. Make it more difficult to solve the mystery? C

5. When do you think Jo feels **suspense**?

a. When Jo reads a good story and wants to know the end? C

Or

b. When Jo reads a boring story and does not care how the story ends?

Appendix H

Words for the Word Family Activity

Mystery

Alibi: excuse used to avoid blame for doing wrong

Related words: defense, explanation

Non-related words: crime

Clues: directions that help people solve a puzzle

Related words: hints, tips

Non-related words: flyers

Conceal: to keep something a secret

Related words: cover, hide

Non-related words: announce

Conspire: to plan secretly with others to do wrong

Related words: agree to do something, go against the law

Non-related words: quit

Motive: reason why a person acts in a certain way

Related words: idea behind what you do, purpose

Non-related words: punishment

Ransom: paid to free a captured person

Related words: money, buy back

Non-related words: trophy

Sleuth: person who solves a puzzle

Related words: policeman, catch a criminal

Non-related words: salesman

Suspense: feeling of excitement about what will happen next

Related words: interest, uncertain

Non-related words: truth

Testimony: describes what happens

Related words: court, witness

Non-related words: accident

Twist: unexpected change

Related words: turn, surprise

Non-related words: danger

Adventure

Anticipate: to expect that something is going to happen

Related words: guess, think ahead

Non-related words: become smaller

Confront: to come up against

Related words: fight, challenge

Non-related words: friend

Determination: firm decision to do a difficult job

Related words: will get it done, keep at it

Non-related words: coward

Encounter: to come face to face with danger

Related words: meet, stand against

Non-related words: go on vacation

Endure: to keep doing a job that is unpleasant

Related words: put up with, continue

Non-related words: feel happy

Enterprise: large and risky job

Related words: big problem, hard work

Non-related words: easy to do

Fulfill: to make an idea come true

Related words: complete, carry out

Non-related words: clean a mess

Peril: immediate danger

Related words: possible harm, threat

Non-related: gift

Prevail: to overcome difficulties

Related words: continue to live, survive

Non-related words: make a joke

Pursue: to try to accomplish a job

Related words: finish, be persistent

Non-related words: fear something

Appendix I

Directions for Administering the Writing Activity

Students' Writing Activity Response Forms

Directions for Administering Mystery Writing Week 1 - Day 3

- Give students the paper and a pencil (keep one in reserve).

- Tell students:

This week we learned 5 mystery words: <u>alibi</u>, <u>clues</u>, <u>ransom</u>, <u>sleuth</u>, and <u>testimony</u>. These words can help you write better mystery stories. I want you to write a mystery story about a dog's missing bone. Try to use as many of these 5 mystery words as you can to write your mystery story. You can use these words to show 1 or more than 1, like <u>sleuth</u> (person who solves a puzzle) and <u>sleuths</u> (point to that). You can also use these words in a different way; for example you can use the word <u>testimony</u> (describes what happens) and <u>testify</u> (when somebody describes what happens). I can only help you spell any words that you do not know. You have 10 minutes to write your stories. Do you have any questions? Ok, go ahead and start. Let me know when you are done.

- Start the clock.

- Do not allow students to write for more than 10 minutes

- Circle any words that students asked your help with spelling.

- Record the time that it took for each of the student to finish their stories.

- If a child finishes before the rest of the group have him/her draw a picture in the back of their stories.

- If 10 minutes are up and students are still writing collect their papers and write on the top "not completed."

- Ask students to read back to you their stories and make sure that you can read their stories.

- Type students' stories.

Mystery Week 1 Day 3

Student's Name: _____   Date: _____

Administrator: _____ Time: _____

Alibi, Clues, Ransom, Sleuth, Testimony

_____

_____

_____

_____

_____

_____

Directions for Administering Mystery Writing Week 2 - Day 3

- Give students the paper and a pencil (keep one in reserve).

- Tell students:

This week we learned 5 new mystery words: <u>conceal</u>, <u>conspire</u>, <u>motive</u>, <u>suspense</u>, and <u>twist</u>. These words can help you write better mystery stories. I want you to write a mystery story about an old, dusty box you found in the basement. Try to use as many of these 5 mystery words as you can to write your mystery story. You can use these words to show 1 or more than 1, like <u>motive</u> (reason why a person acts in a certain way) and <u>motives</u> (point to that). You can also use these words in a different way; for example you can use the word <u>conspire</u> (to plan secretly with others to do wrong) and <u>conspiracy</u> (when somebody is involved in a conspiracy). I can only help you spell any words that you do not know. You have 10 minutes to write your stories. Do you have any questions? Ok, go ahead and start. Let me know when you are done.

- Start the clock.

- Do not allow students to write for more than 10 minutes.

- Circle any words that students asked your help with spelling.

- Record the time that it took for each of the student to finish their stories.

- If a child finishes before the rest of the group have him/her draw a picture in the back of their stories.

- If 10 minutes are up and students are still writing collect their papers and write on the top "not completed."

- Ask students to read back to you their stories and make sure that you can read their

stories.

- Type students' stories.

Mystery Week 2 Day 3

Student's Name: _____   Date: _____

Administrator: _____ Time: _____

<u>Conceal</u>, <u>Conspire</u>, <u>Motive</u>, <u>Suspense</u>, <u>Twist</u>

_____

_____

_____

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_____

Directions for Administering Adventure Writing Week 1 - Day 3

- Give students the paper and a pencil (keep one in reserve).

- Tell students:

This week we learned 5 adventure words: <u>anticipate</u>, <u>confront</u>, <u>enterprise</u>, <u>fulfill</u>, and <u>pursue</u>. These words can help you write better adventure stories. I want you to write an adventure story about two friends who went fishing on a boat and woke up on an island. Try to use as many of the 5 adventure words as you can to write your adventure story. You can use these words to show 1 or more than 1, like <u>enterprise</u> (large and risky job) and <u>enterprises</u> (point to that). You can also use these words in a different way; for example you can use the word <u>confront</u> (to come up against) and <u>confrontation</u> (when somebody is being confronted). I can only help you spell any words that you do not know. You have 10 minutes to write your stories. Do you have any questions? Ok, go ahead and start. Let me know when you are done.

- Start the clock.

- Do not allow students to write for more than 10 minutes.

- Circle any words that students asked your help with spelling.

- Record the time that it took for each of the student to finish their stories.

- If a child finishes before the rest of the group have him/her draw a picture in the back of their stories.

- If 10 minutes are up and students are still writing collect their papers and write on the top "not completed."

- Ask students to read back to you their stories and make sure that you can read their

stories.

- Type students' stories.

Adventure Week 1 Day 3

Student's Name: _____   Date: _____

Administrator: _____ Time: _____

Anticipate, Confront, Enterprise, Fulfill, Pursue

_____

_____

_____

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_____

Directions for Administering Adventure Writing Week 2 – Day 3

- Give students the paper and a pencil (keep one in reserve).

- Tell students:

This week we learned 5 new adventure words: determination, encounter, endure, peril, and prevail. These words can help you write better adventure stories. I want you to write an adventure story about Michael, a boy who wanted to fly an airplane. Try to use as many of these adventure words as you can to write your adventure story. You can use these words to show 1 or more than 1, like peril (immediate danger) and perils (point to that). You can also use these words in a different way; for example you can use the word determination (firm decision to do a difficult job) and determined (when somebody is determined to do a difficult job). I can only help you spell any words that you do not know. You have 10 minutes to write your stories. Do you have any questions? Ok, go ahead and start. Let me know when you are done.

- Start the clock.

- Do not allow students to write for more than 10 minutes.

- Circle any words that students asked your help with spelling.

- Record the time that it took for each of the student to finish their stories.

- If a child finishes before the rest of the group have him/her draw a picture in the back of their stories.

- If 10 minutes are up and students are still writing collect their papers and write on the top "not completed."

- Ask students to read back to you their stories and make sure that you can read their stories.

- Type students' stories.

Adventure Week 2 Day 3

Student's Name: _____   Date: _____

Administrator: _____ Time: _____

Determination, Encounter, Endure, Peril, Prevail

_____

_____

_____

_____

_____

_____

Directions for Administering Adventure Writing Week 1 - Day 1- Control kids

- Give students the paper and a pencil (keep one in reserve).

- Tell students:

This week we read an adventure story that took place in the mountains. I want you to write an adventure story about two friends who went fishing on a boat and woke up on an island. I can only help you spell any words that you do not know. You have 10 minutes to write your stories. Do you have any questions? Ok, go ahead and start. Let me know when you are done.

- Start the clock.

- Do not allow students to write for more than 10 minutes.

- Circle any words that students asked your help with spelling.

- Record the time that it took for each of the student to finish their stories.

- If a child finishes before the rest of the group have him/her draw a picture in the back of their stories.

- If 10 minutes are up and students are still writing collect their papers and write on the top "not completed."

- Ask students to read back to you their stories and make sure that you can read their stories.

- Type students' stories.

Adventure Week 1 Day 1 – Control

Student's Name: _____   Date: _____

Administrator: _____ Time: _____

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Directions for Administering Adventure Writing Week 2 - Day 1 – Control kids

- Give students the paper and a pencil (keep one in reserve).

- Tell students:

This week we read another adventure story that took place in the mountains. I want you to write an adventure story about Michael, a boy who wanted to fly an airplane. I can only help you spell any words that you do not know. You have 10 minutes to write your stories. Do you have any questions? Ok, go ahead and start. Let me know when you are done.

- Start the clock.

- Do not allow students to write for more than 10 minutes.

- Circle any words that students asked your help with spelling.

- Record the time that it took for each of the student to finish their stories.

- If a child finishes before the rest of the group have him/her draw a picture in the back of their stories.

- If 10 minutes are up and students are still writing collect their papers and write on the top "not completed."

- Ask students to read back to you their stories and make sure that you can read their stories.

- Type students' stories.

Adventure Week 2 Day 1 - Control

Student's Name: _____   Date: _____

Administrator: _____ Time: _____

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Directions for Administering Mystery Writing Week 1 - Day 1 – Control kids

- Give students the paper and a pencil (keep one in reserve).

- Tell students:

This week we read a mystery story about a stolen golden ax. I want you to write a mystery story about a dog's missing bone. I can only help you spell any words that you do not know. You have 10 minutes to write your stories. Do you have any questions? Ok, go ahead and start. Let me know when you are done.

- Start the clock.

- Do not allow students to write for more than 10 minutes.

- Circle any words that students asked your help with spelling.

- Record the time that it took for each of the student to finish their stories.

- If a child finishes before the rest of the group have him/her draw a picture in the back of their stories.

- If 10 minutes are up and students are still writing collect their papers and write on the top "not completed."

- Ask students to read back to you their stories and make sure that you can read their stories.

- Type students' stories.

Mystery Week 1 Day 1 - Control

Student's Name: _____   Date: _____

Administrator: _____ Time: _____

_____

_____

_____

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_____

Directions for Administering Mystery Writing Week 2 - Day 1- Control kids

- Give students the paper and a pencil (keep one in reserve).

- Tell students:

This week we read another mystery story about a haunted place and the lady who lived in this house. I want you to write a mystery story about an old, dusty box that you found in the basement. I can only help you spell any words that you do not know. You have 10 minutes to write your stories. Do you have any questions? Ok, go ahead and start. Let me know when you are done.

- Start the clock.

- Do not allow students to write for more than 10 minutes.

- Circle any words that students asked your help with spelling.

- Record the time that it took for each of the student to finish their stories.

- If a child finishes before the rest of the group have him/her draw a picture in the back of their stories.

- If 10 minutes are up and students are still writing collect their papers and write on the top "not completed."

- Ask students to read back to you their stories and make sure that you can read their stories.

- Type students' stories.

Mystery Week 2 Day 1 – Control

Student's Name: _____   Date: _____

Administrator: _____ Time: _____

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Appendix J

Stories

Mystery Story 1

My friend, Kelly, lived in the most beautiful home in the neighborhood. By the front porch, there was a big old oak tree that we both loved to climb. We would sit underneath its shade and read on a hot summer day. When the oak tree died and Kelly's father decided to cut it down, we were very sad. We stopped by to see it for the last time. "Hey, Joe there is a piece of metal stuck in the tree," said the workman who was cutting through the three-foot-thick trunk of the oak. It was a golden ax. I could not believe it. My grandfather used to tell us stories about the golden ax that was stolen from the museum in town during World War II almost 70 years ago. It was buried in the tree for so long and nobody knew what had happened to it until now.

I got very excited, and quickly decided to solve the mystery of the buried golden ax and become the youngest sleuth ever. Kelly and her sister agreed to help me find out who had stolen the ax and buried it inside the tree and why. After all we loved mysteries so much. Kelly, her older sister, and I got together and decided what each of us needed to do. *I needed to figure out how long the golden ax had been in the oak tree. Kelly needed to find out who lived in her house when the ax was buried in the*

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tree. Lastly, Kelly's sister had to put all of these clues together to figure out what had actually happened. I knew that the rings on the tree trunk would tell me the age of the tree. I counted only the number of rings on the tree trunk from the point where the ax cut into the tree to find how long the ax had been buried in the tree. I found that the ax had been there for 65 years. It had been there since the third year of World War II. Kelly went to the library to find out who had lived in her house 65 years ago. She came up with the name George Jones who bought the house in 1935, before the start of World War II. In the beginning, we thought that Mr. Jones might have been the one who buried the ax inside the oak tree. Kelly's sister looked for more information about George Jones.

We found that Mr. Jones had an alibi and could not have been the one who put the golden ax inside the tree. He was killed in an accident before World War II began. The ax was buried in the tree after the war started.

We were definitely disappointed, but did not want to quit either. We continued to investigate the case. "There must have been other people living in this house at that time who could have stolen the golden ax," I said. The Jones' family did not have any children, but Mrs. Jones and her younger brother, John, lived in the house for 20 years. My mom remembered an old story about Mrs. Jones's brother; he was captured

by two criminals who asked for a ransom in order to free him. Back then everybody in town knew that Mrs. Jones was very poor and did not have any money to pay the criminals, but she was trying to find a way to get her brother back. Then one day, Mrs. Jones disappeared and nobody ever saw Mrs. Jones or her brother again. We needed to find some older people in town who might have known the Jones' family and asked for more information.

Mrs. Anderson was the Jones' neighbor, and Mr. Draft was the museum keeper. Kelly and I visited Mrs. Anderson. "One night I was coming back from work and saw Mrs. Jones burying something by the oak tree. I could not see what it was but it was something shiny. A few minutes later, two dangerous robbers came after Mrs. Jones. I called for help and the sheriff came right away. The robbers ran away with Mrs. Jones and I never saw her again," said. Mrs. Anderson. Kelly's sister talked to Mr. Draft. He said that he had seen Mrs. Jones wandering in the museum the day the golden ax was stolen. "Mrs. Jones probably was the one who stole it," said Mr. Draft. After listening to the testimony of Mrs. Anderson and Mr. Draft, we were sure that Mrs. Jones had stolen the golden ax to free her brother and buried it under the tree until the robbers come to ask for money. However, when the sheriff came the criminals left in a hurry and left the golden ax behind.

We still did not know how it ended up stuck inside the tree. That was a mystery we would solve another time. We placed the ax in a glass case and returned it to the museum. Next to it we wrote its story. We were proud that we had solved the mystery

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of the golden ax and that everybody would be able to read and learn what had actually

happened to it.

Mystery Story 2
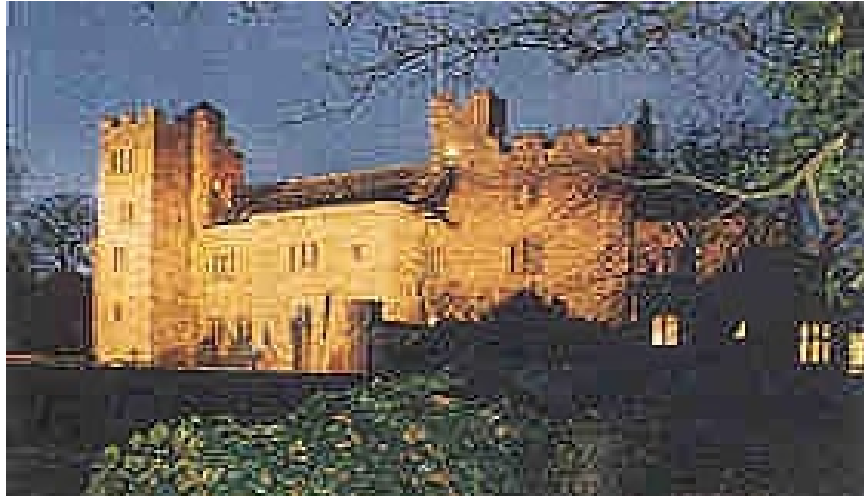
"Ok, Julia, I will tell you the story as long as you promise that you will go to bed

immediately after that," said the grandma, and she started. When I was 10 years old

my family decided to sell our beautiful new house in the city and move to an ancient

three-story house in the country. It was a huge house with 15 rooms and an amazing

garden. My younger sister was happy about our new home that looked like a fairy-

tale castle, but I did not like this change.

I had heard that the place was haunted and that nobody wanted to buy it. The last

person to have lived in this house was an old lady named Mrs. Taylor. Mrs. Taylor

loved kids but could not have kids of her own. Even after she died, people still said

that they saw her washing and hanging kids' clothes out to dry. People believe that

she became insane during her life and that her spirit was still in the house. I did not

believe in ghosts, but I was very curious to learn more about Mrs. Taylor. "There are

no such things as ghosts and I am sure that I could find out what had actually

happened to Mrs. Taylor," I said to myself. I decided to search each room at night

when everybody was asleep. I started downstairs with the kitchen and moved my way up to the bedrooms. After a couple of days of searching, I was not able to find anything. *The only room left was dad's office in the attic. I tried to get in but the door was locked. During the day, dad was spending his time at the office working and during the night he was keeping his office locked and nobody but he had a key to the office. "That is an exciting twist in the story, grandma," said Julia. "I thought that you would find something in the attic. What did you do next?"*

I had to climb up to the roof of the house and get to the office through the chimney. But first of all, I had to get mom and dad out of the house so they don't see or hear me. *So, I needed my sister's help to distract them while I snuck in. "Are you serious? If he finds out we were in his office we will be grounded for the whole summer," my sister said. We both knew that this was risky and it took me a while, but finally I convinced my sister to conspire with me.*
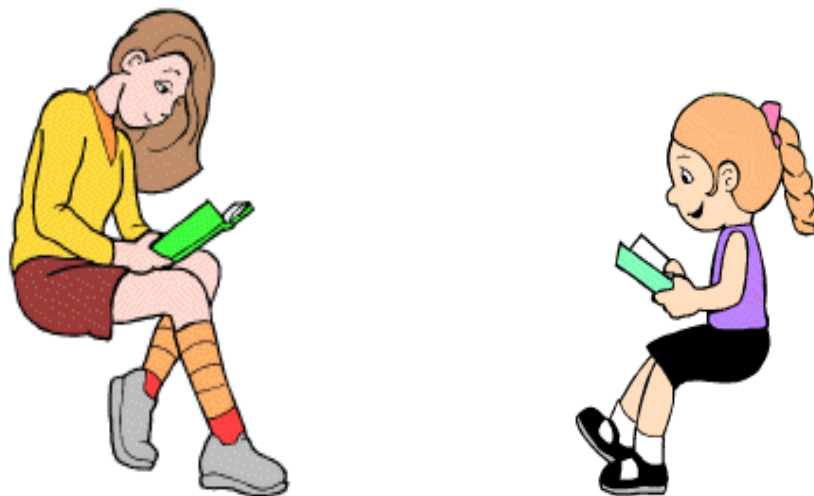
My sister also promised to conceal our plans and not to tell anyone else about what we were going to do until it was over.

One day before we left for school, my sister hid grandfather's last bottle of medicine in her backpack and complained about a stomachache. Our mother had to go to the pharmacist to buy another bottle of medicine for our grandfather while our father had to take my sister to the doctor. When both, mom and dad, left home I climbed up a huge ladder to a window to my Dad's office. I opened the window and started to climb into the room. As I was doing this, the window came down and I was stuck. I tried to get out but no luck. I had to wait for our parents to return. I knew that my sister and I were in big trouble, but all I wanted was to get unstuck. After all, I had a good motive; I just wanted to find out about Mrs. Taylor; I did not want to harm anybody.

"What happened in the end grandma," asked the little girl. "I really want to know what happened. Did you get out? Did you find anything in your dad's office?" The little girl could not hide her suspense. "Well," said the grandma, "when my dad came into his office and heard me screaming he figured out what had happened. He pulled opened the window and helped me into his office. As he was pulling me into the room, I accidentally kicked a hole in the wall. In the hole we found Mrs. Taylor's diary. She must have hidden it there. My sister and I spent that summer reading Mrs. Taylor's diary. We were grounded but happy because we were able to solve the mystery of the haunted place and learn the real story of Mrs. Taylor."

Adventure Story 1

Tom was on his way to the top of Mount Everest in Asia, the highest mountain in the world. He stopped for a moment and looked around. There was nothing else to see but snow. However, Tom was very excited. He could not believe that the day he had been looking forward to all these years had finally arrived. *Tom knew that climbing Mount Everest was going to be difficult and dangerous. Many people had died while attempting to climb Mount Everest, but he was prepared to engage in this dangerous enterprise.*

It was a sunny day. Tom put his glasses on to protect his eyes from the glare of sunlight reflecting off the snow. The last time he had gone climbing without his glasses, he had suffered snow blindness. He had difficulty seeing and had to rest his eyes before he could go on. Tom was also carrying with him an extra set of strong

ropes and two small tanks of oxygen to help him breathe when he got higher up. *He had been told that as he climbed up the mountain, he might start bleeding, become dizzy, and get sick to his stomach if there was not enough oxygen in the air. So he brought his own oxygen. Finally, Tom was wearing gloves, a hat, a scarf, and warm clothes on and was ready to confront the snow, the ice, and the howling winds.*

Tom was making slow but steady progress up the mountain. Suddenly he heard a loud noise and felt the earth shaking beneath his feet. "An avalanche," he shouted. An avalanche is a large mass of snow and ice sliding down a mountainside. *He had seen many climbers shiver with fear when talking about an avalanche, but did not anticipate that he would ever be caught in an avalanche. For a moment he froze. He did not know what to do.*

"This is it," he thought, "my adventure ends here." Everything happened very fast. Huge chunks of snow crushed down on him and Tom began to fall. Luckily, as he

was falling he was able to dig his ice ax into the ground and stop at the edge of a

4,000-foot cliff. He was covered with snow but still alive. When he got back on his

feet he was in pain. His left ankle was hurt, but not broken and he could barely walk.

He wrapped his foot with his scarf and continued climbing. Every step he took was

painful.

After a week of climbing he was almost to the top. One more step uphill and...“This is

it! I made it,” said Tom. He took the American flag from his backpack and pressed it

hard into the snow. *Tom was exhausted but very proud of himself because he was able*

to fulfill his dream: to climb the highest mountain in the world. Tom had heard so

many stories about his grandfather’s adventures in the mountains and had always

wanted to become a climber like his grandfather. *Since he was a child Tom had been*

training to become a good climber and never stopped pursuing his dream even after

his grandfather died. Tom whispered, “Thank you, grandfather; your stories inspired

me to become just like you, a successful climber of Mount Everest.”

Adventure Story 2

Climbing mountains today is somewhat easier than years ago because there have been so many new inventions for mountain climbing over the past few decades. For example, people who climb mountains today use better climbing tools than early climbers. They also wear clothes from different materials that hold in warmth better than the cotton and wool clothes worn by the early climbers. *Today very few climbers lose their fingers and toes to frostbite because they have better gloves and shoes that protect them from the cold. In the past, climbers did not have satellite phones or computers to talk with others, when there was an emergency. They could not ask for directions to the campsite when they got lost or ask for help when they were trapped. Climbers who were lost or trapped had to wait until somebody found them.*

Despite all these difficulties that put early explorers in peril, many people attempted to climb the world's highest mountains as early as 200 years ago. Many people were successful, but not all of them were. Some climbers never made it to the top and were

found dead several days later. Others reached the top safely, but ran out of energy and died on the way down. There was also another group of climbers who got very close to finishing the task successfully, but did not. These climbers felt many frustrations because they nearly reached the top of the mountain safely, but ran into trouble on the climb down. They were lucky to be found alive by their colleagues hours or even days later.

One of the survivors of such a tragedy was Robert Green. *He tried to prevail against all difficulties and conquer K2, the world's second highest mountain, but was found almost frozen close to the campsite where he fell on his way back down.* He had to stay in the hospital for a long time before he could walk again, but he lived. This is his story.

"Bad weather is a problem on high mountains like K2. The temperatures can drop far below zero, but that night was different," said Robert. "It was forty degrees below zero inside the tent and the wind was howling." K2 is famous for its storms; blizzards

that move in quickly and last for days. *"My friend John and I were on our way down to the campsite when we noticed that the weather was changing. We had to decide whether to look for shelter or keep walking. At that time, we did not have any way to communicate with the world so we could not find out how fast the blizzard was moving or how far away we were from the campsite."* John, was afraid to encounter the blizzard, lost his courage, and decided to stay put. He was found frozen a couple of days later.

Robert decided to walk down as fast as he could to reach the campsite. He was a couple of yards away from the campsite when he fell into a crevasse. A crevasse is a narrow crack in the ice that can be hundreds of feet deep. It is usually covered with a little fresh snow and climbers sometimes do not see it. *Robert's body became jammed in the crack and covered with snow. He did not know how long he would be able to endure the cold and heavy snow.* Robert decided that he would not die in that crevasse. He wanted to share his experience on K2. *He tried to dig himself out of the snow but it was impossible. He started screaming and shouting as loudly as he could. As soon as the blizzard passed other climbers from the campsite took trained dogs and went to look for him. Luckily they were able to find him.*

Robert's determination to stay alive allowed him to describe everything that happened to him. His determination had given him strength to fight the blizzard and stay alive when he was covered with snow.

Appendix K

Instruction for Control Students for the Theme of Mystery

Discussion group - Checklist

Date: _____ **Instructor:** _____

Child's Name: _____ **School:** _____

Mystery: Week 1

_____ If this is the first week you work with this group of students introduce

yourself as being a student from the University of Maryland who will be working

with them one time per week to talk and learn about adventure and mystery. Hi, my

name is _____ and I am a student at the University of Maryland. I will be working

with you once per week to talk and learn about adventure and mystery. This week and

next week we will talk and learn about mystery. If students had already been

introduced to the concept of "adventure," tell them that for the next 2 weeks they

would learn about mystery. Hi; for the past two weeks we read 2 passages and talked

about adventure; this week and the week after we will read 2 passages and talk about

mystery.

_____ Does anybody know what a mystery is? If student(s) provide a definition

provide social praise. Once students have generated their ideas, define a mystery as:

Mystery is a problem or puzzle that is difficult to explain and solve. Give 2 examples:

For example this would be a mystery: If you find a box of chocolates on your desk

with no name on it and you don't know who sent it to you, this is a mystery or If you

and your friend walk into an old, empty house and you hear a strange voice calling

your name, this is a mystery. Then ask them about the elements of a mystery. Provide

social praise if they know at least one element of a mystery, then tell them: When we

read or write about mysteries we are usually looking for 6 things: a) character(s) (the

people involved in the mystery); b) the setting (where the mystery takes place); c) the problem (in the 2 examples I gave you earlier the problem is to find out who put the box with the chocolates on your desk or if who is the person who calls your name); d) things or people that help you solve the mystery; e) things that keep you from solving the mystery; f) what happens when the character(s) try to solve the mystery; and g) how the mystery is solved.

_____ Today I will read to you a mystery story about something that was stolen. When I finish reading I will ask you to tell me if you liked the story and why, and what did you like most in the story? Please take out from your folders the Mystery Story 1. Now, I am going to start reading the story. Are you ready to follow along?

_____ Read. When you finish reading ask the students if they liked the story and why, and what did they like most. Did you like the mystery story and why? What did you like most in the mystery story?

_____ Writing activity (see directions for administering the activity).

_____ Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will read another mystery story.

Discussion group - Checklist

Date: _____   **Instructor:** _____

Child's Name: _____   **School:** _____

Mystery: Week 2

_____ Last time we met we talked about mysteries and read a mystery story.

Can anybody tell us what a mystery is? If students remember what a mystery is,

praise them. Good job with remembering. If students do not remember the definition

of a mystery, provide the definition to them. Mystery is a problem or puzzle that is

difficult to explain and solve.

_____ Today, I will read to you another mystery story about a haunted house and the

secret of the lady who lived in that house. When I finish reading I will ask you to tell

me if you liked the story, and why, and which mystery story was better and why.

Please take out from your folders the Mystery Story 2. Now, I am going to start

reading the story. Are you ready to follow along?

_____ Read. When you finish, ask students if they liked the story and why, and

which story they liked most. Did you like the mystery story and why? What did you

like most in the mystery story? Was this a better mystery story than the first one we

read?

_____ Writing activity (see directions for administering the activity).

_____ Thank you for working so hard today. Please pack up your folders and give

them to me. I will bring them next time I see you. Next time we meet we will read an

adventure story and talk about adventures. If this is the last session of discussion

about both themes tell students that next time they will be asked to do some activities about mysteries and adventures. Next time we meet I will ask you to complete some activities for me about mysteries and adventures.

Appendix L

Instruction for Control Students for the Theme of Adventure

Date: _____   Instructor: _____

Child's Name: _____   School: _____

Adventure: Week 1

_____ If this is the first week you work with this group of students introduce

yourself as being a student from the University of Maryland who will be working

with them one to two times per week to talk and learn about adventure and mystery.

Hi, my name is _____ and I am a student at the University of Maryland. I will be

working with you once per week to talk and learn about adventure and mystery. This

week and next week we will talk and learn about adventure. If students had already

been introduced to the concept of "mystery," tell them that for the next 2 weeks they

would learn about adventure. Hi; for the past two weeks we read 2 passages and

talked about mystery; this week and the week after we will read 2 passages and talk

about adventure.

_____ Does anybody know what an adventure is? If student(s) provide a definition

provide social praise. Once students have generated their ideas, define an adventure

as: Adventure is an exciting and unusual experience. Give 2 examples: For example

this would be an adventure: If you travel across country with some clothes in a

backpack and very little money this would be an adventure or if you are on an

airplane and the airplane crashes somewhere on an island this would be an adventure.

Then ask them about the elements of an adventure. Provide social praise if they know

at least one element of an adventure, then tell them: When we read or write about adventures we are usually looking for 5 things: a) characters (the people involved in the adventure); b) the setting (where the adventure takes place); c) what do these people want to do (in the two examples I gave you earlier people want to travel across country or to stay alive); d) what are the difficulties they have to face (little money and no transportation or no food and injuries); and e) what happens at the end.

_____ Today I will read to you an adventure story in the mountains. When I finish reading I will ask you to tell me if you liked the story and why, and what did you like most in the story? Please take out from your folders the Adventure Story 1. Now, I am going to start reading the story. Are you ready to follow along?

_____ Read. When you finish reading ask the students if they liked the story and why, and what did they like most. Did you like the adventure story and why? What did you like most in the adventure story?

_____ Writing activity (see directions for administering the activity).

_____ Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will read another adventure story.

Discussion Group - Checklist

Date: _____ **Instructor:** _____

Child's Name: _____ **School:** _____

Adventure: Week 2

_____ Last time we met we talked about adventures and read an adventure story. Can anybody tell us what an adventure is? If students remember what an adventure is, praise them. Good job with remembering. If students do not remember the definition of an adventure, provide the definition to them. Adventure is an exciting and unusual experience.

_____ Today, I will read to you another adventure story in the mountains. When I finish reading I will ask you to tell me if you liked the adventure story, and why, and which adventure story was better and why. Please take out from your folders the Adventure Story 2. Now, I am going to start reading the story. Are you ready to follow along?

_____ Read. When you finish, ask students if they liked the story and why, and which story they liked most. Did you like the adventure story and why? What did you like most in the adventure story? Was this adventure story better than the first one we read?

_____ Writing activity (see directions for administering the activity).

_____ Thank you for working so hard today. Please pack up your folders and give them to me. I will bring them next time I see you. Next time we meet we will read a mystery story and talk about mysteries. If this is the last session of discussion about

both themes tell students that next time they will be asked to do some activities about

mysteries and adventures. Next time we meet I will ask you to complete some

activities for me about mysteries and adventures.

Appendix M

Fidelity of Treatment Checklists

Vocabulary Instruction Experimental Condition

Mystery Week 1 Day 1

Date: _____ Instructor:_____ Scorer: _____

Students: _____

_____ Introduction

_____ Definition of mystery and elements of a mystery (a problem or puzzle that is

difficult to explain and solve / characters, setting, problem, things that help and

prevent, what happens, solution)

_____Mystery Story 1, page 1 and introduction of two mystery words ("sleuth" and

"clues")

_____ Instructor reads Mystery Story 1 page 1

_____ Instructor reads part of the story with the word "sleuth" and provides the

word definition (person who solves a puzzle)

_____ Instructor reads part of the story with the word "clues" and provides the word

definition (directions that help people solve a puzzle)

_____ Introduction of the logbooks – students write words and definitions in

logbooks

_____ Sentences for first word (sleuth)

_____ Sentences for second word (clues)

_____ Students complete a worksheet

_____ Instructor goes over the correct answers

_____ "Word families" activity (sleuth: policeman, catch a criminal/ clues: hints,

tips)

_____ "Payload" activity

_____ Pack-up folders / Reminder about next session

Comments:

_____

_____

Vocabulary Instruction Experimental Condition

Mystery Week 1 Day 2

Date: _____ Instructor:_____ Scorer: _____

Students: _____

_____ Review of 2 mystery words learned last time ("sleuth:" a person who solves

a puzzle and "clues:" directions that help people solve a puzzle)

_____ Homework: students share their sentences / instructor gives out stickers

_____ Mystery Story 1, page 2 and introduction of two mystery words (alibi and

ransom)

_____ Instructor reads Mystery Story 1, page 2

_____Instructor reads part of the story with the word "alibi" and provides the word

definition (excuse used to avoid blame for doing wrong)

_____ Instructor reads part of the story with the word "ransom" and provides the

word definition (paid to free a captured person)

_____ Students write words and definitions in logbooks

_____ Sentences for first word (alibi)

_____ Sentences for second word (ransom)

_____ Students complete a worksheet

_____ Instructor goes over the correct answers

_____ "Word families" activity (alibi: defense, explanation / ransom: money, buy

back)

_____ "Payload" activity

_____ Pack-up folders / Reminder about next session

Comments:

_____

_____

_____

Vocabulary Instruction Experimental Condition

Mystery Week 1 Day 3

Date: _____ Instructor:_____ Scorer: _____

Students: _____

_____ Review of 2 mystery words learned last time ("alibi:" excuse used to avoid

blame for doing wrong and "ransom:" paid to free a captured person)

_____ Homework: students share their sentences / instructor gives out stickers

_____ Introduction of last word (testimony) / instructor read part of the story and

provide the word definition (describes what happens)

_____ Students write word and definition in logbooks

_____ Sentences for the word testimony

_____Students complete a worksheet

_____ Instructor goes over the correct answers

_____ "Word families" activity (testimony: witness, court)

_____ Review of all 5 mystery words learned so far (alibi, clues, ransom, sleuth,

testimony)

_____ Students complete a review worksheet

_____ Instructor goes over the correct answers

_____ Writing Activity

_____ Instructor gives out the award and secret prize

_____ Pack-up folders / Reminder about next session

Comments:

_____

_____

_____

Vocabulary Instruction Experimental Condition

Mystery Week 2 Day 1

Date: _____ Instructor:_____ Scorer: _____

Students: _____

_____ Review of the definition of mystery (a problem or puzzle that is difficult to explain and solve)

_____Mystery Story 2, page 1 and introduction of two mystery words ("twist" and "conspire")

_____ Instructor reads Mystery Story 2 page 1

_____ Instructor reads part of the story with the word "twist" and provides the word definition (unexpected change)

_____ Instructor reads part of the story with the word "conspire" and provides the word definition (to plan secretly with others to do wrong)

_____ Introduction of the logbooks – students write words and definitions in logbooks

_____ Sentences for first word (twist)

_____ Sentences for second word (conspire)

_____ Students complete a worksheet

_____ Instructor goes over the correct answers

_____ "Word families" activity (twist: turn, surprise / conspire: prepare, organize secretly)

_____ "Payload" activity

_____ Pack-up folders / Reminder about next session

Comments:

_____

_____

_____

Vocabulary Instruction Experimental Condition

Adventure Week 1 Day 1

Date: _____ Instructor:_____ Scorer: _____

Students: _____

_____ Introduction

_____ Definition of adventure and elements of an adventure (an exciting and

unusual experience / characters, setting, what people want, difficulties, and what

happens)

_____Adventure Story 1, page 1 and introduction of two adventure words

("enterprise" and "confront")

_____ Instructor reads Adventure Story 1 page 1

_____ Instructor reads part of the story with the word "enterprise" and provides the

word definition (large and risky job)

_____ Instructor reads part of the story with the word "confront" and provides the word definition (to come up against)

_____ Introduction of the logbooks – students write words and definitions in logbooks

_____ Sentences for first word (enterprise)

_____ Sentences for second word (confront)

_____ Students complete a worksheet

_____ Instructor goes over the correct answers

_____ "Word families" activity (enterprise: big problem, hard work / confront: fight, challenge)

_____ "Payload" activity

_____ Pack-up folders / Reminder about next session

Comments:

_____

_____

_____

Vocabulary Instruction Experimental Condition

Adventure Week 1 Day 2

Date: _____ **Instructor:**_____ **Scorer:** _____

Students: _____

_____ Review of 2 adventure words learned last time ("confront:" to come up against and "enterprise:" large and risky job)

_____ Homework: students share their sentences / instructor gives out stickers

_____ Adventure Story 1, page 2 and introduction of two adventure words (anticipate and fulfill)

_____ Instructor reads Adventure Story 1, page 2

_____Instructor reads part of the story with the word "anticipate" and provides the word definition (to expect that something is going to happen)

_____ Instructor reads part of the story with the word "fulfill" and provides the word definition (to make an idea come true)

_____ Students write words and definitions in logbooks

_____ Sentences for first word (anticipate)

_____ Sentences for second word (fulfill)

_____ Students complete a worksheet

_____ Instructor goes over the correct answers

_____ "Word families" activity (anticipate: guess, think ahead / fulfill: complete, carry out)

_____ "Payload" activity

_____ Pack-up folders / Reminder about next session

Comments:

_____

_____

_____

Vocabulary Instruction Experimental Condition

Adventure Week 1 Day 3

Date: _____ Instructor:_____ Scorer: _____

Students: _____

_____ Review of 2 adventure words learned last time ("anticipate:" expect that

something is going to happen and "fulfill:" to make an idea come true)

_____ Homework: students share their sentences / instructor gives out stickers

_____ Introduction of last word (pursue) / instructor read part of the story and provide

the word definition (to try to accomplish a job)

_____ Students write word and definition in logbooks

_____ Sentences for the word pursue

_____Students complete a worksheet

_____ Instructor goes over the correct answers

_____ "Word families" activity (pursue: finish, be persistent)

_____ Review of all 5 adventure words learned so far (anticipate, confront, enterprise, fulfill, pursue)

_____ Students complete a review worksheet

_____ Instructor goes over the correct answers

_____ Writing Activity

_____ Instructor gives out the award and secret prize

_____ Pack-up folders / Reminder about next session

Comments:

_____

_____

_____

Vocabulary Instruction Experimental Condition

Adventure Week 2 Day 1

Date: _____ **Instructor:**_____ **Scorer:** _____

Students: _____

_____ Review of the definition of adventure (an exciting and unusual experience)

_____Adventure Story 2, page 1 and introduction of two adventure words ("peril:" immediate danger and "prevail:" to overcome difficulties)

_____ Instructor reads Adventure Story 2 page 1

_____ Instructor reads part of the story with the word "peril" and provides the word definition (immediate danger)

_____ Instructor reads part of the story with the word "prevail" and provides the word definition (to overcome difficulties)

_____ Introduction of the logbooks – students write words and definitions in logbooks

_____ Sentences for first word (peril)

_____ Sentences for second word (prevail)

_____ Students complete a worksheet

_____ Instructor goes over the correct answers

_____ "Word families" activity (peril: possible harm, threat / prevail: survive, continue to live)

_____ "Payload" activity

_____ Pack-up folders / Reminder about next session

Comments:

_____

_____

Vocabulary Instruction Control Condition

Mystery Week 1 Day 1

Date: _____ Instructor:_____ Scorer: _____

Students: _____

_____ Introduction

_____ Definition of mystery and elements of a mystery (a problem or puzzle that is difficult to explain and solve / characters, setting, problem, things that help and prevent, what happens, solution)

_____ Introduction of Mystery Story 1

_____ Instructor reads Mystery Story 1

_____ Instructor asks students if they liked the mystery story and why, and what did they like most in the story

_____ Writing activity

_____ Pack-up folders / Reminder about next session

Comments:

_____

_____

_____

Vocabulary Instruction Control Condition

Mystery Week 2 Day 1

Date: _____ **Instructor:**_____ **Scorer:** _____

Students:_____

_____ Review of the definition of mystery (a problem or puzzle that is difficult to

explain and solve)

_____ Introduction of Mystery Story 2

_____Instructor reads Mystery Story 2

_____ Instructor asks students if they liked the mystery story and why, what did

they like most, and which mystery story was better

_____ Writing activity

_____ Pack-up folders / Reminder about next session

Comments:

_____

_____

_____

Vocabulary Instruction Control Condition

Adventure Week 1 Day 1

Date: _____ **Instructor:**_____ **Scorer:** _____

Students: _____

_____ Introduction

_____ Definition of adventure and elements of an adventure (an exciting and

unusual experience / characters, setting, what people want, difficulties, and what

happens)

_____ Introduction of Adventure Story 1

_____ Instructor reads Adventure Story 1

_____ Instructor asks students if they liked the adventure story and why, and what did

they like most in the story

_____ Writing activity

_____ Pack-up folders / Reminder about next session

Comments:

_____

_____

_____

Vocabulary Instruction Control Condition

Adventure Week 2 Day 1

Date: _____ **Instructor:** _____ **Scorer:** _____

Students: _____

_____ Review of the definition of adventure (an exciting and unusual experience)

_____ Introduction of Adventure Story 2

_____Instructor reads Adventure Story 2

_____ Instructor asks students if they liked the adventure story and why, what did they like most, and which adventure story was better

_____ Writing activity

_____ Pack-up folders / Reminder about next session

Comments:

_____

_____

_____

Appendix N

Forms of Vocabulary Multiple-choice Test

Student's Name: _____   Date: _____

Administrator: _____ Circle one: Pretest   Posttest

Say: **Please circle one of the five answers that you think gives the best definition**

for the word. There is only one correct answer for each word. If you do not know

the answer you can circle the answer F (I don't know). Before we start let's try a

practice question.

The word is "dog." What does "dog" mean? Let me read all six answers to you

before you choose the correct one.

Read the first word and the 6 alternative options and wait until the student mark

his/her answer.

dog

a. purrs when you touch it

b. barks at people

c. moos loudly

d. talks to people

e. has eight legs

f. I don't know

If the student picks the correct answer praise: **"That's right, b is the correct**

answer; dog barks at people". Then, ask: **"Do you have any questions?"**

If the student does not have questions continue with the rest of the test. Do each item

below as you did the practice item above (except do not ask if they have any

questions).

If the student does not pick the correct answer in the first practice item do the following second practice item with him/her:

Say: **The word is "car." What does "car" mean? Let me read all six answers to you before you choose the correct one.**

Read the word and the 6 alternative options and wait until the student mark his/her answer.

car

a. has two wheels

b. flies in the sky

c. sails on the sea

d. needs gas to go

e. drives on rails

f. I don't know

If the student picks the correct answer praise: **"That's right, d is the correct answer; car needs gas to go".** Then, ask: **"Do you have any questions?"**

If the student does not have questions continue with the rest of the test. Do each item below as you did the practice item above (except do not ask if they have any questions).

suspects

a. people who ride horses in a race

b. people who fight against a ruler

c. people who explore new areas

d. people who may have done wrong

e. people who get help from a doctor

f. I don't know

frustrations

a. hints that remind people to do a job

b. goods offered for sale at a particular time

c. feelings of disappointment when a job is not completed

d. physical lines that separate one country from another

e. parties at which people wear masks and fantastic costumes

f. I don't know

alibi

a. excuse used to avoid blame for doing wrong

b. picture made by small pieces of colored material

c. electric device used to produce a loud warning sound

d. agreement made between states or rulers

e. examination of a dead body to find the cause of death

f. I don't know

sleuth

a. person who solves a puzzle

b. person with all the power

c. person who loves books

d. person who performs tricks

e. person who makes laws

f. I don't know

endure

a. to make money for doing a job

b. to order items based on their importance

c. to talk in a voice too low to be heard clearly

d. to keep doing a job that is unpleasant

e. to tell a story by using body movements

f. I don't know

ransom

a. added to food to prevent spoiling

b. used to prevent poisoning

c. used to make a job easier

d. help to keep a person warm

e. paid to free a captured person

f. I don't know

hostage

a. person who is captured and not let go

b. person who can read and write

c. person who writes for a newspaper and movies

d. person who kills animals and people

e. person who listens and gives advice

f. I don't know

encounter

a. to enter information into a computer

b. to come face to face with danger

c. to feel sorrow over a person's death

d. to give another person power over you

e. to steal things on display in stores

f. I don't know

anticipate

a. to repeat something from memory

b. to expect that something is going to happen

c. to say the opposite of what another person said

d. to show a connection between two people

e. to cause a person to do something

f. I don't know

plot

a. secret plan to do something

b. full view in every direction

c. money for a special purpose

d. giving something to others

e. place that gives protection

f. I don't know

fulfill

a. to stay the same

b. to govern as a monarch

c. to look over a paper again

d. to think of a new idea

e. to make an idea come true

f. I don't know

conceal

a. to propose something as an idea

b. to play a game for money

c. to keep something a secret

d. to keep something in good condition

e. to make a job easier

f. I don't know

enterprise

a. imaginary place

b. large and risky job

c. robbery on the seas

d. strong feelings

e. feathers of a bird

f. I don't know

conspire

a. to separate the threads of a knot

b. to make something more beautiful

c. to clean a pet and make it attractive

d. to plan secretly with others to do wrong

e. to keep working on a job despite difficulties

f. I don't know

suspense

a. feeling that a bad thing is going to happen

b. feeling that makes a person happy

c. feeling of excitement about what will happen next

d. feeling of responsibility for doing wrong

e. feeling that warns people of future disasters

f. I don't know

quest

a. violence to a person

b. feeling of respect

c. payment for a job

d. difficult search

e. route of a journey

f. I don't know

clues

a. feelings when somebody insults a person

b. problems with two possible solutions

c. souvenirs taken from the enemy after victory

d. small books of information about a topic

e. directions that help people solve a puzzle

f. I don't know

motive

a. place where people do experiments

b. reason why a person acts in a certain way

c. animal killed by another animal for food

d. metal covering to protect the body in battle

e. loss of the ability to feel pain

f. I don't know

determination

a. firm decision to do a difficult job

b. opinion about what a person is like

c. highest point of development

d. rapid spread of a disease

e. firm idea about what is best

f. I don't know

confront

a. to receive willingly

b. to stand still

c. to take a trip

d. to hold firmly

e. to come up against

f. I don't know

testimony

a. describes what happens

b. gives step-by-step method to solve a problem

c. shows unselfish interest in what happens to others

d. is used by birds as a nest to raise young

e. serves as a sitting area during performance

f. I don't know

inspire

a. to surround people with guns

b. to examine one's own thoughts

c. to encourage a person to do something

d. to delay a job that needs to be done now

e. to make something from other materials

f. I don't know

pursue

a. to put an idea into practice

b. to try to accomplish a job

c. to copy another person's work

d. to save a person from danger

e. to ask a person to do a favor

f. I don't know

strive

a. to become gradually smaller

b. to write down what a person says

c. to make pictures for books

d. to treat with too much care

e. to work towards a goal

f. I don't know

investigate

a. to move in another country

b. to find the value of something

c. to express an opinion clearly

d. to study something closely

e. to do a job in a new way

f. I don't know

prevail

a. to make a secret known

b. to prove that something is right

c. to overcome difficulties

d. to prove that something is false

e. to give up doing something

f. I don't know

twist

a. quick look

b. unexpected change

c. wide view

d. narrow passage

e. young person

f. I don't know

peril

a. space for the pilot

b. soft part of a seed

c. loyalty to your country

d. medicine for a disease

e. immediate danger

f. I don't know

Vocabulary Multiple-choice Test Form B

Student's Name: _____ **Date:** _____

Administrator: _____ **Circle one: Pretest   Posttest**

Say**: Please circle one of the five answers that you think gives the best definition for the word. There is only one correct answer for each word. If you do not know the answer you can circle the answer F (I don't know). Before we start let's try a practice question.**

The word is "dog." What does "dog" mean? Let me read all six answers to you before you choose the correct one.

Read the first word and the 6 alternative options and wait until the student mark his/her answer.

dog

a. purrs when you touch it

b. barks at people

c. moos loudly

d. talks to people

e. has eight legs

f. I don't know

If the student picks the correct answer praise: **"That's right, b is the correct answer; dog barks at people".** Then, ask: **"Do you have any questions?"**

If the student does not have questions continue with the rest of the test. Do each item below as you did the practice item above (except do not ask if they have any questions).

If the student does not pick the correct answer in the first practice item do the following second practice item with him/her:

Say: **The word is "car." What does "car" mean? Let me read all six answers to you before you choose the correct one.**

Read the word and the 6 alternative options and wait until the student mark his/her answer.

car

a. has two wheels

b. flies in the sky

c. sails on the sea

d. needs gas to go

e. drives on rails

f. I don't know

If the student picks the correct answer praise: **"That's right, d is the correct answer; car needs gas to go".** Then, ask: **"Do you have any questions?"**

If the student does not have questions continue with the rest of the test. Do each item below as you did the practice item above (except do not ask if they have any questions).

determination

a. rapid spread of a disease

b. opinion about what a person is like

c. highest point of development

d. firm decision to do a difficult job

e. firm idea about what is best

f. I don't know

twist

a. quick look

b. narrow passage

c. wide view

d. unexpected change

e. young person

f. I don't know

pursue

a. to put an idea into practice

b. to copy another person's work

c. to try to accomplish a job

d. to save a person from danger

e. to ask a person to do a favor

f. I don't know

alibi

a. examination of a dead body to find the cause of death

b. picture made by small pieces of colored material

c. electric device used to produce a loud warning sound

d. agreement made between states or rulers

e. excuse used to avoid blame for doing wrong

f. I don't know

encounter

a. to enter information into a computer

b. to steal things on display in stores

c. to feel sorrow over a person's death

d. to give another person power over you

e. to come face to face with danger

f. I don't know

enterprise

a. large and risky job

b. imaginary place

c. robbery on the seas

d. strong feelings

e. feathers of a bird

f. I don't know

prevail

a. to overcome difficulties

b. to make a secret known

c. to prove that something is right

d. to prove that something is false

e. to give up doing something

f. I don't know

investigate

a. to move in another country

b. to find the value of something

c. to study something closely

d. to express an opinion clearly

e. to do a job in a new way

f. I don't know

suspects

a. people who ride horses in a race

b. people who fight against a ruler

c. people who explore new areas

d. people who get help from a doctor

e. people who may have done wrong

f. I don't know

ransom

a. added to food to prevent spoiling

b. used to prevent poisoning

c. paid to free a captured person

d. help to keep a person warm

e. used to make a job easier

f. I don't know

fulfill

a. to stay the same

b. to make an idea come true

c. to govern as a monarch

d. to look over a paper again

e. to think of a new idea

f. I don't know

suspense

a. feeling of excitement about what will happen next

b. feeling that makes a person happy

c. feeling that a bad thing is going to happen

d. feeling of responsibility for doing wrong

e. feeling that warns people of future disasters

f. I don't know

motive

a. reason why a person acts in a certain way

b. place where people do experiments

c. animal killed by another animal for food

d. metal covering to protect the body in battle

e. loss of the ability to feel pain

f. I don't know

inspire

a. to surround people with guns

b. to examine one's own thoughts

c. to delay a job that needs to be done now

d. to encourage a person to do something

e. to make something from other materials

f. I don't know

frustrations

a. hints that remind people to do a job

b. goods offered for sale at a particular time

c. parties at which people wear masks and fantastic costumes

d. physical lines that separate one country from another

e. feelings of disappointment when a job is not completed

f. I don't know

hostage

a. person who can read and write

b. person who is captured and not let go

c. person who writes for a newspaper and movies

d. person who kills animals and people

e. person who listens and gives advice

f. I don't know

anticipate

a. to repeat something from memory

b. to say the opposite of what another person said

c. to expect that something is going to happen

d. to show a connection between two people

e. to cause a person to do something

f. I don't know

quest

a. violence to a person

b. difficult search

c. feeling of respect

d. payment for a job

e. route of a journey

f. I don't know

testimony

a. is used by birds as a nest to raise young

b. gives step-by-step method to solve a problem

c. shows unselfish interest in what happens to others

d. describes what happens

e. serves as a sitting area during performance

f. I don't know

peril

a. space for the pilot

b. soft part of a seed

c. immediate danger

d. loyalty to your country

e. medicine for a disease

f. I don't know

endure

a. to make money for doing a job

b. to keep doing a job that is unpleasant

c. to order items based on their importance

d. to talk in a voice too low to be heard clearly

e. to tell a story by using body movements

f. I don't know

plot

a. place that gives protection

b. full view in every direction

c. money for a special purpose

d. giving something to others

e. secret plan to do something

f. I don't know

conceal

a. to keep something a secret

b. to propose something as an idea

c. to play a game for money

d. to keep something in good condition

e. to make a job easier

f. I don't know

strive

a. to become gradually smaller

b. to write down what a person says

c. to work towards a goal

d. to make pictures for books

e. to treat with too much care

f. I don't know

clues

a. feelings when somebody insults a person

b. problems with two possible solutions

c. souvenirs taken from the enemy after victory

d. directions that help people solve a puzzle

e. small books of information about a topic

f. I don't know

confront

a. to receive willingly

b. to stand still

c. to take a trip

d. to come up against

e. to hold firmly

f. I don't know

conspire

a. to separate the threads of a knot

b. to plan secretly with others to do wrong

c. to make something more beautiful

d. to clean a pet and make it attractive

e. to keep working on a job despite difficulties

f. I don't know

sleuth

a. person who loves books

b. person with all the power

c. person who solves a puzzle

d. person who performs tricks

e. person who makes laws

f. I don't know

Vocabulary Multiple-choice Test Form C

Student's Name: _____ **Date:** _____

Administrator: _____ **Circle one: Pretest   Posttest**

Say: **Please circle one of the five answers that you think gives the best definition for the word. There is only one correct answer for each word. If you do not know the answer you can circle the answer F (I don't know). Before we start let's try a practice question.**

The word is "dog." What does "dog" mean? Let me read all six answers to you before you choose the correct one.

Read the first word and the 6 alternative options and wait until the student mark his/her answer.

dog

a. purrs when you touch it

b. barks at people

c. moos loudly

d. talks to people

e. has eight legs

f. I don't know

If the student picks the correct answer praise: **"That's right, b is the correct answer; dog barks at people".** Then, ask: **"Do you have any questions?"**

If the student does not have questions continue with the rest of the test. Do each item below as you did the practice item above (except do not ask if they have any questions).

If the student does not pick the correct answer in the first practice item do the following second practice item with him/her:

Say: **The word is "car." What does "car" mean? Let me read all six answers to you before you choose the correct one.**

Read the word and the 6 alternative options and wait until the student mark his/her answer.

car

a. has two wheels

b. flies in the sky

c. sails on the sea

d. needs gas to go

e. drives on rails

f. I don't know

If the student picks the correct answer praise: **"That's right, d is the correct answer; car needs gas to go".** Then, ask: **"Do you have any questions?"**

If the student does not have questions continue with the rest of the test. Do each item below as you did the practice item above (except do not ask if they have any questions).

plot

a. place that gives protection

b. secret plan to do something

c. money for a special purpose

d. giving something to others

e. full view in every direction

f. I don't know

enterprise

a. imaginary place

b. feathers of a bird

c. robbery on the seas

d. large and risky job

e. strong feelings

f. I don't know

sleuth

a. person who loves books

b. person with all the power

c. person who performs tricks

d. person who solves a puzzle

e. person who makes laws

f. I don't know

strive

a. to work towards a goal

b. to write down what a person says

c. to make pictures for books

d. to become gradually smaller

e. to treat with too much care

f. I don't know

peril

a. medicine for a disease

b. soft part of a seed

c. loyalty to your country

d. immediate danger

e. space for the pilot

f. I don't know

testimony

a. serves as a sitting area during performance

b. describes what happens

c. shows unselfish interest in what happens to others

d. is used by birds as a nest to raise young

e. gives step-by-step method to solve a problem

f. I don't know

clues

a. feelings when somebody insults a person

b. directions that help people solve a puzzle

c. souvenirs taken from the enemy after victory

d. small books of information about a topic

e. problems with two possible solutions

f. I don't know

hostage

a. person who kills animals and people

b. person who can read and write

c. person who writes for a newspaper and movies

d. person who listens and gives advice

e. person who is captured and not let go

f. I don't know

confront

a. to receive willingly

b. to take a trip

c. to come up against

d. to hold firmly

e. to stand still

f. I don't know

endure

a. to tell a story by using body movements

b. to order items based on their importance

c. to talk in a voice too low to be heard clearly

d. to make money for doing a job

e. to keep doing a job that is unpleasant

f. I don't know

conceal

a. to propose something as an idea

b. to keep something a secret

c. to play a game for money

d. to keep something in good condition

e. to make a job easier

f. I don't know

determination

a. opinion about what a person is like

b. firm idea about what is best

c. highest point of development

d. rapid spread of a disease

e. firm decision to do a difficult job

f. I don't know

encounter

a. to enter information into a computer

b. to feel sorrow over a person's death

c. to come face to face with danger

d. to give another person power over you

e. to steal things on display in stores

f. I don't know

ransom

a. paid to free a captured person

b. used to prevent poisoning

c. used to make a job easier

d. help to keep a person warm

e. added to food to prevent spoiling

f. I don't know

prevail

a. to prove that something is right

b. to overcome difficulties

c. to make a secret known

d. to prove that something is false

e. to give up doing something

f. I don't know

twist

a. quick look

b. wide view

c. unexpected change

d. narrow passage

e. young person

f. I don't know

pursue

a. to put an idea into practice

b. to save a person from danger

c. to copy another person's work

d. to ask a person to do a favor

e. to try to accomplish a job

f. I don't know

frustrations

a. hints that remind people to do a job

b. feelings of disappointment when a job is not completed

c. parties at which people wear masks and fantastic costumes

d. physical lines that separate one country from another

e. goods offered for sale at a particular time

f. I don't know

alibi

a. electric device used to produce a loud warning sound

b. picture made by small pieces of colored material

c. excuse used to avoid blame for doing wrong

d. agreement made between states or rulers

e. examination of a dead body to find the cause of death

f. I don't know

suspects

a. people who may have done wrong

b. people who fight against a ruler

c. people who ride horses in a race

d. people who explore new areas

e. people who get help from a doctor

f. I don't know

motive

a. place where people do experiments

b. metal covering to protect the body in battle

c. animal killed by another animal for food

d. reason why a person acts in a certain way

e. loss of the ability to feel pain

f. I don't know

conspire

a. to clean a pet and make it attractive

b. to make something more beautiful

c. to plan secretly with others to do wrong

d. to separate the threads of a knot

e. to keep working on a job despite difficulties

f. I don't know

anticipate

a. to show a connection between two people

b to repeat something from memory

c. to say the opposite of what another person said

d. to expect that something is going to happen

e. to cause a person to do something

f. I don't know

inspire

a. to encourage a person to do something

b. to examine one's own thoughts

c. to make something from other materials

d. to delay a job that needs to be done now

e. to surround people with guns

f. I don't know

investigate

a. to study something closely

b. to find the value of something

c. to express an opinion clearly

d. to do a job in a new way

e. to move in another country

f. I don't know

suspense

a. feeling that makes a person happy

b. feeling that a bad thing is going to happen

c. feeling that warns people of future disasters

d. feeling of responsibility for doing wrong

e. feeling of excitement about what will happen next

f. I don't know

fulfill

a. to make an idea come true

b. to think of a new idea

c. to look over a paper again

d. to govern as a monarch

e. to stay the same

f. I don't know

quest

a. difficult search

b. feeling of respect

c. payment for a job

d. route of a journey

e. violence to a person

f. I don't know

Appendix O

Writing Prompts' Evaluation Form

Directions for Administering Story Writing

Writing Prompts

Story Writing: Directions For Administering

1. Give the student the writing prompt.

2. Make sure the student has a pencil (Keep one in reserve).

3. Say:

Please look carefully at this picture. I want you to write an adventure/mystery story to go with this picture. I want you to write the best adventure/mystery story that you can. Use everything that you know about adventures/mysteries to help you write this story. I can only help you spell any words that you do not know. Do you have any questions? Ok, go ahead and start. Let me know when you are done.

4. Start the stopwatch.

5. If the student asks for help, remind them that you can only help them spell words. Circle any words that you helped with spelling.

6. Allow students as much time as they need to write the story. Provide additional paper if needed. Students can tear the second page when they write to be able to look at the picture.

7. When the student stops writing ask them if they finished. If they say yes, ask them if there is anything else they want to add in their stories. If the student starts writing again draw a line in the place where they started writing after your prompt.

8. When the student finishes, stop the stopwatch and record the time the student was writing.

9. Ask the student to read their story back to you to make sure that it is legible. Do not add words or make any corrections to the initial story except to clarify handwriting issues.

10. Be sure that the student's name, your name, and the date of test administration are written on the front of the test. Circle the word pretest or posttest as appropriately.

11. When you get home type the students' stories correcting only spelling, capitalization, and punctuation errors. Include your name, the student's name, the date, the time the student was writing, the number of the adventure writing prompt, and identify whether it was a pre- or a posttest adventure story.

Mystery Writing Prompt 2

Student: _____ Date: _____ Time: _____

Administrator:_____ Circle one: Pretest Posttest

_____

_____

_____

_____

_____

_____

Mystery Writing Prompt 3

Student: _____ Date: _____ Time: _____

Administrator: _____ Circle one: Pretest   Posttest

_____

_____

_____

_____

_____

_____

Adventure Writing Prompt 5

Student: _____ Date: _____ Time: _____

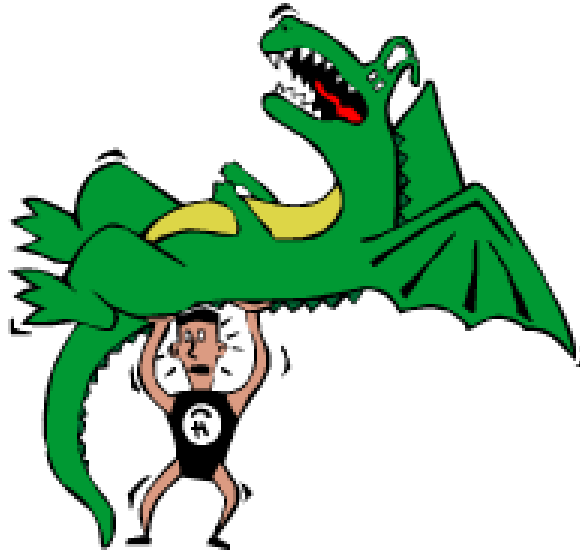Administrator:_____ Circle one: Pretest   Posttest

_____

_____

_____

_____

_____

Adventure Writing Prompt 6

Student: _____ Date: _____ Time: _____

Administrator:_____ Circle one: Pretest   Posttest

_____

_____

_____

_____

_____

_____

Dear teacher,

      As part of your voluntary participation in this research study, you have been selected to evaluate the following writing prompts in terms of their appropriateness and suitability. Specifically, we are asking you to identify the writing prompts that you think your 3rd-grade students would a) be able to write a story for and b) enjoy writing a story about. Students would be assessed only on the 4 writing prompts that have been deemed appropriate and suitable by you and another colleague of yours for 3rd-grade students (based on both criteria above). Please look over these two sets of writing prompts (one set for mystery and one for adventure). Each prompt has an identifying number. Select 4 writing prompts for the theme of mystery and 4 for the theme of adventure and place them in the two categories below starting with the most preferable (1) to the least preferable (4). Thank you in advance for your help.

Students would be able to write for   Students would enjoy writing a story about

Adventure Writing Prompts   *Adventure Writing Prompts*

1)   1)

2)   2)

3)   3)

4)   4)

Mystery Writing Prompts   *Mystery Writing Prompts*

1)   1)

2)   2)

3)   3)

4)   4)

Appendix P

Rubrics for Scoring the Number of Instructional Words in

Students' Stories

Mystery Stories   **Scorer** _____   **Date:** _____

Directions: Please put a check mark at the appropriate blanks. Place a checkmark for each time that the word occurred in the story (i.e., if the word occurred 3 times in a story you put 3 check marks). Write any other words and/or phrases in the space provided.

Test 1

1) **Alibi**: _____

Other deviation(s) of the words: _____   Times of occurrence: _____

Synonyms:

Fib(s): _____

Explanation (s): _____   **Excuse** (s): _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

2) **Clues**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

Hint(s): _____   **Tip**(s):_____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

3) **Conceal**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

Hide: _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

4) **Conspire**: _____

Conspiracy: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

Plot: _____

Come up with a plot: _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

5) **Motive**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

Reason(s): _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

6) **Ransom**: _____

Other deviation(s) of the words: _____   Times of occurrence: _____

Synonyms:

Redemption(s): _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

7) **Sleuth**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

Cop(s): _____ **Detective**(s): _____ **FBI**: _____ **Inspector**(s): _____

Investigator(s): _____   **Police**: _____   **Policeman/men**: _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

8) **Suspense**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

Anxiety: _____

Pleasant excitement as to a decision or outcome: _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

9) **Testimony**: _____

Testify: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

Proof: _____   **Documentation**: _____

Evidence: _____

Something presented in support of the truth or accuracy of a claim: _____

Documents: _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

10) **Twist**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

An unexpected turn or development: _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

 Adventure Stories   Scorer _____   **Date:** _____

Directions: Please put a check mark at the appropriate blanks. Place a checkmark for

each time that the word occurred in the story (i.e., if the word occurred 3 times in a

story you put 3 check marks). Write any other words and/or phrases in the space

provided.

Test 1

1) **Anticipate**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

To Expect: _____

To foresee: _____   **To know about beforehand**: _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

2) **Confront**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

Attack: _____ **Be in a battle:** _____ **Fight:** _____

To face something: _____ **To Oppose:** _____

To oppose something hostile or dangerous with firmness or courage: _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

3) **Determination:** _____

Determined: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

Being decisive: _____ **Decidedness:** _____ **Decision:** _____

Decisiveness: _____ **Firmness:** _____

Firm or unwavering adherence to one's purpose: _____ **Purposefulness:** ____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

4) **Encounter**: _____

Other deviation(s) of the word: _____ Times of occurrence: _____

Synonyms:

To come across: _____

To run into: _____ **To meet:** _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

5) **Endure**: _____

Other deviation(s) of the word: _____ Times of occurrence: _____

Synonyms:

To put up with something painful or difficult: _____

To bear: _____ **To tolerate:** _____ **To stand:** _____

To stick out: _____ **To sustain:** _____

Tolerance: _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

6) **Enterprise**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

A risky undertaking: _____   **Bet:** _____

Gamble: _____   **Hazard:** _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

7) **Fulfill**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

To achieve: _____ **To accomplish:** _____ **To carry out:** _____

To commit: _____   **To compass:** _____   **To do:** _____

To execute: _____ **To follow through:** _____ **To make:** _____

To make into reality: _____ **To perform:** _____ **To win:** _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

8) **Peril**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

Danger(s): _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

9) **Prevail**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

To achieve a victory over: _____

Beat: _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

10) **Pursue**: _____

Other deviation(s) of the word: _____   Times of occurrence: _____

Synonyms:

I am on a quest: _____ **Seek:** _____

To go in search of: _____

Other deviation(s) of synonyms: _____

Times of occurrence: _____

Appendix Q

Holistic Story Quality Description and

Anchor Points

Seven-point Likert Scale

The quality of stories was evaluated using a 7-point holistic scale ranging from 1 (lowest quality) to 7 (highest quality). The holistic method is one of the several approaches to the systematic analysis, scoring, or rating of free writing. The scorer makes a single, overall judgment of the quality of the writing sample based on the overall impact made by the writing. Factors relevant to good writing that usually affect the scorer's decision are grammar, organization, aptness of word choice, detail in sentence structure, and imagination. No one of these factors should receive undue weight but all should be taken into account in forming a single judgment about the overall quality of the writing sample. The scorer reads the essay or story attentively but not laboriously in order to obtain a general impression of its quality, and immediately makes a rating.

Prior to scoring, the researcher provided the two scorers with anchor points, separately for both themes, for a score of 2, 4, and 6. The anchor points were obtained via the following procedure: In May 2006, one classroom of 3rd-grade students attending School 1 were asked to write one adventure and one mystery story in the response to the same prompts used during the study (Prompt 2 for mystery and Prompt 5 for adventure). The two writing prompts were administered in separate sessions. Next, three individuals majoring in education were asked to independently select the best seven, the middle seven, and the worst seven stories written separately for each theme. Then, the researcher identified the stories, one in each category (best, medium, worst), for which there was an agreement among all three raters. Whenever, there was more than one agreement in each category the researcher decided which

story to select for the second cycle of evaluation. In two categories, medium mystery and worst adventure, there was no agreement among all three raters so the researcher had to decide on one story in each category for which there was agreement between at least two raters.

In the second cycle of evaluation, two different individuals were asked to put the three stories (best, medium, and worst) into their categories. There was a 100% agreement between the two raters, and therefore a third cycle of evaluation was not necessary. The best story was used as the anchor point 6, the middle story as the anchor point 4, and the worst story as the anchor point 2. The same procedure was used to create the anchor points for both themes. These anchor points were used to score the practice as well as the actual adventure and mystery stories that were written by students during the study.

Sample stories used for anchor points for the theme of mystery

Anchor Story 2

A long time ago there was a mans name detective Bruce. He is undercover. He had to take pictures of everywhere the bad guy went. He was wearing a black Skimas K.

Anchor Story 4

One time it was a man. He went in the house when every one was sleep but he didn't know that they had a alarm system and then the dog came out and bit him and then he hid somewhere. And when the dog left he came out and then start looking for something. Then he found it and dropped it and woke the people up and the dog. Then the dog found him and bit him and he took the radio he found and left out. By the time he walked out he was surrounded with police around him.

Anchor Story 6

Once upon a time there were 10 princesses, and every time they went to bed, the king will put the shoes they are going to wear in front of their beds. There is a man name the Sniper and he always climbs the princesses' castle to their room. He'll put their shoes in a trash bag and will go back out the window. Every morning when the king goes in the girls' room, he'll be very angry. A couple of weeks later, at night, the king

locked the girls' door with chains and locks because he thought whoever takes the shoes comes from outside the door. In the middle of the night one of the princesses got up for a glass of water, and she noticed the door was locked, and so she went to her bed very slowly that when the sniper was in the girls' room the princess had scream so loud that she woke up the king. The king hurried to the girls' room and unlocked the chains and locks and saw the sniper. The sniper tried to run away, but the kings got him. The king had called all of guards in the castle, and they drove the sniper to an police station. The king, and the 10 princesses, and went back to bed. The end.

Samples stories used for anchor points for the theme of adventure

Anchor Story 2

Once upon a time it takes place in China. A Chinese Dragons comes to avoid to the people. The emperor sent troops to fight the dragon, and they fought the dragon.

Anchor Story 4

This adventure is about a man that is fight a dragon. The dragon was killing people so, somebody came in and started to fight him. The man is trying to save people from getting kill. If the dragon blow fire a lot of people will die. If two people fight the dragon the dragon might die. If the dragon fly and come down all the people that have a stick or something could hit him with it. Then everybody could start to hit him. They might kill him. What if another dragon come? It will be a fight on. They will be a lot of killing going on. They kill the dragon and then they ate him. When they kill him they went home and had dinner. Once again somebody save the day!!!

Anchor Story 6

Once upon a time there was a man name Fasha. He was French and he was a knight of his town. And nine years ago a dragon came to the French town; his name was Sonic and he crash cars, trucks, houses, and people. And then Fasha came to the

rescue with his sword and was trying his best to beat it the beast. Fasha climb on his neck and the dragon blew his fire breath at Fasha and he burnt the death but he was ok because the metal protected him and he fought back and the towns people cried because Fasha had beaten. Then Fasha collapsed on to the ground the people called all. Then they came as soon as the can to get Fasha. Everybody hoped that he will be ok and Fasha said, "Wait," and told the dragon to take care of my people. And Sonic said, "Ok." When he was in the hospital and found out that Fasha had died because of bad heart and everybody tried to come as fast as they can but it was too late; they had to put him and the grave because he was too old and everybody would miss him. And the dragon Sonic had to take his place and battle, care, happiness, skills, braveness, knight ness, and Sonic did just that. And he know that Fasha would be proud to be counted.

Appendix R

Examples of Students' Mystery and Adventure Stories

Mystery Stories

Student # 24, Experimental Condition, School 2

Pretest story in response to Writing Prompt 2

I want to fly a helicopter and spot robbers, and catch them, and put him in jail for a long time; and search for bank robbers, and put them in jail for a long time, too.

Student # 24, Experimental Condition, School 2

Posttest story in response to Writing Prompt 3

I had a dream about me being a detective, and try to solve the mystery of the disappearing trophy. I found 3 clues: a hammer next to the glass door; second, I found a trail of footprints near the door where the hammer was; third, I found fingerprints on the place where the trophy was. I put the three clues together and I found my friend Nick. If he stole the trophy. He said, yes, he did steal the trophy.

Student # 5, Control Condition, School 2

Pretest story in response to Writing Prompt 3

One day, a man was taking a walk and saw a robber walking down with a sack full of money. Oh, no! THE END.

Student # 5, Control Condition, School 2

Posttest story in response to Writing Prompt 2

One day, a robber stole a thing. Then, came police and killed him. The end.

Student # 16, Experimental Condition, School 1

Pretest story in response to Writing Prompt 2

My name is Jojo. I steal stuff. Oh, no! They caught me! Not – this time. I went to run behind someone's house. I was safe. I am so glad they cannot find me. Oh, no! They got a helicopter; they are shinning the light all over the place. Oh, man; they caught me! The people are good!

Student # 16, Experimental Condition, School 1

Posttest story in response to Writing Prompt 3

This man, name Jo, like to steal stuff from people. He knew it was wrong, but he like to do it. One night, he went to the bank to steal all the money they had raised. He felt

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sorry, but he lied, and use a alibi. The policeman had to get to hear his testimony. A sleuth came to figure out what had happen. He use some clues to find out. They did not see or find out who stole it. Jo had conspire with some other person. So far, he was in jail. Then, he got out of jail. Now, he got out of trouble.

Student # 6, Control Condition, School 1

Pretest story in response to Writing Prompt 2

The man stole a radio and got caught him stealing the radio; and he is wearing shoes, some black and white stripes and a mask on, so he can just steal the radio. A airplane flash the light on him, and got caught.

Student # 6, Control Condition, School 1

Posttest story in response to Writing Prompt 3

His name is Mr. Hooks; he stole stuff from store's and rich people. Mr. Hooks has a mask on, so no one won't know he is Mr. Hooks. He is doing the tiptoe. People didn't found out who is it. I was a hero. I found out who it was. It was Mr. Hooks, and I gave back all the stuff that was stole.

Student # 22, Experimental Condition, School 2

Pretest story in response to Writing Prompt 6

I'm going on a adventure. The man's name is Joe. The dragon's name is Bob. Joe picked up the dragon and dropped him on the ground. Joe was a strong man. Then he hit down. When he hit him he was knocked him dead. That was the end of Bob. Joe went home.

Student # 22, Experimental Condition, School 2

Posttest story in response to Writing Prompt 5

The knight's name was James. The dragon was a fierce dragon. James trying to kill the dragon, but he could not kill the dragon. James tried kicking the dragon. The dragon bit James. He was in peril.

Student # 11, Control Condition, School 2

Pretest story in response to Writing Prompt 6

One day, a man lift dragon that was huge. Even the dragon was big, he lift it. And it was awesome, because I never saw anything like that. And the man was struggling, because the dragon was too heavy.

Student # 11, Control Condition, School 2

Posttest story in response to Writing Prompt 5

One day, in World War II, a dragon came down from the mountains. So, they try to kill it quickly. And so, the ferocious beast and went back into its cave.

Student # 20, Experimental Condition, School 1

Pretest story in response to Writing Prompt 5

The dragon is fighting the king, because he stole the queen, and ate the queen. And the king want the queen back, because the dragon love her, too. Then, the dragon ate the queen, and the dragon throw up the queen with her bones. And the queen die, but the king found another one, and they got in love, and they got marry. The end.

Student # 20, Experimental Condition, School 1

Posttest story in response to Writing Prompt 6

The dragon and the superhero

They was fighting for the princess; and the dragon lost, because he lost; but he woke up again and fight. He lost again, but this time he died forever. And the superhero and the princess they got marry and live happy ever after. The end!

Student # 3, Control Condition, School 1

Pretest story in response to Writing Prompt 6

I think that he is trying to save his village from a dragon that can burn his whole village so every one thinks that he is a hero and his mom, dad, sister, brother, aunt, uncle will be surprised of him and they will be happy forever.

Student # 3, Control Condition, School 1

Posttest story in response to Writing Prompt 5

I think that he is trying to kill the dragon, so the dragon can live forever, and stay where he lives at, and don't come back; or else you are going to died, so we can be free.

Appendix S

Knowledge Telling Test

Directions for Administering Knowledge Telling

Students' Response Forms

Knowledge About Themes: Directions For Administering

1. This test is given orally. The student does not write. Students answer the question orally and you write down verbatim what they say.

2. Session should be tape-recorded. You can take a minute or two and show the student how the tape recorder works before you ask them the question (only do this if you think it is necessary).

3. When you tape-record say your name, the student's name, the date, the theme, and the name and type of the test (e.g., Adventure/mystery, knowledge telling test, pretest).

4. Have a piece of paper and a pencil with you (Keep one in reserve).

5. Say: **One kind of story is an adventure/mystery story. What is an adventure/mystery? I want you to tell me everything that you know about adventures/mysteries.**

6. Start the stopwatch.

7. Prompt the student to tell you more as necessary (Can you tell me a little bit more about that? What do you mean by that?).

8. When the student appears to be done ask him/her if there is anything else that he/she can tell you about adventures/mysteries.

If the student starts talking again draw a line in the place where they started talking after your prompt.

9. When the student finishes, stop the stopwatch and record the time the student was talking.

10. Be sure that the student's name, your name, and the date of test administration are written on the front of the test. Circle the word pretest or posttest as appropriately.

11. While the student is talking write down everything you can verbatim. Once the session is over, use the tape-recorded session to correct and add to your written transcription.

12. Type what the student told you without making any corrections. Include your name, the student's name, the date, the time they were talking, and identify whether it was a pre- or posttest knowledge telling test for adventure/mystery.

Adventure

Student: _____ Administrator: _____

Date: _____ Time: _____ Circle one: Pretest Posttest

_____

_____

_____

_____

_____

_____

_____

Mystery

Student: _____ Administrator: _____

Date: _____ Time: _____ Circle one: Pretest Posttest

_____

_____

_____

_____

_____

_____

_____

Appendix T

Rubrics for Units of Knowledge

Units of Knowledge - Mystery – Categories

1st Category: Definition of Mystery (one phrase – very generic)

2nd Category: Factual knowledge about mystery (elaboration - explanation)

        What can you do in a mystery?

        What can you see in a mystery?

        What can you find in a mystery?

        Where can a mystery take place?

3rd Category: Aptitudes of mystery (evaluation)

        Feelings

        Duration

        Ability to complete a mystery

4th Category: General comments about mystery (somewhat irrelevant information for the reader)

        - If someone finds the mystery maybe you will get free or you cannot live free and go to jail

        - In mysteries you would never know what would happen

5th Category: Reiteration of the stories read (maintenance and comprehension of information/concepts provided in the stories read during instruction)

6th Category: Connection to adventure (generalization to adventure)

7th Category: Creation of a story; something read, heard, or experienced (application of knowledge about mystery)

8th Category: Wrong definitions of mystery (misconceptions held about mystery or lack of background knowledge about mystery)

9th Category: Off-topic Ideas

Units of Knowledge - Adventure – Categories

1st Category: Definition of Adventure (one phrase – very generic)

2nd Category: Factual knowledge about adventure (elaboration - explanation)

      What can you do in an adventure?

      What can you see in an adventure?

      What can you find in an adventure?

      Where can an adventure take place?

3rd Category: Aptitudes of adventure (evaluation)

      Feelings

      Duration

      Ability to complete an adventure

4th Category: General comments about adventure (somewhat irrelevant information for the reader)

      - An adventure is when a lot of people go on an adventure

      - Bring your camera on an adventure

5th Category: Reiteration of the stories read (maintenance and comprehension of information/concepts provided in the stories read during instruction)

6th Category: Connection to mystery (generalization to mystery)

7th Category: Creation of a story; something read, heard, or experienced (application of knowledge about adventure)

8th Category: Wrong definitions of adventure (misconceptions held about adventure or lack of background knowledge about adventure)

9th Category: Off-topic Ideas

Appendix U

Social Acceptability Inventory

Attitude Inventory - Adventure

Date: _____ Administrator: _____

Child's Name: _____ School: _____

Next year I will be working with another group of 3rd-graders to discuss and learn some words about adventure. I would like to ask your opinion about the activities that we did together so that I can decide which activities I would use next year. Please circle your responses to the following sentences. Before we start let's try a practice question.

Do you like to eat ice cream?

Yes   No   I am not sure

Part One

1. Reading adventure stories helped me to learn the new adventure words I was taught.

Yes   No   I am not sure

2. Writing the word definitions in my logbook helped me to learn the new adventure words I was taught.

Yes   No   I am not sure

3. Using the words in sentences helped me to learn the new adventure words I was taught.

Yes   No   I am not sure

4. The Word-family activity with the cards, where I had to find the two words/phrases that meant the same thing as the new word helped me to learn the new adventure words I was taught.

Yes   🙂   No   😐   I am not sure 😕

5. The Fill-in-the blank practice activities in the worksheets helped me to learn the new adventure words I was taught.

Yes   🙂   No   😐   I am not sure 😕

6. The True-false practice activities where I had to pick answer (a) or (b) helped me to learn the new adventure words I was taught.

Yes   🙂   No   😐   I am not sure 😕

7. The homework activity, where I had to pick a little piece of paper from a hat and prepare an oral sentence for the word on the piece of paper helped me to learn the new adventure words I was taught.

Yes   🙂   No   😐   I am not sure 😕

8. Learning new adventure words helped me to write better adventures.

Yes ☺　　　No 😐　　　I am not sure 😕

Part Two

* 1. I enjoyed learning new adventure words.

Yes ☺　　　No 😐　　　I am not sure 😕

2. Overall, I thought that the lessons were fun.

Yes ☺　　　No 😐　　　I am not sure 😕

3. I would like to learn new adventure words in this way again.

Yes ☺　　　No 😐　　　I am not sure 😕

Part 3

1. Tell me 3 things that you liked most about these lessons.

a)

b)

c)

2. Tell me 3 things that you liked least about these lessons.

a)

b)

c)

3. Would you like to tell me anything else about these lessons?

Attitude Inventory – Mystery

Date: _____ Administrator: _____

Child's Name: _____ School: _____

Next year I will be working with another group of 3rd-graders to discuss and learn some words about mystery. I would like to ask your opinion about the activities that we did together so that I can decide which activities I would use next year. Please circle your responses to the following sentences. Before we start let's try a practice question.

Do you like to eat ice cream?

Yes   No   I am not sure

Part One

1. Reading mystery stories helped me to learn the new mystery words I was taught.

Yes   😃   No   😬   I am not sure   😕

2. Writing the word definitions in my logbook helped me to learn the new mystery words I was taught.

Yes   😃   No   😬   I am not sure   😕

3. Using the words in sentences helped me to learn the new mystery words I was taught.

Yes   😃   No   😬   I am not sure   😕

4. The Word-family activity with the cards, where I had to find the two words/phrases that meant the same thing as the new word helped me to learn the new mystery words I was taught.

Yes 😊   No 😕   I am not sure 😖

5. The Fill-in-the blank practice activities in the worksheets helped me to learn the new mystery words I was taught.

Yes 😊   No 😕   I am not sure 😖

6. The True-false practice activities where I had to pick answer (a) or (b) helped me to learn the new mystery words I was taught.

Yes 😊   No 😕   I am not sure 😖

7. The homework activity, where I had to pick a little piece of paper from a hat and prepare an oral sentence for the word on the piece of paper helped me to learn the new mystery words I was taught.

Yes 😊   No 😕   I am not sure 😖

8. Learning new mystery words helped me to write better mysteries.

Yes   No   I am not sure

Part Two

1. I enjoyed learning new mystery words.

Yes   No   I am not sure

2. Overall, I thought that the lessons were fun.

Yes   No   I am not sure

3. I would like to learn new mystery words in this way again.

Yes   No   I am not sure

Part 3

1. Tell me 3 things that you liked most about these lessons.

a)

b)

c)

2. Tell me 3 things that you liked least about these lessons.

a)

b)

c)

3. Would you like to tell me anything else about these lessons?

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